Modern Paradigm of Rural Public Management: The Case of Ukraine

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Abstract: Effective public management is a guarantee for ensuring stable long-term rural development in Ukraine. The aim of this research is to develop a set of directions for improving the efficiency of public management of Ukrainian rural areas based on the assessment of their development, identification of problems of rural management and learning from the experience of the European Union. The following methods are used: quantitative analysis of statistical data on the socio-economic development of Ukrainian rural areas and agriculture in Ukraine for the time period of ten years using one-dimensional statistical methods (UT) based on dependent, representative, and probabilistic sampling; comparative assessment of public management and state administration by means of literary review; “goal tree”, SMART-technology and analytical form of Boolean algebra logical function used for forming a goal hierarchy by every subject of rural public management in Ukraine, as well as achieving the common general goal of PM in Ukrainian rural areas; formation of an integral indicator for assessing the quality of rural public management within the framework of the developed assessment methodology; quantitative identification of consumers’ key requirements regarding services of state and municipal government institutions in the framework of effective rural public management based on the use of panel data. This article reveals trends and problems of rural public management in Ukraine and concludes that it is necessary to improve the efficiency of such management, for which a set of optimization measures is being developed.

Keywords: efficiency, public management, agriculture, rural areas, subjects of public management.

INTRODUCTION

Current development of Ukrainian economy is accompanied by an active search for industries-drivers that will become the main components of its recovery after 2 consecutive economic crises (Pluhaty, Putyk, Kulyk, 2018). Agriculture has significant potential and demonstrates high growth rates in recent years (State Statistics Service of Ukraine, 2020). Ukrainian agriculture was the most adapted to the crisis development of the national economy (Zinchuk et al., 2017). We mark significant potential of agricultural sector of Ukrainian economy that is not fully realized due to significant socio-economic problems of rural development (Kirieieva, Kostyuchenko, 2017; Tomashuk, 2017).

Rural areas in developing countries have a significant lag in socio-economic development comparing to urban areas. We mark significant problems of efficient rural management at the state and local level in Ukraine (Furdychko, Gnativ, 2015; Pavlika, Khomiuk, 2018; Tomashuk, 2017). We stress on significant opportunities for acceleration of rural social and economic development (Danylenko, Sokolska, 2017; Rossokha, Plotnikova, 2018). Problems should be solved using the experience of economically developed countries (Atkočiūnienė, Vaznioniūnienė, Aleksandravičius, 2018; Valentinov, 2008). Creation of effective rural public management in Ukraine is of particular importance, (Halanets, Dzyanyy, Dziurakh, 2019; Savkov, Orlatyi, Kucher, 2016).
Seroka (1989) studied state management and planning of rural areas on the case of the United States, stressing that challenges of rural planning and state management differ from those encountered in urban planning and state management. Stathopoulou, Psaltopoulos and Skuras (2004) focused on the peculiarities of entrepreneurial activity in rural areas on the case of European rural enterprises. Sarker (2005) examined the relationship between state management, provision of services by public institutions in rural areas, and functioning of non-governmental organizations on the case of Bangladesh. Pollermann Raue and Schnaut (2014) focus on multi-level governance of rural development in the European Union. They emphasize that rural development policies should be able to respond to various challenges through flexible measures, including cooperation and mobilization of various stakeholders. Jairo et al. (2015) investigated the gap between public management of urban and rural areas on the case of Vietnam. Thus, Bosak (2010) revealed the essence of public management as a new management model in the public sector. The scientist, based on the evolution of management model in the public sector, justifies the need for public management in Ukraine, especially within rural management. Antonov (2010) in his research reveals implementation features of sustainable rural development, formulates key aspects of strategic plans for rural development, and elaborates directions for improving management system of rural areas. Savkov, Orlatyi and Kucher (2016) investigated features of public management of rural development on the case of Ukraine. Special attention was paid on functions, stages of implementation, goals, tasks, subjects and objects of such management. Al-Atti (2018) analyzes works on public management in Ukraine. Problems of implementation and development of rural public management in Ukraine require further research.

The purpose of this research is to develop a set of directions for improving the efficiency of public management of rural areas in Ukraine based on the assessment of their development, identification of problems of rural management and learning from the experience of the EU. It is necessary to prove or disprove hypotheses: rural areas of Ukraine have positive long-term dynamics of social and economic development; a significant number of problems connected with the introduction of public management in Ukraine and its rural areas is one of the key discouraging factors of the development of the country and its rural areas in particular; the European Union has significant achievements in the sphere of rural development and introduction of rural public management, which can be used as a model for Ukraine; Ukraine requires development and implementation of a set of directions for improving the efficiency of rural public management.

