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SUBSTANTIATION OF METHODOLOGICAL APPROACHES TO ASSESSMENTS OF SOCIAL INFRASTRUCTURE AND DEVELOPMENT OF RURAL AREAS

Statement of the problem. During the years of market transformation the social infrastructure rural areas is on the verge of destruction. A prerequisite for this situation became not thought out agrarian reforms, which were conducted not in a complex, often by trial and error, without a clear plan as industrial transformation and social spheres. As a result of changes production resources have moved to private ownership, the objects of social infrastructure - have remained in state or municipal. Dissociation of these two spheres at the village at low level compensation state regulatory policy resulted in the absence or scarcity of financing social infrastructure development both from the budgets of all levels and by economic entities market type. Thus, rural (village) council were in charge of all objects of social infrastructure, remaining essentially alone with the problem of maintenance and development, under conditions of significant economic decline and negative demographic factors contributes to the degradation of the village as a whole.

To solve this problem, needed system restructuring of social relations, aim of which should be the preservation of rural areas and their human, economic and social potentials. Important here is the role of government, which determine the priorities of rural development, including social infrastructure [5]. Relevant work on the revival of social infrastructure in rural areas is not possible without a comprehensive assessment of its condition in the context of each village (village) council, district, region, and determining the sequence of stages of development, depending on the degree of depression of certain rural areas and provision of one or other objects infrastructure. Therefore, the determination of methodological approaches assessment of the development of social infrastructure in rural areas is quite relevant and requires further research.

The analysis of recent research and publications The issue of development social sphere, social infrastructure in rural dedicated to the scientific work of many well-known scientists and economists in particular: M.S. Aleksandrov, O.A. Bitter, O.H. Bulavka, M.I. Dolishniy, V.K. Zbarskiy [2], H.I. Kupalova, M.Y. Malik [8] M.K. Orlatyi [3] O.A. Lyashenko, O.I. Pavlov [4] I.V. Prokopa, P.T. Sabluk [6] I.N. Topiha, D.F. Krysanov, K.V. Prokopyshak, V.V. Yurchyshyn [10] and others. However, despite their importance, some directions of development of social infrastructure rural areas has not yet been investigated fully, especially in the substantiation of methodological approaches to the assessment of its condition and determine the gradual revival at the local level.

Setting the objective. The aim of our study is the substantiation of methodological approaches to the assessment of rural areas as of social infrastructure

through the use application the multivariate complex of rating indicators of each administrative territorial unit and definition phases of the further development of social infrastructure.

The main material of researchs. During carrying out research with a view more in-depth studying the state and the causal relationships development of social infrastructure of rural areas in regional terms, we conducted a systematic evaluation (rating) administrative district of Ternopol region by applying multivariate average. For rating estimation at the stage of theoretical analysis of the problem, we selected the most important parameters that characterize the state and the level of social infrastructure as a base forming the employment potential in rural areas.

Most of the selected parameters (features) in its turn include several interrelated indicators that are complex and thus more deeply reflect the real situation. For example, a rating beautification of rural housing includes ensuring of rural homes with running water, sewage, gas, bath and more. Most of the parameters include not only the proportion of villages, but also the population that lives in them.

So the assessment conducted by the following complex parameters: X_1 -size villages on the number of residents; X_2 - remoteness of villages from village councils and district centers; X_3 - the remoteness of villages from public transport; X_4 - remoteness of villages from roads with hard coverage; X_5 - roads in rural areas with hard covering and street lighting; X_6 - age of the housing stock; X_7 - beautification of housing (water, sewage, bath, gas, etc.); X_8 - preschool Institutions; X_9 – general education schools; X_{10} – institutions of culture; X_{11} - medical institutions; X_{12} – Institutions of trade; X_{13} – establishments of service every day life; X_{14} – Institutions of catering; X_{15} - sports facilities; X_{16} – religious buildings; X_{17} – the technical condition of buildings of the social sphere; X_{18} - existing base for discovery or improvement of social institutions.

