

The social and ecological state and the development degree of the rural space in Romania

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The rural population of Romania is in a growing stage, from 45% in 1992 to 47.25% in 2002. This is generated by the decay of the industry in the cities and by the high cost of life in the urban areas. As a consequence, we witness an urban-rural migration process that tends to amplify in the near future. The villages became repopulated by a new social class, the urban workers, which did not share the knowledge and habits related to the management and the practice necessary for an efficient agriculture. In many cases they are not the best example of a good morality, as they have a major negative behaviour acquired in the cities, where they lived by the rule 'we pretend to work, they pretend to pay us' (in this case, 'they' were the political leaders). In the numerous factories that manufactured goods like clothes, glass products, ceramics etc the workers usually stole a part of these products and sold them on their own. This 'social product' of the communist epoch, the peasant-worker reconverted to peasant after the collapse of the old system, did not have the chance of a real and good qualification, as his qualification as an industrial worker was generally accomplished at the workplace and not within an organised training system. Nowadays people do not have the skills to work the land or to breed the animals according to scientific standards. Those who inherited the land from their parents and still live in the cities practice weekend agriculture; at the end of the week the whole family or a group of friends or neighbours go to the countryside and do the agricultural

works mainly with their bare hands.

We can often find a dualism in the way of living: during the summer the urban families, many with a high economic level, go to the villages, where they work their inherited land in the traditional way. From the administrative point of view, they belong to the urban population and in their ID cards no residence change is made.

The Law for Land No. 18/1991 created the juridical ways to dissolve the old APCs (Agricultural Production Cooperatives) (Cândea et al. 2004, p. 217). This led to the allotment of 6 million people with agricultural land, summing up to 9 millions hectares. At a national level the average size of a land property is 1.87 ha; this extent is larger in the central part of Câmpia Română (3.87 ha) and in Podișul Moldovei (2.35 ha) (Floarea Bordânc 1996, in Cândea et al. 2004). The agriculture sector that does not belong to the cooperative system has about 10% of the land and is mainly situated in the mountain areas, with semi-natural pastures and meadows, and is specialised in traditional animal breeding.

Another feature of the Romanian agriculture that has to be mentioned is the high level of division of the land property (figure 1). The average Romanian land property is split in 10-20 parcels (plots), situated in different parts of the village. This causes a high energetic consumption in the exploitation of the property (the fuel needed to move the machines from one parcel to another is equivalent to the fuel quantity used for the work of the land).

