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METHODOLOGICAL ASPECTS IN THE EVALUATION OF ROMANIAN RURAL DEVELOPMENT

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ABSTRACT

The rural economy is a component part of the concept of local economy, at the present moment the need for sustainable development starts from the creation of the seeds of degrowth for the local economy, as a generator of well-being. The synergy created locally through the European funds introduced in the local, rural economy determines a synergistic effect. The rural economy, as a component of the local economy, develops through the institutional factor and the human factor. The study wants to show methods for evaluating rural development in Romania, in the context of joining the European Union. The methodologies used are analysis and synthesis and they are useful for private and public sector in helping them find new ways to improve rural life with European funds.

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According to the Territorial Development Strategy of Romania 2035¹, the evaluation activities compare the achievements from certain moments of the implementation of the strategy (the implemented activities and the way in which they were implemented) with the previously proposed targets, including the way of implementing specific policies. The monitoring system proposed by the Territorial Development Strategy of Romania includes 3 main components:

- i. the monitoring of territorial dynamics, which considers the analysis of the state of the national territory at different time intervals by using the Methodology for calculating and applying the territorial development index of Romania and the Territorial Observatory, which represents an integrated information system used as a tool for the technical foundation of decisions regarding the development of the national territory to improve the quality and efficiency of the specific services provided by the ministry to the local public administration, in order to reduce the delivery time of public services in the fields of competence of the MDRAP;
- ii. monitoring the degree of achievement of the measures, activities and projects established at the SDTR level, which aims to monitor the strategic and operational provisions at the strategy level, including the matrix of established targets;
- iii. monitoring and evaluation of the territorial impact of investment programs on components:
a) monitoring of national programs; b) monitoring of operational programs through a territorial impact assessment methodology.

The monitoring and evaluation of the strategy regarding the evolution of the state of the territory is based on the Territorial Development Index (IDT), created as a synthetic index measuring the degree of development of a locality from a multidimensional perspective and focused on the following dimensions:

- (i) territorial competitiveness;
- (ii) territorial cohesion;

¹ Territorial development strategy of Romania. Polycentric Romania 2035. Territorial cohesion and competitiveness, development and equal opportunities for people. Version 4, 2015. https://www.fonduri-structurale.ro/Document_Files/Stiri/00017493/7hctm_Anexe.pdf

(iii) sustainable development, which represents composite indices each consisting of a series of variables/indicators available in official statistics, at the level of administrative-territorial unit (UAT), and allows measuring the degree of development by referring to the development average of a certain territory made up of several similar UATs (urban localities of a certain type, rural localities of a certain type), thus, the territories below or above the development average of the respective area being highlighted, the classification/hierarchy of the locality in relation to the development average at national level and/or from a specific territory, as well as revealing the degree of development of the specific territory (e.g. rural areas - small towns) by reference to the average of the development index for the previous reference period.¹

Within the future programming period, it is necessary to improve the cooperation between local actors (public authorities, municipalities, farmers, NGOs, etc.) who are interested and can contribute to the development of rural areas in Romania. Through the specifics of the activities carried out, the National Rural Development Network will cover this urgent need, ensuring the interconnection of local members, the dissemination of knowledge and new innovative methods and the animation of local communities, essential actions for an active rural space.

Human capital plays an important role in the local-rural economy and the impact of European funds on the development of the skills of the workforce and the individual, in general, is important. The development of rural communities is not exclusively aimed at decision-makers at the central, regional or national level. In order to ensure the development of rural areas, it is necessary to mobilize all interested parties (local authorities, organizations and civil society representatives) and, implicitly, the formation of a solid partnership between them. Local rural development can contribute to achieving the three missions targeted for Europe: competitiveness, cohesion and sustainability.

Territorial competitiveness at the regional level is determined based on the regional competitiveness index according to a "hard"² matrix of 13 indicators, weighted in 3 groups of indices (economic, social, technological) based on data available from regional statistics, as well as data obtained through questionnaires at sub-regional and local level (Table 1).

