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HOUSEHOLDS IN THE ROMANIAN RURAL AREA - THEORETICAL MODEL

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Abstract

Romanian rural area is stimulated by the activities of rural households as the main demographic, social, economic and cultural resources holder. The households are able to dispose of these resources as they see, based on the the conditions generated by social-economic-cultural environment of the community to which they belong. For an overview of the socio-economic development level at national and regional level, composite indicators are useful, without omitting, thou, individual indicators. This territorial profile analysis can highlight the particularities of each area.

***Key words*:** *rural household, theoretical analysis model, sustainable development region*

INTRODUCTION

The entity that is targeted in the present paper is the rural household, an important actor of the rural area, holding the majority of resources (human, natural, social and cultural).

The main characteristic of rural household is that it is not fully subject to the modern economic laws, being rather governed by a series of less measurable principles (traditions, habits, traditional cultural patterns, etc.), which protected it in the moments of crisis, but also slowed it down in the adoption of technological, informational, economic and social progress.

In the present paper, the rural household will be treated as an element of the rural space, while the rural space will be considered a system that operates on the basis of internal resources, but also with external influences.

Having in view the multidimensional character of the rural space, of rural development and its regional and county related specificities, a matrix of relevant indicators will be proposed to highlight the main characteristics of rural households.

At world, European and national level, we identified a series of studies that have the rural household as main actor, as well as new analysis and interpretation modalities of social and economic problems at rural household level.

The result of the socio-economic analysis model of rural household will be a composite indicator with data at regional and county level, which is useful both for researchers and for the decision-makers at local, county, regional or national level. The composite indicator supplies useful information for complex comparisons across regions, as well as punctual aspects regarding the demographic, social, economic and cultural criteria. In order to get a picture of the development level, at national, regional and county level, the aggregate indicators are increasingly used, even though the individual indicators are not neglected. [5]

The opinions that support the development of composite indicators are related to the easier identification of common trends, in accordance with a series of indicators, being useful for certain comparisons across countries [13], and in our case for the comparative evaluation of the socio-economic situation of rural households at county level.

The opinions contesting the utility of composite indicators are related to the possibility of transmitting erroneous messages, in the case when these indicators are wrongly constructed or wrongly interpreted [12].

MATERIALS AND METHODS

The starting point in the present paper is represented by the review of recent literature on the existing theoretical and applied models, evaluating the rural area in social and economic terms, which should represent the scientific basis for the development of a theoretical model enabling us to highlight the rural household place in the development of the Romanian rural area, in the light of the direct implications generated by the changes that have been produced in the Common Agricultural Policy and in the Rural Development strategies in recent years.

Having in view the multidimensional character of the rural area, of rural development and of its regional, county and local specificities, a set of relevant indicators was proposed to highlight the prevailing socio-economic characteristics of rural households.

The selected set of indicators for constructing the theoretic model for rural households assessment is based on the available statistic indicators that are relevant for the objective had in view. In selecting the indicators, we have to take into consideration that not all the indicators have the same informative capacity as regards the observed phenomenon.

Indicators are statistical variables that lie at the basis of data transformation into relevant information. In order to supply significant information, the indicators must be interpreted in the context of the theoretical framework and of its purpose.

The rural development indicators must be based on available published statistical data, periodically collected, which are valid for different areas. The indicators must have the capacity to capture the changes of the investigated phenomenon in time. To meet these requirements, the rural development indicators often imply a reassessment of the well-known concepts and of the set of data in the context of rural policy changes.

The development and operationalization of a set of indicators are based on 3 principles:

-Relevance of utilized indicators, which should pursue a clear, well-defined purpose;

-Reliability: the indicators must have a solid scientific base and take into consideration the theoretical bases of the model. The indicator must have an intuitive explanatory power addressing all the potential users and not only the experts in this field.

-Availability: the indicators must be based on available statistical data.

In the Romanian specialty literature there are a series of rural area socio-economic analysis methodologies under the form of composite indicators; out of these indicators, we shall next mention the most important ones that lay at the basis of the construction of the theoretical model for the present paper:

- Sustainable development index at county and regional level based on 4 development dimensions for which 19 indicators were taken into consideration – 5 economic, 8 social, 3 institutional and 3 environmental indicators – [8]. The methodology used for the establishment of the set of indicators belongs to the *United Nations Commission on Sustainable Development*.