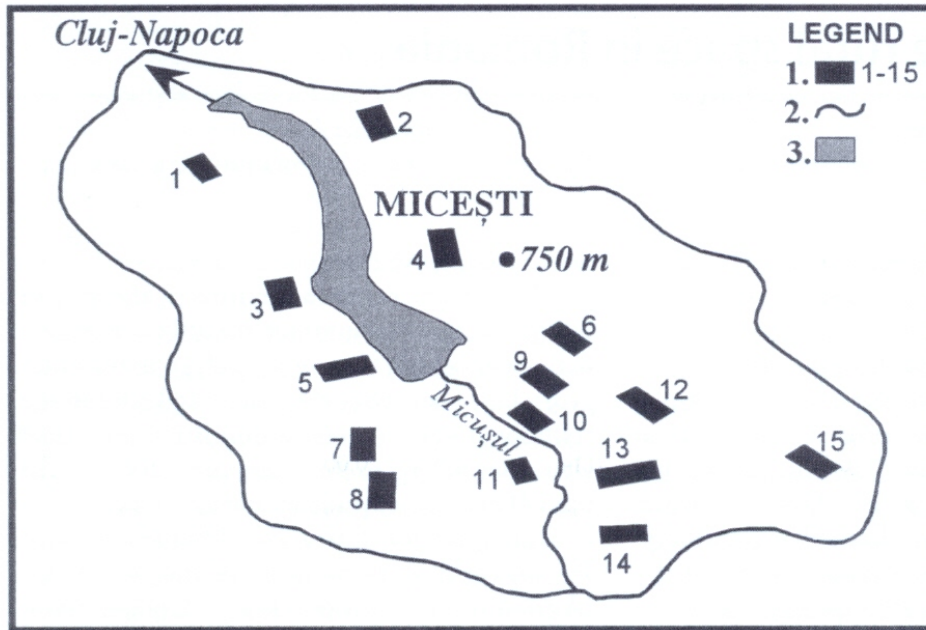


Figure 1. Dispersion of land property, with an example from the village of Micești, Cluj County, Romania. The 15 parcels of agricultural land (black squares) have a total surface of 2.48 ha. The grey area denotes the built area of the village.

It is difficult to comment on the degree of the use of machines and chemicals in agriculture because of the private acquisitions of tractors after 1990, which were not always officially registered. The estimations of the year 2000, 57 ha of arable land corresponded to one tractor, which is very different from the 10 ha in the countries of Western Europe. In the same year the use of chemical fertilisers (active substance) was 36 kg/ha of arable land. This quantity compared to the 270 kg/ha of arable land in the countries of Western Europe shows a positive situation from the ecological point of view. The private rural exploitations almost exclusively use organic fertilisers. The most used insecticide is that for the potatoes (against the Colorado bug).

At a national level, the ecological situation is evaluated using four specific indicators:

- The surface of land/inhabitant;
- The surface of agricultural land/

inhabitant;

- The surface of arable land/inhabitant;
- The surface of forest/inhabitant.

The land surface per inhabitant in Romania is of 1.05 ha, from which 0.67 ha is agriculture land (0.44 ha is arable land) and 0.26 ha is forest area (table 1). At European level, Romania has a good position and it is outrun only by the Scandinavian countries, which have less inhabitants and a larger forest surface.

The total agricultural area of Romania is 147 802 km², which represents 62% of the territory (238 391 km²). The structure of the agricultural area is divided as follows:

- 64% arable land;
- 32% meadows and pastures;
- 4% orchards and vineyards.

With this structure of the land, with a temperate-continental climate and with a state-cooperative agriculture almost alike the situa-

RUNNING NO.	COUNTRY	SURFACE OF LAND/INHABITANT (HA)	SURFACE OF AGRICULTURAL LAND/INHABITANT (HA)	SURFACE OF ARABLE LAND/INHABITANT (HA)	SURFACE OF FOREST/INHABITANT (HA)
1	Austria	0.85	0.46	0.20	0.41
2	Bulgaria	1.24	0.70	0.47	0.43
3	France	0.96	0.54	0.32	0.25
4	Germany	0.44	0.22	0.15	0.18
5	Italy	0.53	0.30	0.21	0.11
6	Norway	7.61	0.21	0.19	1.92
7	Holland	0.27	0.14	0.06	0.02
8	Poland	0.81	0.49	0.38	0.22
9	Portugal	0.87	0.41	0.36	0.37
10	UK	0.42	0.31	0.11	0.03
11	Romania	1.05	0.67	0.44	0.26
12	Spain	1.28	0.78	0.51	0.39
13	Sweden	4.59	0.35	0.30	2.54

Table 1. Agri-ecological indicators in Romania and in 12 other European countries

tion in 1985, Romania should produce enough food for 80 million people (Surd and Mac 1988). With 0.44 ha of arable land per person, Romania is situated between states that import food and states that have a surplus of food production.

Special studies (Puia and Soran 1979) have demonstrated that the countries where the arable land per inhabitant is smaller than the global average (0.27 ha) become importers of food products. Even if in Romania this surface is twice as large, Romania imports great quantities of food products from the EU and Latin America. At the same time, the Romanian

agricultural land is not properly used and the population, including the rural one, has a minimum quantity of food.