Table 1. Indicators for determining competitiveness at the regional level, by components - reporting the regions to the national average

Regiunea	Indicatorul economic, IE					Indicatorul social, IS				Indicatorul tehnologic, IT				Indicele de competitivitate	Clasament după indicele de competitivitate	Clasament după PIB pe locuitor		
	PIB/locuitor	Cresșterea PIB	Productivitatea muncii	Exporturile nete	Venitul net pe locuitor	Indicatorul economic agregat	Dispersia ratelor regionale de ocupare	Ocuparea forței de muncă (total)	Ocuparea forței de muncă (femei)	Indicele speranței medii de viață	Indicatorul social agregat	Cheltuielile totale de cercetare dezvoltare	Populația ocupată în sectoare high-tech				Educația terțiară cu calificare în cercetare	Indicatorul tehnologic agregat
Nord –Est*	0,69	0,54	0,70	-0,02	0,89	0,64	0,988	0,865	1,138	0,996	0,96	0,385	0,605	1,260	0,71	0,76	6	8
Sud - Est	0,91	0,63	0,94	-0,07	0,94	0,79	0,989	1,059	0,896	0,993	1,01	0,308	0,372	0,200	0,29	0,71	8	5
Sud-Muntenia	0,84	0,90	0,83	-0,22	0,96	0,80	0,958	0,997	0,990	0,996	0,98	1,103	0,576	0,040	0,63	0,80	5	6
Sud-Vest	0,83	0,63	1,21	0,18	0,99	0,91	0,931	0,967	1,040	1,002	0,97	0,308	0,645	0,060	0,33	0,75	7	7
Vest	1,15	1,37	1,35	0,02	0,96	1,06	0,975	1,018	0,969	0,998	0,99	0,590	1,477	0,660	0,88	0,99	2	2
Nord-Vest	0,97	0,63	0,96	-0,18	0,91	0,81	1,023	1,032	0,977	0,984	1,01	0,385	0,791	1,980	0,99	0,92	3	4
Centru	1,04	0,93	1,03	-0,34	0,89	0,90	1,059	1,074	0,914	1,011	1,04	0,513	0,924	0,560	0,65	0,87	4	3
București-Ilfov	1,91	1,78	1,30	-1,08	1,31	1,41	1,098	0,970	1,038	1,048	1,03	2,897	3,419	2,740	3,01	1,78	1	1

Competitiveness at the community level is determined based on 15 indicators, grouped into 5 categories according to a "soft" matrix, for the analysis of which factor analysis software is used.

¹ Romania's territorial development strategy. Polycentric Romania 2035. Territorial cohesion and competitiveness, development and equal opportunities for people. Version 4, 2015. https://www.fonduri-structurale.ro/Document_Files/Stiri/00017493/7hctm_Anexe.pdf

² Regional competitiveness assessment manual (GEA 2007) Made within the GOF project "Romania - Building Regional Assessment Capacity in Line with the Lisbon Agenda". Bucharest. August 2007. <https://cupdf.com/document/manual-de-evaluare-a-competitivitatii-regionale-deicitului-comercial-pe-de.html>

Table 2. Indicators for determining competitiveness at the local community level¹

Categories of local competitiveness indicators ("soft" matrix)	
Local community level data	Region level data
DEVELOPMENT / FIGHTING POVERTY THROUGH PROJECTS, DEVELOPMENT	
1. Number of projects carried out in the locality per 1000 households 2. Number of ongoing projects per 1000 households 3. Number of projects under approval per 1000 households	1. Number of projects carried out in the locality at the level of the town hall 2. Number of projects carried out in the locality at the level of NGOs, citizen groups, private sector, in partnership 3. The total value of the infrastructure projects carried out in the locality 4. Number of ongoing projects in the locality 5. Number of proposed projects in the locality, under approval
SOCIAL COHESION, COEZ	
4. Number of people receiving the guaranteed minimum income VMG per 1000 inhabitants 5. Number of unemployed persons receiving unemployment benefits per 1000 inhabitants 6. Number of households living in unsanitary, improvised housing (necessary housing units)	6. Number of people who receive the minimum guaranteed income VMG 7. Number of unapproved applications for VMG 8. Number of unemployed people receiving unemployment benefits 9. Number of households living in unsanitary, improvised housing (necessary housing units)
COMMUNICATION, COMMUNITY	
7. Percentage of households connected to the Internet 8. Percentage of the total length of roads in the locality that are modernized 9. The town hall has a website - 1 yes, 0-no	10. Percentage of households connected to the Internet 11. Percentage of schools connected to the Internet 12. Percentage of the total length of roads in the locality that are modernized 13. The town hall has a website - 1 yes, 0 no
ECONOMIC COMPETITIVENESS, COMPET	
10. Newly created jobs per 1000 jobs. 11. Arrivals in the locality per 1000 inhabitants 12. Own revenues in total revenues to the budget local, %	14. Newly created jobs 15. Jobs available for employment
SOCIAL DEVELOPMENT, DEZSO	
13. Newly built houses per 1000 inhabitants 14. Privately owned cars per 1000 inhabitants 15. Infant mortality rate	16. Number of people working abroad 17. Number of privately owned cars