- Aggregate indicator on the current economic and social development stage, at country level, compared to other European countries, which is based on the average country ranks for 12 indicators, out of which 6 economic indicators with sectoral, energy, financial, etc. representativity and 6 social indicators concerning food, health, education, etc. [5] The method used is quite questionable, as equal importances are assigned to indicators.

- Global index of the current level of economic and social development of the administrative-territorial units from Romania; this index resulted from the cumulation of 68 indicators grouped into the following categories: natural potential, demographic potential, economic potential, dwelling, socio-cultural infrastructure, technical infrastructure, each indicator having a different share according to its assigned importance, but the summed up share of indicators reaches 100% [16].

- The Rural development index is a synthetic index for the entire rural space, for which the state indicators have been taken into consideration (physical and geographic criteria, dwelling, equipment, social, ecological) as well as the resource indicators

(demographic and economic criteria) [11].
- Aggregate indicator necessary for estimating the development potential of a locality, based on 25 de indicators grouped into 4 analysis criteria related to endogenous potential, environment factors, human capital and technical infrastructure [2].
- Synthetic rural household development index, in which information was aggregated in relation to land cultivation, development of livestock sector and productivity [3];
- Commune development index (CDI - Dumitru Sandu);
- Local social development index (LSDI – Dumitru Sandu).

Both in the international and Romanian literature, all the aggregation methods feature a series of particularities in relation to the selection and aggregation of primary indicators, more or less accepted, which comply with a certain generally accepted staging.

A composite indicator on the socio-economic situation of the Romanian rural household, at regional level, is useful both for researchers and for the policy-makers at local, county, regional or national level. The composite indicator supply useful information for complex comparisons across regions, as well as punctual aspects on the demographic, social, economic and cultural criteria. When the analysis is performed on a regular basis, at certain time intervals, one indicator can indicate the tendency of change within each criterion, as well as in time.

In order to get a picture of the development level at national, regional and county level, the aggregate indicators are increasingly used, even though the individual indicators are not neglected either [5].

RESULTS AND DISCUSSIONS

Theoretic analysis model

"The rural households are complex living systems (social, economic and spiritual) integrated into a specific environment, i.e. the rural environment" [3]. The rural environment functions as an open system, with a wide range of interconnected structures.

The heterogeneity of the rural space, determined by its geographic position, natural and socio-economic potential, accessibility, infrastructure and cultural particularities, directly influence the socio-economic behaviour of rural households. The paper will take into consideration the most important characteristics in order to identify the behaviour particularities of households.

The assessment of the socio-economic development level, in general, can be seen from two perspectives, a positive one related to the development potential and a negative one that takes into consideration the needs and the problems that a certain zone is facing.

In the design of the theoretical analysis model of the socio-economic potential of rural areas, the following analysis criteria are taken into consideration: the natural and anthropic criterion, the demographic criterion and the economic criterion.

Natural and anthropic criterion

Romania is characterized by the proportionality of relief units, which is unique in Europe and quite rare in the world [15]: 28% plains (altitude below 300 m), 42% hills and plateaux (altitude 300-1000 m) and 30% mountains (altitude above 1000m).

The natural capital specific to the rural space is characterized by a certain agricultural landscape under permanent change, yet the intensity and direction of change is quite different, resulting in major discrepancies between the rural localities; thus large non-cultivated areas emerged, as well as deserted villages (isolated villages, with difficult access), as well as villages where the living standard and living conditions are close to those from towns (peri-urban localities or localities with easy access to these) [7].

The anthropic landscape of peri-urban localities has been subject to deep changes, which determined the emergence of new houses and/or the modernization of the older ones. Thus, investments have been made mainly in the modernization of dwellings, but no significant investments have been made in the endowment of agriculture with modern means, in the agro-processing business or in non-agricultural business [4].