From an ecological and economical point of view, the Romanian forest suffered the wildest attack in the contemporary history of Romania. During a situation of political uncertainty, starting with 1990, thousands of hectares of forest were cut and most of the raw timber was exported. The Romanian wood mob conquered all the levels, from the simple workers to the government. The most extended and wild deforestations were done in Maramureş, Trotuş Basin and Vrancea Mountains (figure 2). The forest



Figure 2. The main areas with massive deforestations in Romania after 1989. 1) Maramureș, 2) Southern Bucovina, 3) Upper Olt and Mureș Valley, 4) Trotuș Basin, 5) Vrancea Mountains, 6) Apuseni Mountains, 7) Sadova, Dăbuleni.

from Oltenia Plain (Sadova, Dăbuleni) that fixed the sandy soils were finished by the peasants who gained their property rights during the incredible short period of one month. Today, these surfaces are classified as ‘bad-lands’ and the local authorities ask for government help to reforest the land.

The forest surface is officially declared to be 26% of the national territory, but in fact a big part of the forest surface is not replanted. A similar situation occurs and it is maintained in the neighbourhoods of the big cities. At city borders, inside the areas that generally have an ecological, social and aesthetic role, many houses were built. ‘Forest movements’ happened as a consequence of the price rise for the forest land situated next to the cities. Members of the political class that inherited forest land

from their families situated far away from the city, handed them over to the local forest administration, which in return gave them an equal surface of forest next to the city. Subsequently, these were parcelled and sold for buildings at very high prices.

Two ‘technical innovations’ changed the destiny of the Romanian forests for the worse:

- The chain saw (known in Romania by the Russian word ‘drujba’); and
- the tractor.

Many peasants in mountain areas now have chain saws, and trading of these machines has become very active. At the same time, rural tractors were changed into systemic carriages of wood mass. Following the destruction of the forest of the villages, with chaotic trails created through the woods, shortly will come large areas

EVALUATION OF THE DEVELOPMENT OF THE RURAL SPACE

CRITERIA	SUB-CRITERIA	INDICATORS
1. PHYSICAL - GEOGRAPHICAL	1. Forms of relief	1. Main forms of relief
	2. Natural protected areas	1. Main categories of protected areas
	3. Natural risk factors	1. Main areas affected by natural risk factors
2. DEMOGRAPHIC	1. Number of population	1. Number of inhabitants Jan 1 1997
	2. Density of population	1. Inhabitants/km ²
	3. Evolution of population number	1. Evolution of population number from 1956 to 1997
		2. Evolution of population number from 1992 to 1997
	4. Factors for growing the number of population	1. Medium average of births/birth rate – 1991-1996
		2. Medium average of deaths/death rate – 1991-1996
5. Demographical ageing	3. Medium average of net migration – 1991-1996 1. Ageing population indicator (60+ /0-14 years old)	
6. Renewal of the workforce	1. Renewal of workforce indicator (15-29/30-44 years old)	
3. ECONOMIC	1. Agricultural potential	1. Agricultural land/inhabitant
		2. Structure of the land usage
		3. Number of animals on 100 ha
	2. Forestry potential	1. Forest surface/inhabitant
	3. Tourism potential	1. Level of tourist attraction
	4. Industrial potential	1. Complexity range of industrial farm
		2. Agri-food processing industry
	5. Agricultural exploitation potential	1. Medium surface for individual exploitation
2. Medium surface for an exploitation of legal association type		
3. Medium surface for an exploitation of familial association type		
4. Level of association in land exploitation		
6. Property structures	1. Number of private agricultural surface from the total agricultural surface (%)	
7. Level of population occupation	1. Active employed population/1000 inhabitants	
	2. Active population in agriculture/100 ha agricultural land	
8. Diversifying the economic activities	1. Number of active population in non-agricultural activities from the total active population.	