Since among these parameters are parameters essentially that stimulate and restrain the development social infrastructure in rural areas is to provide a common orientation of the indexes by combining them into an integrated assessment, we the constrain parameters ($X_{\partial cm}$) turned into stimulating (X_{cm}):

$$X_{cm} = \frac{1}{X_{\partial cm}}. \quad (1)$$

The essence of the application of multidimensional secondary assessment is that the individual values of the selected parameters in a separate area (X_{ij}), we have replaced by the relative values (S_{ij}). For its calculation for the base of comparison, we took the average of each parameter of rural areas of region. In the context of each rural area individual meaning of the indicator and dividing its on average, we received the compared coefficients. As a result of their determination (S_{ij}), for each of the indicators in the context of each administrative district calculated the arithmetic mean of these ratios, which is multidimensional (S_j). Her we have adopted for the rating assessment of the state of social infrastructure rural territories of each particular region (Tab. 1).

Table 1 - Comprehensive indicators of social infrastructure of rural settlements and rating of districts, Ternopil region (according to 2005)

№	Comprehensive indicators of social infrastructure	Berezhanskiy	Borshehivskiy	Buchatskiy	Husyatynskiy	Zalishchytskiy	Zbarazkiy	Zborivskiy	Kozivskiy	Kremenetskiy
1.	Size villages on the number of residents	0,544	1,499	2,315	1,125	1,680	0,900	0,339	1,266	1,000
2.	Remoteness of villages(from district centers and town)	0,735	1,387	1,377	1,508	1,156	0,746	0,654	2,041	0,562
3.	Remoteness of villages from public transport	0,950	0,662	0,752	1,621	0,758	0,653	1,305	2,618	1,133
4.	Remoteness of villages from roads with hard coverage	1,280	1,198	0,978	1,224	0,465	0,489	0,336	0,934	3,300
5.	Roads in rural areas with hard covering and street lighting	0,668	0,637	0,863	0,794	0,769	0,444	0,325	0,917	4,587
6.	Age of the housing stock; (built before 1970 and after 1991)	0,902	0,862	1,085	0,779	1,850	0,986	0,831	0,841	1,098
7.	Beautification of housing (water, sewage, bath, gas, etc.);	1,435	0,304	0,728	0,799	0,462	1,402	1,098	1,690	0,929
8.	Preschool institutions (% of villages where 20 and> children and none preschool institutions)	0,801	0,953	4,082	1,934	3,817	0,673	0,822	1,266	0,463
9.	General education schools (% of villages where 50 and> children and there is no school)	0,943	2,309	1,264	0,817	1,175	0,545	1,488	0,894	0,568
10.	Institutions of culture % of villages do not have clubs, libraries, movie)	0,889	1,215	1,131	0,955	1,374	1,017	0,876	0,874	0,806
11.	Medical institutions (% of villages that do not have them)	0,260	1,225	2,532	1,117	2,000	0,633	0,567	2,237	0,551
12.	Institutions of trade; (% of villages with a population of> 100 people, where they are not)	0,600	1,745	4,405	0,915	0,798	1,364	0,514	1,000	0,728
13.	Establishments of service every day life; (workshop etc.)	-	1,010	1,018	0,996	1,001	0,995	0,997	0,997	0,999
14.	Institutions of catering (residents at one institution)	0,555	1,072	1,200	0,750	0,625	0,357	0,833	1,429	1,153
15.	Sports facilities (residents on one facility)	0,934	1,167	0,934	1,167	1,078	0,824	0,700	0,737	1,078
16.	Religious buildings (residents for one church)	1,162	0,878	0,862	0,886	0,980	1,027	1,307	0,848	0,951
17.	The technical condition of buildings of the social sphere (need major repairs)	0,708	2,058	1,828	3,279	1,116	0,884	0,696	0,417	1,130
18.	Existing base of the social sphere (Free premises)	0,866	0,886	0,668	0,986	1,134	1,591	1,065	1,224	0,878
	Multivariate coefficient in the district	0,792	1,170	1,557	1,203	1,236	0,863	0,820	1,235	1,217
	Rating of the district	17	11	06	10	07	15	16	08	09
	The percentage of positive indicators, %	16,7	61,1	61,1	44,4	61,1	27,8	27,8	50,0	44,4
	Value for of best and worst indicators (with the first three and last place)	1/4	4/2	4/2	3/0	3/2	1/6	2/6	3/3	3/5