It can be noticed in the first place that modernization has taken place at the level of

intermediate rural areas rather than at the level of predominantly rural areas.

Having in view these general observations, for the analysis of the natural and anthropic potential of the Romanian rural area and the nature of changes that were produced, as well as of the regional differences, we shall have in view a series of indicators, namely:

Table 1. Indicators of household land resources subcriterion, 2014

	Agric. area per capita	Arable area per capita	Forest area per capita
TOTAL	1.50	0.97	0.69
MACRO 1	1.70	0.76	0.97
North-West	1.61	0.79	0.79
Center	1.81	0.71	1.19
MACRO 2	1.30	0.94	0.52
North-East	0.99	0.64	0.57
South-East	1.82	1.43	0.44
MACRO 3	1.21	0.99	0.33
South	1.29	1.04	0.36
Buc-Ilfov	0.51	0.49	0.13
MACRO 4	1.97	1.26	1.06
South-West	1.60	1.11	0.77
West	2.55	1.49	1.51

Source: own calculations, NIS 2014, Tempo online

-Household land resources subcriterion – considering that land is one of the most important production factors, as well as the main asset of Romanian rural households, this plays a considerable role in rural development.

The information on land resources is useful in orienting the economic activities of the household. In the proposed model we shall include the following indicators: *average agricultural/arable area per person,* which is a relevant indicator in orienting the local development strategies of a certain rural area; *forest area per capita,* which is relevant by the multiple role of forests for the rural communities – this has not only an economic and social role, but also a social and environment protection role.

The macro-region with the highest agricultural potential, in terms of the land area per capita, is Macro-region 4, region West respectively, which ranks well compared to the national average in the case of per capita forest area as well. The differences at county level are much more obvious.

Household equipment subcriterion – this subcriterion is important for illustrating the living conditions on the rural households, the access to public utilities (running water, sewerage system, gas supply network) being important both for people's comfort, for attracting investors and for environment protection.

A series of indicators will be considered for this subcriterion:

(i)*Average living area per person* is an indicator that captures the qualitative aspect of living conditions. It is worth mentioning that in the case of this indicator, the share of small dwellings is lower compared to the urban area.

(ii)Indicators – *share of localities with drinking water supply network, share of localities with public sewerage network, share of localities with natural gas supply network* – are relevant for the assessment of rural people's home comfort as well as of the rural people's health security (ensuring minimum hygiene conditions), for carrying out economic activities (and thus the existence of these networks increases the opportunities to attract investors in the area), as well as from environment protection perspective.

In the Romanian rural area, even though there are such utilities in a locality, the households may not be connected to them, most often financial reasons being invoked (connection costs difficult to be paid by people, as well as high costs for the endowment of dwellings with bathrooms and toilets).

Even a brief general examination of the living conditions makes it possible to get a picture of the regional differences regarding the living conditions.

Macro-region 1 benefits from the highest access to utilities, surpassing Macro-region 3 where the Region Bucharest-Ilfov is located, yet the differences at county level are much more obvious.

Having in view the importance of natural and anthropic resources in the analysis of the rural area development potential, this criterion was assigned the aggregation share value of 25%.

Table 2. Indicators of household equipment criterion, 2014

	Living area/ person	Share of localities with drinking water supply network	Share of localities with public sewerage system	Share of localities with gas supply network
TOTAL	19.22	74.45	26.56	23.10
MACRO 1	19.45	81.97	35.26	39.87
North-West	19.90	86.85	32.01	27.54
Center	18.89	76.47	38.94	53.78
MACRO 2	17.84	73.64	25.78	12.43
North-East	16.99	63.24	27.27	13.24
South-East	19.27	88.45	23.66	11.27
MACRO 3	19.74	69.69	16.15	27.59
South	18.78	70.13	13.87	23.70
Buc-Ilfov	28.61	62.50	53.13	90.63
MACRO 4	20.92	70.97	26.27	14.37
South-West	20.26	61.76	19.61	11.76
West	21.93	84.34	35.94	18.15

Source: own calculations, NIS 2014, Tempo online

Demographic criterion

The study on the demographic situation of the rural household is very important in understanding the viability of rural areas; the most important problems that the rural areas are facing are the demographic ageing and depopulation of many rural areas. In order to avoid this process, a series of specific social and economic measures are needed based on an accurate diagnosis.