CRITERIA	SUB-CRITERIA	INDICATORS
4. HOUSING	1. Inhabiting area	1. Living floor/person (m ²)
	2. Construction materials	1. Share of houses built-up of durable materials (as % in total)
	3. Age of buildings	1. Share of houses built-up after 1970 (as % in total)
	4. New dwellings	1. Dwellings built-up in the period 1993-1996/1000 inhabitants (as % in total dwellings)
	5. Dwellings with indoor water supply	1. Dwellings with indoor water supply (as % in total dwellings)
5. TECHNICAL INFRASTRUCTURE	1. Drinking water supply	1. Drinking water supplied to consumers per capita/year (m ³)
	2. Electric power supply	1. Percentage of households electrification (in the communal territory)
	3. Natural gas supply	1. Communes with natural gas supply
	4. Telephone service to the community	1. Percentage of villages connection to the telephone network
	5. Access to transportation network	1. Access to main road and rail networks
6. SOCIAL	1. Health	1. Inhabitants/physician
	2. Education	1. Complexity range of education system
	3. Communication	1. TV subscription/1000 inhabitants
	4. Infant death	1. Infant death/1000 life births
7. ECOLOGICAL	1. Air	1. Air quality (the frequency of overcoming MAL - Maximum Admitted Limit with polluting substances)
	2. Water	1. Water quality (the frequency of overcoming MAL with polluting substances)
	3. Soil	1. Soils affected by factors of quality limitation
	4. Forest	1. Forest land non-affected/affected by pollution

Table 2. Criteria, sub-criteria and indicators used to evaluate the level of development of the rural space (Government of Romania 1998).

affected by rain-washes and gully erosions.

It must be emphasised that only in Trotuş basin, to a forest land of 20 000 ha are used 300 saw mills. Unfortunately the same warning was made by E. Pop even earlier, in 1943, in the article *The Forests and Our National Destiny*; he wrote that 'we are famous for the sad fact to have the most numerous number of saw mills

reported per unit of coniferous forest land' and he was referring to the Sadului and Cibilului forest basin from central part of the southern Carpathians, Sibiu county.

In rural areas the habit of controlled storage and neutralisation of domestic waste is missing. This is why in the last 10 years the peripheral areas of the villages and the rivers were inva-

ded by plastic bags and cans, which turned into a national ecological disease. Between the two world wars and before the communist period, each community had the duty to make so-called dry pits where they put the dead animals and neutralised them with limestone. This good practice is now abandoned and the dead animals are dumped next to the rivers so they should be carried away by the waters. The local authorities have little power in controlling these actions. One reason for this is that by legal constraints the political power is weakened. The mayor and the councillors that apply fines and other punishments, requested by the law in relation to the environment, will not obtain the votes of the rural community at the next elections. This situation leads us to the conclusion that it would be more efficient to have as mayors the public officials, selected by contest, rather than politicians.

In 1998 the Green Paper The Rural Development in Romania was elaborated, under the aegis of the Romanian Government and financed by PHARE Programme of the European Union (Government of Romania 1998). In order to evaluate the level of rural development, seven groups of criteria, divided in sub-criteria and indicators, were established and used (table 2).

Using a method of aggregation index by criterion, we established the degree of development for each territorial unit (in this case, commune) (figure 3). Higher values denote better conditions and low values denote major difficulties. The average of the synthetic index of development at the national level is 35.6 (unfortunately this analysis was made at the level of communes; therefore no census data at village level are available; for the same reason the resolution of the analysis is not very high).