Continuation of table 1

№	Comprehensive indicators of social infrastructure	Lanovetskiy	Monastyryskiy	Pidvolochyskiy	Pidhayetskiy	Terebovlyanskiy	Ternopilskiy	Chortkivskiy	Shumskiy
1.	Size villages on the number of residents	0,463	0,786	0,921	0,664	1,420	3,521	1,761	0,862
2.	Remoteness of villages(from district centers and town)	0,606	1,209	1,019	1,245	0,773	1,475	2,392	0,733
3.	Remoteness of villages from public transport	0,639	0,960	3,922	0,208	1,221	18,868	5,236	0,960
4.	Remoteness of villages from roads with hard coverage	6,061	0,957	3,676	0,978	1,821	2,488	1,610	0,861
5.	Roads in rural areas with hard covering and street lighting	9,174	1,021	9,174	1,156	2,092	1,279	1,103	2,222
6.	Age of the housing stock; (built before 1970 and after 1991)	0,914	1,028	0,687	0,758	0,731	1,511	0,889	1,080
7.	Beautification of housing (water, sewage, bath, gas, etc.);	0,500	0,543	1,207	1,250	0,598	2,603	1,000	0,734
8.	Preschool institutions (% of villages where 20 and> children and none preschool institutions)	2,342	1,096	1,227	0,938	1,529	0,696	1,972	0,581
9.	General education schools (% of villages where 50 and> children and there is no school)	0,698	2,310	1,340	1,218	0,837	0,943	1,218	0,657
10.	Institutions of culture % of villages do not have clubs, libraries, movie)	0,815	1,007	1,087	1,014	1,159	1,060	1,318	0,851
11.	Medical institutions (% of villages that do not have them)	0,745	2,923	1,233	0,330	1,152	2,717	4,219	19,230
12.	Institutions of trade; (% of villages with a population of> 100 people, where they are not)	0,555	1,153	1,499	0,387	1,876	4,167	1,364	4,405
13.	Establishments of service every day life; (workshop etc.)	-	-	0,996	-	1,002	1,005	1,006	1,009
14.	Institutions of catering (residents at one institution)	1,153	0,492	1,111	0,811	0,883	1,876	0,883	1,364
15.	Sports facilities (residents on one facility)	1,401	1,167	1,272	1,000	0,098	1,000	1,078	0,737
16.	Religious buildings (residents for one church)	1,346	1,105	1,304	1,206	1,017	0,748	0,904	1,041
17.	The technical condition of buildings of the social sphere (need major repairs)	10,638	0,933	0,553	1,724	1,912	1,062	0,651	1,828
18.	Existing base of the social sphere (Free premises)	1,014	1,318	1,912	0,759	0,571	0,642	1,159	1,170
	Multivariate coefficient in the district	2,170	1,112	1,897	0,869	1,150	2,648	1,654	2,240
	Rating of the district	03	13	04	14	12	01	05	02
	The percentage of positive indicators, %	44,4	61,1	77,8	44,4	61,1	77,8	77,8	50,0
	Value for of best and worst indicators (with the first three and last place)	6/7	3/2	6/2	0/5	0/3	6/2	5/1	4/3

Note: Developed by the authors based on [7]

Considering a large number of indicators assess the status and development of social infrastructure and given the complex nature of each of them can be considered such assessment a comprehensive and objective. As a result of such analysis received three groups' areas with the following multidimensional coefficients of development of social infrastructure.

a) high - 1,557-2,648 (Ternopilskiy, Pidvolochyskiy, Chortkivskiy, Shumskiy, Buchatskiy, Lanovetskiy districts);

b) average - 1,236-1,112 (Borshchivskiy, Husyatynskiy Zalishchytskiy Kozivskiy, Kremenetskiy, Terebovlyanskiy, Monastyrskiy districts);

c) low - 0,869-0,792 (Berezhanskiy, Zborivskiy, Zbarazkiy, Pidhayetskiy districts).

In order to identify the impact of the state of social infrastructure on demographic and economic development of rural areas, we have calculated in incisions of these three groups of districts average amount natural reduction of the rural population, as one of the most important demographic parameters, as well such economic parameters as production gross output in the calculation 100 hectares of agricultural land and on one annual average existing person. Results of the research confirmed our assumptions (Tab. 2).