The demographic evolution in different rural areas is strongly heterogenous, in close connection with the social and economic conditions specific to each area; thus we have rural localities with positive evolutions of population, located in peri-urban or tourism areas, where an urban-rural migration flow exists. At the opposite pole, with a negative demographic evolution, we have the isolated rural localities at a far distance from the great urban centers. Thus, we can highlight that the rural population evolution is in close connection with the development level of the rural communities (infrastructure, public utilities, and distance from the important towns) [7].

The demographic analysis is a core element in the analysis of rural household viability, of rural space in particular. In relation to the demographic capital importance in the diagnosis of the rural area development potential, the demographic criterion was assigned the aggregation share value of 30%. For the analysis of the demographic capital of the rural households, we have in view a set of subcriteria, namely:

Demographic growth factors* s*ubcriterion, characterizing the demographic situation and the demographic resource potential.

For this subcriterion we used indicators that capture *the natural increase of rural population* (*birth rate, death rate),* which characterize the population's natural renewal capacity and the migration phenomenon *(internal and external migration flows),* which illustrates the degree of rural area attractiveness. These two indicators are essential in knowing the demographic evolution of any rural area.

Table 3. Indicators of demographic growth subcriterion, 2014

	Natural increase	Birth rate	Death rate
TOTAL	-46,289	9.2	14
MACRO 1	-5,692	10.4	12.8
North-West	-4,355	9.9	13.2
Center	-1,337	11	12.3
MACRO 2	-13,376	9.5	13.4
North-East	-6,360	9.9	12.8
South-East	-7,016	8.8	14.3
MACRO 3	-13,424	8.6	15
South	-13,276	8.4	15.4
Buc-Ilfov	-148	10.7	11.4
MACRO 4	-13,797	8	15.4
South-West	-10,201	7.6	16.8
West	-3,596	8.5	13.4

Source: own calculations, NIS 2014, Tempo online

From the demographic point of view, there is no evidence of a unitary picture of the rural areas, as demographic differentiations exist both at regional, county level and at the level of local community. The regions with the most favourable demographic profiles are North-East and Center, even though they are very different in terms of their determinants – the region North-East has predominantly rural population, while the region Center has predominantly urban population.

While in the 1990s the natural increase of rural population was positive, in the year 2011 it turned negative in all the regions. The region Bucharest-Ilfov ranks first in this

respect (-210 persons) and the region Center comes next, yet at great distance from the former.

Besides the low birth rate and the high death rate, migration is another important element in the demographic evolution of the rural area.

The external migration is quite difficult to measure, this phenomenon exceeding the official data. The main countries where the Romanian rural population leaves temporarily for work are Spain, Italy, Germany and Great Britain. The migratory population profile is the following: young people, with medium educational level (Sandu, 2006).

The internal migration flow, after 1990, was from rural to urban areas; after 2000, the flows became equal. Yet, the equalization of flows did not mean stopping the migration flow, but rather its redirecting under the form of external migration [14].

Population ageing* s*ubcriterion is another subcriterion that characterizes the demographic regeneration capacity/incapacity; for this purpose the following indicators will be used: *number of inhabitants* in the rural area, *population ageing index* (ratio of population aged 65 years or over to the population aged 0-14 years in 100 persons) reflecting the demographic ageing of a society with major implications from the social and economic point of view; *population renewal index* (ratio of population aged 55-64 years to the young population aged 15-24 years) reflects the demographic renewal capacity so as to ensure the carrying out of economic and social activities in the communities they belong to.

The average population ageing rate is 102.81%, denoting a demographically aged population. The highest ageing rates are found in Macroregions 4 and 3.

The rural population renewal rate reflects the demographic renewal capacity to ensure the development of economic and social activities in the respective communities.

In rural Romania, it can be noticed that in 100 persons of working age (55-64 years), only 78 persons will be replaced by persons aged 15-24 years, thus creating a population deficit of 22 persons. The values of this indicator range from 63.90% in the county Vaslui to 136.87% in the county Hunedoara [6].