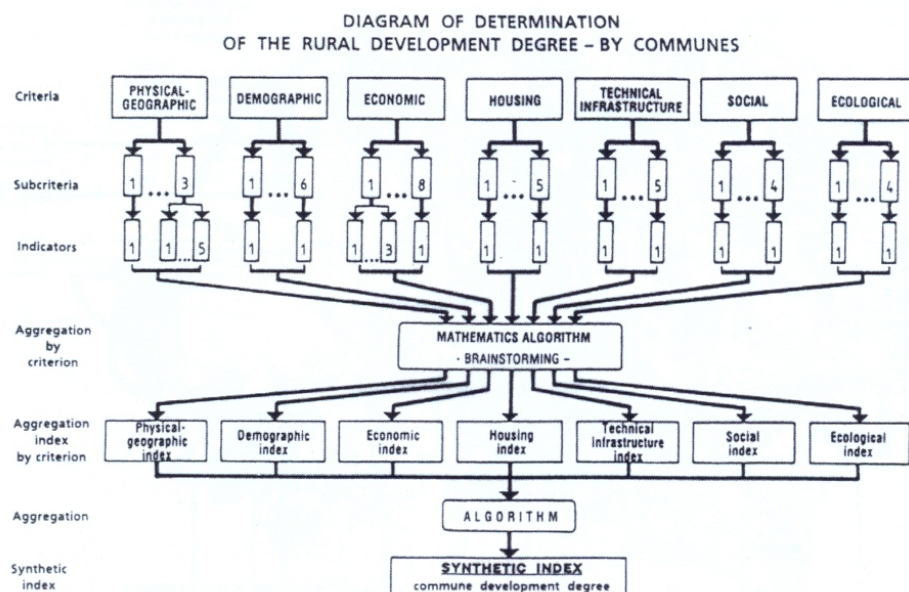


Figure 3. Diagram of determination of the rural development degree-by communes (1998).

For drawing a full picture of each commune, all information was tied together, thereby obtaining a synthetic and integrated picture of the actual level of development. The five levels of communal development are presented in figure 4.

The presence of similar actions in some areas allowed portraying zones with relatively alike features (figure 5). Having the fact that there are many problems to be solved in the rural space, three main categories of areas were identified, according to the predominance of factors that condition endogenous development and according to which prior interventions will be established (necessary or possible ones):

- areas in which favourable factors for development dominate (being able to become, through relatively small efforts, attraction forces of the rural regional development);
- areas in which restrictive factors for deve-

lopment dominate (needing support and urgent interventions for avoiding irreversible deterioration of their state); and

- areas with medium conditions.

The largest part of the territory is characterised by medium development conditions and factors. The necessary actions to be taken in these areas are, generally typical to both two areas, being like a combination of the different elements of those. We studied the rural space through seven criteria of analysis: physical-geographic, demographic, economic, housing, infrastructure, social and environment. The seven criteria on rural development level succeeded in identifying the major problems of the rural space, both on national and regional scale.

The main problems which the rural areas are facing are given below:

According to the *physical-geographic* criterion:

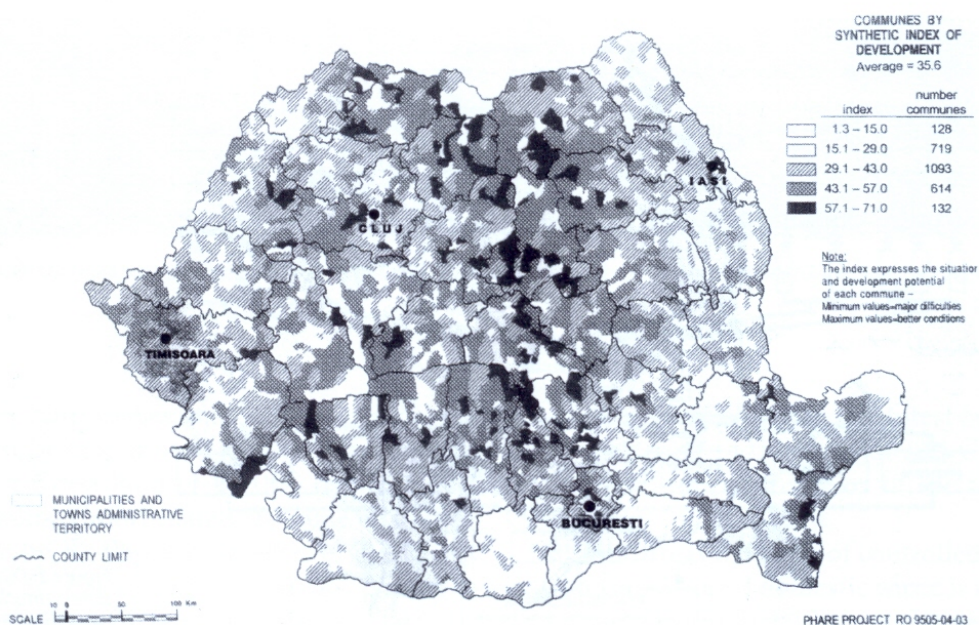


Figure 4. Degree of rural development (1998).

- The existence of one or more risk factors, for example: floods¹, landslides, high seismic activity, low rainfalls and low quantity of water resources. Even though these risks are found frequently, only about 1/5 of the entire surface of the country is exposed to serious situations from this point of view.

According to the *demographic* criterion:

- Continuous tendency of decreasing population;
- Larger demographic disequilibrium – the level of aged population continues to increase (the mean age reaching 38.5 years in 1997), which generates high general mortality.

From the *economic* point of view:

- Low diversity of the economical activities – almost all localities are economically based exclusively on agriculture, the other activities

being regularly industrial, especially the exploitation of natural resources;

- Subsistence agriculture – mainly small size exploitations, lacking necessary endowments, which can only sustain a family survival;

- Small number of workplaces and lack of attraction for the young people – the offer of workplaces decreasing, especially as a result of the decrease of the industrial and building activities in cities;

- The tendency of temporary emigration of the labour-force towards other cities or countries;

- Small incomes for the rural population (most of the incomes come from the agricultural activities and the difficult conditions which characterise agriculture practices make these incomes very modest).

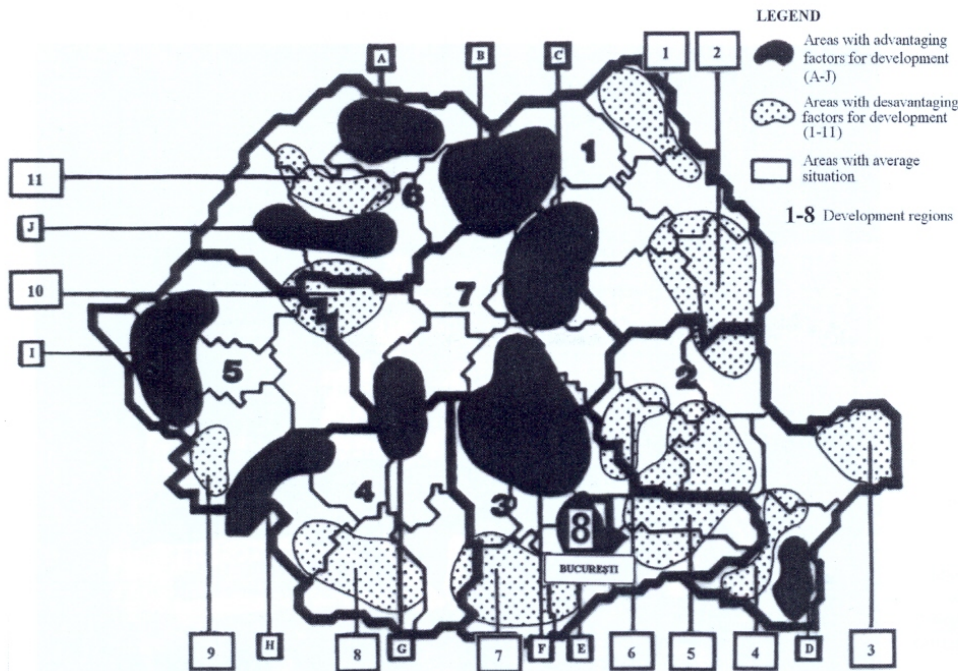


Figure 5. Rural area zoning (1998).