Table 2 - Influence of social infrastructure on demographic and economic development of rural areas in the Ternopil region (according to 2011)

Indicators	Groups of regions for multivariate coefficients of social development			The third group in% to the first
	high 1,557-2,648	average 1,236-1,112	low 0,869-0,792	
Natural decrease of the rural population (on 1000 people).	5,2	7,2	7,3	140,4
Production a gross agricultural production on 100 hectares of s / c lands of all categories of producers, thousand.	795,1	779,3	613,0	77,1
Production a gross agricultural output for 1 person all categories of producers, grn.	8463	8471	7866	92,9

Note: Developed by the authors based on [1, 9]

Thus, the natural reduction in the number of rural population calculated per 1000 people. Existing rural population areas in the first group with the highest multivariate factors of social development was significantly lower than in the second and third groups - respectively 5.2 versus 7.2 and 7.3 persons. That is, the natural reduction in the third group was at 40.4 percent higher than in the relatively better the first group.

The same tendency is characteristic of economic parameters. Production of gross of agrarian production on 100 hectares of farmland all categories of producers in the third group of areas with low multidimensional coefficients of development social infrastructure by almost 23 percent lower than in the first group.

So the conclusion is: the economic development of the region is inseparable from the social, it is interdependent processes and therefore has to pass at a time,

rather than first economic and then the social, as is the case in the modern transformation period. The situation should be promptly adjusted, concentrating the efforts of all of the economic system in the revival and accelerated development of social infrastructure in rural areas to preserve Ukrainian village.

Multidimensional coefficients of assessment of the state development of social infrastructure, as already noted, are designed by us in the context of each the district by 18 indicators that defined by its ranking in the context of individual comprehensive indicators and total multidimensional indicator. Besides, we proposed to use in assessing the status and development of social infrastructure in the ratio of best and worst places for individual indicators (the first three and last three) and percentage of positive indicators (to the best averages in the region). Through this approach, we believe that the results of the analysis will be an extensive and can be used in practice to manage the development of social infrastructure in rural areas of the region.

Based on the analysis of the obtained materials, we tried to form a complex stage revival and development of social infrastructure in rural areas of the region. For these purpose administrative regions we grouped depending on the level state of social infrastructure. So we have three groups:

- the first - a critical level of the state of social infrastructure (Berezhanskiy, Zborivskiy, Zbarazkiy and Pidhayetskiy districts)
- the second - with an average level state of social infrastructure (Monastyrskiy, Terebovlyanskiy, Borshchivskiy, Husyatynskiy, Kremenetskiy, Kozivskiy and Zalishchytskiy districts);
- the third - with the best level of state of social infrastructure (Buchatskiy, Chortkivskiy, Pidvolochyskiy, Lanovetskiy, Shumskiy and Ternopilskiy districts).

In the context of each area we have also identified a gradation of social infrastructure issues that must be addressed in stages depending on the severity. To do this, we formed three groups:

- A - urgent, the priority problems;
- B - medium-term problems;
- C - long-term problems;

In each group of problems solved in the order in accordance with the number of code:

1) the number of the population living in small villages, and 2) the number of the population living in remote villages, and 3) the population in rural areas, far from public transportation, and 4) population in villages remote from roads with hard coverage, 5) presence in the village roads with hard coverage and lighting 6) village housing age population; 7) the level of beautification public housing stock (water, sewage, gas, bath, etc.); 8) the provision of pre-school facilities, 9) provision of secondary schools, 10) provision cultural institutions (clubs, libraries, film projectors), 11) provision of medical institutions, 12) provision of retail (food and industrial stores), 13) the presence of other objects sphere, 14) provision of catering facilities (cafes, canteens, restaurants, etc.) 15) provision of sports facilities residents, 16) supply residents with places of worship, 17) the technical condition of buildings and structures of social infrastructure, 18) the presence of a base for the development

of social infrastructure (unused space).

Thus, on the basis of the assessment of the state of social infrastructure priority districts and solve problems of development we have developed stages of revival and development of this important area of rural areas (Tab. 3).