Demographic structure of rural household* s*ubcriterion – characterizes the household demographic viability, as well as the capacity of rural household to carry out production activities. The following indicators are used: *average number of persons on the household*; *share of households with only one person.*

Table 4. Indicators of subcriterion population ageing, 2014

	Rural population	Ageing rate	Population renewal rate
TOTAL	9,723,620	106.88	86.23
MACRO 1	2,345,876	94.72	87.99
North-West	1,295,103	99.99	87.40
Center	1,050,773	88.56	88.72
MACRO 2	3,433,046	92.70	75.99
North-East	2,152,573	85.80	69.00
South-East	1,280,473	105.93	88.96
MACRO 3	2,089,241	125.19	93.87
South	1,884,876	128.88	93.11
Buc-Ilfov	204,365	92.48	101.39
MACRO 4	1,855,457	136.21	96.29
South-West	1,123,960	150.79	91.82
West	731,497	114.92	103.28

Source: own calculations, NIS 2014, Tempo online

Table 5. Indicators of subcriterion demographic structure of rural household, 2011

	Average number of persons per household	Share of households with only one person
TOTAL	2.83	25.43
MACRO 1	2.87	23.85
North-West	2.88	24.03
Center	2.86	23.63
MACRO 2	2.80	25.88
North-East	2.80	26.02
South-East	2.79	25.65
MACRO 3	2.87	25.12
South	2.84	25.60
Buc-Ilfov	3.09	20.60
MACRO 4	2.80	26.88
South-West	2.71	28.38
West	2.95	24.24

Source: own calculations, NIS 2011, Tempo online

The average size of household is 2.83 persons/household, ranging from 2.58 persons/household in the counties Vâlcea and Mehedinţi to 3.10 persons/household in the counties Constanţa and Ilfov. It can be noticed that the situation across macro-regions is quite balanced in the case of this indicator. At

regional level, the regions Bucharest-Ilfov and West are on the first positions.

The differences between counties are even greater in the case of the indicator Share of households with only one person, which ranges from 19.66% in the county Constanţa to 31.93% in the counties Mehedinţi and Teleorman.

The social criterion has in view the services for the population related to the education and healthcare system. A healthy and educated population is an essential condition for the development of rural areas. The following subcriteria were taken into consideration:

- *education*: ensuring a quality education will have a direct impact upon the future labour force quality. The indicators related to this subcriterion -*average number of pupils per teacher, share of higher education graduates in total population aged 25-35 years, abandon rate in tertiary education* - reflect population's access to education, yet they capture only the quantitative aspect. Education represents a key element in rural development, in preventing social exclusion. A low educational level of the population from the rural households generates a low level of their incomes, limiting the development possibilities.

- *healthcare*: the populations's health status has a direct quality upon the quality of people's life, with important implications upon labour force quality as well. A healthy population represents a healthy labour force, which actively contributes to rural area development. The indicator had in view is *average number of inhabitants per family physician/dentist.* In most communes, only primary healthcare services are provided, while for the specialized services the rural residents rely on urban healthcare facilities.

Considering the importance of rural population education and health in the rural area diagnosis and development potential, the social criterion will be assigned an aggregation share value of 25%.

Economic criterion

Agriculture is the main economic activity in the Romanian rural area, while the non-agricultural economy (industry, services, tourism, etc.) has a low share. The farming activities are of subsistence and semi-subsistence type, resulting in a much lower living standard for the rural people than that of urban people. This farming type practice became a defining characteristic for the Romanian rural area [1]. However, one cannot ignore the social function of subsistence and semi-subsistence agricultural holdings; thus, by this type of farming practice, the rural people can meet their own food needs in the situation of insufficient cash incomes. These holdings also had a social buffer role in the periods of crisis [15].

The Romanian rural economy functions in a vicious circle, as the lack of money has resulted in the absence of alternative non-agricultural activities and a non-performant agriculture, which in their turn have led to insufficient incomes for competitive activities. A functional rural economy generates people's welfare in the rural area, which represents a main attractivity for the young population, which that may represent the driving engine of a competitive and performant economy.