Areas with advantaging factors for development: A) Maramures, B) Rodna-Bargau-Calimani, C) Ciuc depression-Bistrita valley, D) South-eastern Dobrogea, E) Bucharest suburban zone, F) Brasov depression, Prahova valley and Subcarpatii Getici, G) Sibiu-Lotru, H) Portile de Fier-Cerna valley-Tismana, I) Campia Banatului, J) Culoarul Cris-Somes.

Areas with disadvantaging factors for development: 1) Northeastern Moldova, 2) Central Moldova, 3) Danube delta, 4) Central and southwestern Dobrogea, 5) Campia Baraganului, 6) Subcarpatii de Curbura, 7) Campia Teleormanului, 8) Southern Oltenia, 9) Southern Banat, 10) Apusen Mountains, 11) Podisul Somesan.

Development regions: 1) North-East, 2) South-East, 3) South, 4) South-West, 5) West, 6) North-West, 7) Center, 8) Bucharest.

1) The lack of real and complete information at communal level did not allow us to provide all data concerning floods.

From the *housing* point of view:

- A low standard of living for about 38% of the population;
- Lack of endowments with indoors water networks, in 84% of the houses;
- High percent of the buildings built with non-lasting materials (62% of the total);
- Ageing of the dwelling stock (about 75% of the total dwellings are over 30 years old).

According to the *infrastructure* criterion:

- Precarious situation roads (the large majority of the communal roads are not modernised and over 61% of the rural population has no direct access to the major road and railroad networks);
- Insufficient and inadequate water supply (57% of the communes has no public water networks and where there are plumbing, these are, of course, in the communal residence village, and the quantity of distributed water is insufficient).

According to the *social infrastructure and appropriate services*:

- Insufficient number of physicians – the number of persons per physician is three times higher than in the urban area;
- Less developed school network, improper quality of the buildings, low endowment with specialised equipment;
- High infant death rate, as a direct result of the low living standard and of precarious sanitary assistance;
- Population pauperisation, between 62% and 65% of total persons in Romania living under the poverty standard are found in the rural area.

According to *environmental factors* quality:

- Soil degradation, as a result of the anthropogenic actions; almost 50% of the communes have strong and very strong degradations of the soils and 37% of the communes have a medium degradation;
 - Degradation of the forestry, mainly through uncontrolled deforestation, pollution and pests.
- These phenomena and processes act diffe-



Afternoon chat at the veranda
– The Transylvanian villages
are large and have a developed
social life. Maramures, Romania.
(Photo: Knut Per Hasund)

rently over the territory in accordance to the natural environment, historical evolution, and relationships to urban centres.

The main characteristics of the rural space in Romania²

Rural space is the shareholder of the great majority of economical resources: raw materials for industry, agricultural resources, forestry, touristic and balneary resources. The agriculture, along with silviculture and forestry exploitation – the main economic activities in rural space – has an important contribution to GDP (19.1% in 1997). The population employed in these economic sectors represents over 1/3 of total employed population in the country.

The study highlights the existence of several valuable elements of human potential (large labour force, partly qualified in other activities than agriculture, youth reserve that provide its regeneration), of land potential (agricultural land with high yielding qualities, that allows crop diversification and outstanding yields; a rich wood stock; reserves and natural monuments, areas with special landscape values), and of historical heritage (cultural, architecture and ethnographical).

Even with all these potential elements, the major disturbances which happened in the rural space in the last decade affected all of the economic and social life components: economic relations, system of values, individual behaviour, the basic elements of rural community life. In these conditions, the rural space has experienced a regressive process.

Thus, the entire Romanian rural space is characterised by a low development level, deepening the gap between it and the urban areas, unlike the West-European rural space.

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²) Government of Romania, 1998