There are a lot of aggregate indicators built starting from a set of variables defined at the level of a territorial unit (country, city, commune, village, etc.)². However, in Romania there are few studies regarding the construction of a measurement index of local, especially rural, economic development. The most famous studies are:

- Human Development Index (HDI)³
- Locality Development Index (IDSL)⁴
- Corruption Perception Index (IPC, Transparency)⁵
- The composite indicator for measuring the human/intellectual capital of a country.

The Local Human Development Index (LDI) or the Community Capital Index (IDC), proposed by Sandu Dumitru based on the UN Human Development Index (HDI) methodology, used in the UNDP system, HDI and HDI include indicators that measure education, economic performance and the state of health of the population, the IDUL containing in aggregate form the values of the

¹ Regional competitiveness assessment manual (GEA 2007) Made within the GOF project "Romania - Building Regional Assessment Capacity in Line with the Lisbon Agenda". Bucharest. August 2007. p.39,47.

² <https://cupdf.com/document/manual-de-evaluare-a-competitivitatii-regionale-deicitului-comercial-pe-de.html>

³ Academy of Economic Studies, Study on the socio-economic development potential of rural areas, within the technical assistance contract for the preparation of the programming period in the field of rural development 2014-2020, together with GBI Consulting, Mehlmauer-Larcher & Kastner OG (Leader of Association). MADR, 2014. <http://www.madr.ro/docs/dezvoltarururala/programare-2014-2020/studiu-potential-socio-economic-de-dezvoltare-zone-rurale-ver-10.04.2015.pdf>

⁴ <https://sites.google.com/site/dumitrusandu/bazededate>

⁵ http://www.transparency.org.ro/politici_si_studii/indici/ipc/2014/CPI%202014_Nota%20Metodologica%20Tehnica_RO.pdf

⁶ <http://www.nickbontis.com/ic/publications/BontisUNJIC.pdf>

indicators corresponding to the types of capital existing at the level of any community: human capital, health capital, vital capital and material capital.

By including in the IDUL indicators of material capital and average age, it also becomes a tool for measuring community (local) capital - with the help of factor analysis, the values of the indicators are aggregated into an indicator that estimates community capital, the obtained factor score is converted to have a range of variation 0-100 (according to the Hull score formula= $50+14 \times$ factorial score value). Studies reveal the comparison of ratios between GDP/capita (2001 and 2010) and HDI (2002 and 2011), HDI correlates quite well with economic growth, also an increase in HDI values between 2002 and 2011 is much more pronounced in urban areas/communities than in rural ones.

The local human development index allows a quantitative assessment of the level of development of localities. Starting from the indicators included in the 4 dimensions which forms this index, a typology of local human development can be elaborated, used as a stratification variable in the grouping of communities.

As a procedure, the basis of the classification is a k-means¹ cluster analysis with the central values of each cluster pre-determined starting from a set of hypotheses about how the 4 dimensions of local human development are structured in the localities of Neamț County, which allows the identification of some categories based on the relationships between the dimensions of local development.

The local human development index (LHDI - Local Human Development Index) developed, starting from the INDP² human development index, is calculated based on statistical data at country level, HDI being defined as a descriptive measure of performance in 3 dimensions of human development: life long and healthy, access to knowledge and a decent standard of living.³

The methodology used for the index can be adapted to lower levels of aggregation (regions, counties, localities), to the extent that there are statistical data reported at these levels of aggregation. The adaptation of the human development index to the Romanian context to a variant calculated at village, commune and city level expresses the level of development based on 4 dimensions that measure different aspects of a community's capital: human capital, health capital, vital capital and material capital.