Table 3 - Stages of solving problems of social infrastructure in rural areas of Ternopil region

I. Groups districts of the first (urgent) stage of problem solving measures of development social infrastructure in rural areas						
1. Berezhanskiy district	2. Zborivskiy district	3.Zbarazkiy district	4. Pidhayetskiy district			
A. Urgent, the priority problems						
13, 11, 1, 14, 12, 5, 18	5, 4, 1, 12, 2, 15, 18	14, 5, 4, 9, 3, 8, 18	13, 3, 11, 12, 6, 18			
B - Medium-term problems						
17, 2, 8, 10, 6, 3	11, 17, 8, 6, 14, 10, 13	11, 2, 15, 17, 1, 6	1, 6, 8, 4			
C - Long-term problems						
9, 15, 16, 4, 7	13, 7, 3, 16, 9	13, 10, 16, 12, 7	15, 10, 5, 16, 9, 2, 7, 17			
II. Group districts of the second stage of problem-solving measures of development social infrastructure in rural areas						
1. Monastyrskiy district	2. Terebovlyanskiy district	3. Borshchivskiy district	4. Husyatynskiy district	5. Kremenetskiy district	6. Kozivskiy district	7. Zalishchytskiy district
A. Urgent, the priority problems						
13, 14, 7, 1, 4, 3, 18	15, 6, 7, 2, 9, 14, 18	7, 5, 3, 6, 16, 18	14, 6, 5, 7, 18	8, 11, 2, 9, 10, 18	17, 15, 16, 6, 9, 18	7, 4, 14, 3, 18
B - Medium-term problems						
17, 10, 5, 6, 8	13, 16, 11, 10, 3	8, 14, 15, 4, 11	9, 16, 12, 10, 13	12, 7, 16, 13, 1	10, 5, 4, 13, 12	5, 12, 16, 13, 17
C - Long-term problems						
16, 12, 15, 2, 9, 11	1, 8, 4, 12, 17, 5	2, 1, 12, 13, 10, 17,9	11, 1, 4, 2, 3, 8, 15, 17	15, 17, 3, 14, 6, 4, 5	8, 1, 11, 3, 14, 7, 2	15, 2, 9, 1, 11, 10, 6, 8
III. Group of districts the third stage of solving problems of development social infrastructure in rural areas						
1. Buchatskiy district	2. Chortkivskiy district	3. Pidvolochyskiy district	4. Lanovetskiy district	5. Shumskiy district	6. Ternopilskiy district	
A. Urgent, the priority problems						
16, 7, 3, 18	17, 14, 6, 18	17, 6, 1, 18	13, 1, 7, 12, 2, 3, 10	8, 9, 10, 18	16, 8, 9, 18	
B - Medium-term problems						
5, 15, 4, 6, 10	15, 16, 7, 13	13, 2, 10, 14	18, 9, 11, 6	2, 7, 15, 4, 1, 3	15, 13, 10, 17	
C - Long-term problems						
14, 9, 2, 17, 11, 13, 1, 8, 12	5, 9, 12, 4, 10, 1, 2, 11, 3	7, 8, 11, 9, 12, 15, 16, 4, 3, 5	14, 16, 15, 8, 4, 5, 17	16, 6, 17, 5, 13, 14, 12, 11	5, 2, 4, 11, 6, 14, 7, 1, 12, 3	

Note: Developed by the authors

For example Berezhanskiy area should be noted however that social issues should begin with the problem at number 13, and it's home sphere which is in the worst condition. Behind her - Medicine (11). But the problems of general education, provision of sports and religious buildings (1) and can be postponed until the third stage. The same method should be applied to each area of the region.

Stages of solving social problems are particularly important. It's extremely expensive as projects outside the sphere of production. A year or two to realize that it is impossible to collect and consolidated financial resources to address these issues in the present conditions is extremely difficult. On the other hand, postponing resolution of issues revival and development of social infrastructure in rural areas further exacerbate social tensions, and some processes may become irreversible. Therefore, our proposed stages solving problems of social infrastructure in rural areas to the extent resources formation - an objective necessity.

Conclusions and further research. Thus, the social infrastructure of rural areas left without adequate attention on the part of subjects of agricultural production and not getting adequate budget funding is not that developed, and even degraded decline. This seriously affects the economic development and demographic processes in rural areas. Therefore, the beginning of the revival and further development of social infrastructure should be coordinated with the government and all stakeholders (agricultural units, community organizations, And local governments) for financially secure a state program that emerge from below, taking into account the current situation.

The development of such programs at all levels should begin with a comprehensive assessment of the state rural infrastructure in the context of each village, district, region, and also in terms of social facilities. One of the methodological approaches to this study we have reflected in our study, on the basis of which to develop problem-solving stages in terms of area and the actual problems of social infrastructure.

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