Having in view the importance of the economic framework, the diagnosis analysis of the rural area development potential, the economic criterion has been assigned the aggregation share value of 25%. For the characterization of the economic activities to which the rural residents have access, the following subcriteria will be taken into consideration:

- *Size of economic activities* s*ubcriterion,* providing quantitative information on the labour resources in the rural area; the following indicators will be used for this purpose: *rural population employment rate* (as ratio of employed population to total population 15-65 years) is an important indicator, as the employed population is a demographic factor that has a dual status in the rural diversification process: on one hand it is a restrictive factor by the high share of agricultural employment, and on the other hand there are favourable availabilities for the rural economic diversification process; the *labour force renewal index* (representing the ratio of young population 25-29 years to the population in the age group 15-24 years) is

relevant for the diagnosis on whether the current labour input is sufficient or not sufficient for the economic and occupation multiplication. The lower the values of this indicator, the lower is the diversification capacity of a rural area using the existing labour force.

- ***Size of agricultural activities*** s***ubcriterion*** – the following indicator will be used: *share of population employed in agriculture* (as ratio of the population employed in agriculture to total employed population) is a relevant indicator for illustrating the agricultural employment issue. The high values of this indicator place Romania on the top position in the EU.

- ***Size of non-agricultural activities*** s***ubcriterion*** - can be measured by the indicator *share of non-agricultural employed population* (as ratio of non-agricultural employed population to total employed population). The revitalization opportunities of rural areas are not linked only to the agricultural development potential, but also to the diversification potential of non-agricultural activities.

Table 6. Economic criterion indicators, 2014

	Empl. rate	Agric. empl. rate	Non-agric. empl. rate	Labour renewal rate
TOTAL	61.57	58.6	41.4	57.41
MACRO 1	53.97	45.5	54.5	59.08
North-West	60.83	51.9	48.1	58.49
Center	45.54	34.9	65.1	59.81
MACRO 2	62.16	70.2	29.8	54.71
North-East	68.65	75.3	24.7	52.86
South-East	51.43	58.8	41.2	58.15
MACRO 3	65.04	45.7	54.3	60.82
South	65.50	49.5	50.5	59.10
Buc-Ilfov	61.15	10	90	77.84
MACRO 4	66.23	66.6	33.5	56.96
South-West	72.66	77.3	22.7	53.71
West	56.89	46.5	53.5	62.03

Source: Territorial Statistics, NIS 2016

Yet the non-agricultural activities presuppose higher qualification of labour force, entailing higher and more reliable incomes. At the same time, the development of non-agricultural sectors, mainly industry and services, creates positive premises for a competitive agriculture practice by increasing the yields and production quality.

Taking into consideration all these criteria and subcriteria, the indicators for each criterion and subcriterion will be calculated, and finally these will be centralized under the form of a composite indicator on the socio-economic situation of the Romanian rural household.

CONCLUSIONS

The selection of the most adequate analysis model or rural households, across regions, had in view the analysis of the main rural development directions that also have an implicit impact upon the rural households, as well as a documentary analysis on the theoretical methods of socio-economic analysis of the rural area, of the rural households respectively.

This theoretical model of socio-economic analysis of the Romanian rural attempts to provide the theoretical premises for the identification of development particularities, for the hierarchization and grouping of counties according to their socio-economic potential.

Starting from the systemic particularity of the rural area in which the household is an important player, being the majority owner of the main (natural, human and cultural) resources, the proposed criteria, subcriteria and related indicators for the socio-economic analysis of households correspond to the main socio-economic development directions of the rural area.

The proposed indicators were selected taking into account the relevance in the characterization of the socio-economic development potential of rural areas and the availability of indicators.

Having in view all the criteria, subcriteria and indicators related to the proposed model, the next stage of this process will consist in their centralization under the form of a composite indicator on the socio-economic situation of the Romanian rural household.

The shares assigned to each indicator are equal, the same as in the case of subcriteria and criteria, considering that all the investigated dimensions (natural,

demographic, social and economic) have a major importance in the socio-economic development of the rural area.

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