The differences between the two indices are minor: both indices take into account the same dimensions (the local one makes a somewhat clearer distinction between health capital and vital capital) which they measure with similar indicators. The most important difference can be observed in the case of the size of material capital, which is measured more simply at the country level, through the gross national income. Given that at the locality level there is no variable that is a perfect substitute for the one used at the country level, the level of economic development of the localities is measured by means of three indicators that, together, represent a good approximation of the material capital at the level of the locality: the number of privately owned cars per thousand inhabitants, the annual consumption of natural gas (in cubic meters) per inhabitant and the average living area at the level of the dwelling. The measurement hypothesis is that a locality with administrative status, commune or city, is the more developed the more the stocks of community capital relevant for social well-being are higher: the average level of education of the inhabitants, the average state of health, the material state of households, public consumption are higher, and the average age of the population - lower (Table 3). The IDSL index uses the same calculation procedures as the human development index, each of the 7 primary indicators used is standardized by min-max normalization, later aggregated based on a factorial score, the weights with which each of the component indicators entered the index calculation, equal to factor score values, with the help of the geometric mean in the local human development index - a measure that can be used to compare relationships with other variables over time and characterized by a high degree of stability over time, the indicators being unifactorially grouped within a latent variables with an eigenvalue of 39%, and the KMO index - of 0.727 for the total number of cases to which the PFA type analysis was applied of 3166 municipalities and cities, the study establishing that for municipalities, the tendency is for the index to have higher values if they are closer to the city and to a European road.⁴

¹ https://www.fonduri-ue.ro/images/files/studii-analize/43814/Orase_competitive_-_raport_final.pdf

² UNDP, 2014a

³ UNDP, 2014b: 2

⁴ Sandu D. Social Disparities in the Regional Development and Policies of Romania.

<http://archive.sciendo.com/IRSR/irsr.2011.1.issue-1/irsr-2011-0001/irsr-2011-0001.pdf>

Table 3. Indicators of the IDSL index for the community capital of the locality, Romania, 2008

		Primary indicators Weight (factor score value)	Primary indicators Weight (factor score value)
	<i>Forms of community capital</i>		
1.	Human capital	stoc de educație la nivel de comunitate, 2002	0.295
2.	Vital capital	vârsta medie a persoanelor de peste 14 ani, 2008	-0.237
3.	Material capital	speranța de viață la naștere 2006-2008	0.093
4.		autoturisme la 1000 loc., 2007 (transformare ln)	0.218
5.	Private level	suprafața medie pe locuință 2008	0.201
6.	Public level	consumul de gaze pe locuitor, mc	0.245
7.	<i>Index with significance for multiple components of community capital</i> <i>Size-residence category of the locality, 2008. The index has 10 categories, 4- municipalities (under 2500 inhabitants, 2500-3499, 3500-4999, over 5000) and 6- cities (under 30 thousand, 30 thousand-under 100 of thousands, 100 thousand- under 200 thousand, 200 - under 300 thousand, 300 thousand-under 400 thousand, over 400 thousand).</i>		0.266

A variant of the IDSL based on only 6 indicators (IDSL6) without the size-residence category of the locality is used within a complex explanatory model of rural poverty. Rural poverty is favored by the reduced accessibility to urban centers, the poor quality of the access infrastructure and the predominantly agricultural occupation of the population. At the same time, the size of the locality and its residential status do not ensure a top place in the hierarchy of local social development.

In the case of rural localities, the distribution of localities into 6 categories (poor, poor and elderly, poor and young, with unequal social development, moderately developed, developed) of local human development is analyzed.

It is considered that the configuration of demographic regionalizations in the countryside is a function of the urban systems that influence them. The specific county effect on the natural increase at the level of the commune, being a measure of the specific impact that the county as a regional unit has on the various facets of the demographic performance, is the effect of the way in which the urban system is structured in the county, with the hierarchy and relations between cities, correcting the negative county effects on the communes assuming the consideration of some regional-urban policies that would takes into account cities and municipalities that interact with each other on the labor market and in the social space.

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