MATERIALS AND METHODS
The following methods are used:
- quantitative analysis of statistical data on the socio-economic development of Ukrainian rural areas and agriculture in Ukraine for the time period of ten years using one-dimensional statistical methods (UT) based on dependent, representative, and probabilistic sampling;
- comparative assessment of public management and state administration by means of literary review;
- “goal tree”, SMART-technology and analytical form of Boolean algebra logical function used for forming a goal hierarchy by every subject of rural public management in Ukraine, as well as achieving the common general goal of PM in Ukrainian rural areas;
- formation of an integral indicator for assessing the quality of rural public management within the framework of the developed assessment methodology.

The research methodology is based on the system-functional, historical and system approaches aimed at revealing and solving problems related to the efficiency improvement of rural public management in Ukraine. The system-functional approach allows to identify the impact of public management on rural development in Ukraine. The historical approach is used to analyze the socio-economic development of rural areas and agriculture in Ukraine.

Data were collected and an empirical analysis was carried out regarding the dynamics of socio-economic development of Ukrainian rural areas and agriculture during 2009-2018, according to the statistical data of the State Statistics Service of Ukraine. Public management in the EU was evaluated individually according to the statistical data of the European Commission and European Parliament.

RESULTS
Assessment of rural socio-economic development in Ukraine
The basis of agricultural growth is rural development. Socio-economic development of rural areas forms key factors influencing all components of business environment, including agriculture. There is a gap between the growth of agricultural production and rural development in Ukraine, increasing in recent years. We analyzed
socio-economic development of Ukrainian rural areas, as well as key parameters of Ukrainian agricultural development over the past 10 years for which there is statistical information.

Table 1 shows an increasing gap between agriculture development and socio-economic development of rural areas in Ukraine with the exception of 2017-2018. The share of agricultural sector in Ukrainian GDP increased by 2.9 % over the years researched, reaching 10.1 % of the Ukrainian GDP in 2018. After the growth in 2009-2015 (excluding 2012), in 2016-2018 we observe a negative trend in the share of agricultural sector in Ukrainian GDP.

Table 1: Analysis of socio-economic development of Ukrainian rural areas and agricultural sector for the period of 2009-2018 (State Statistics Service of Ukraine, 2020)

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<tbody>
<tr>
<td>Share of agricultural sector in GDP, %</td>
<td>7.2</td>
<td>7.5</td>
<td>8.2</td>
<td>7.8</td>
<td>8.8</td>
<td>10.2</td>
<td>12.1</td>
<td>11.7</td>
<td>10.2</td>
<td>10.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Share of agricultural exports, %</td>
<td>24.0</td>
<td>19.3</td>
<td>18.8</td>
<td>26.0</td>
<td>26.8</td>
<td>30.9</td>
<td>38.3</td>
<td>42.0</td>
<td>41.0</td>
<td>39.4</td>
<td>15.4</td>
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<tr>
<td>Share of agricultural imports, %</td>
<td>10.9</td>
<td>9.4</td>
<td>7.8</td>
<td>8.9</td>
<td>10.7</td>
<td>17.2</td>
<td>9.4</td>
<td>9.9</td>
<td>8.9</td>
<td>8.9</td>
<td>-2</td>
</tr>
<tr>
<td>Share of capital investments in agricultural sector, %</td>
<td>4.2</td>
<td>5.6</td>
<td>6.4</td>
<td>6.4</td>
<td>7.0</td>
<td>8.4</td>
<td>11.1</td>
<td>13.8</td>
<td>14.0</td>
<td>12.5</td>
<td>8.3</td>
</tr>
<tr>
<td>Share of FDI in agricultural sector, %</td>
<td>1.5</td>
<td>1.7</td>
<td>1.6</td>
<td>1.5</td>
<td>1.4</td>
<td>2.0</td>
<td>1.6</td>
<td>1.6</td>
<td>1.9</td>
<td>1.8</td>
<td>0.3</td>
</tr>
<tr>
<td>Share of unprofitable enterprises in agricultural sector, %</td>
<td>30.3</td>
<td>30.5</td>
<td>17.0</td>
<td>21.7</td>
<td>20.1</td>
<td>15.8</td>
<td>11.5</td>
<td>12.2</td>
<td>13.8</td>
<td>13.7</td>
<td>-16.6</td>
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<tr>
<td>Share of depreciation of fixed assets in agricultural sector, %</td>
<td>39.6</td>
<td>40.8</td>
<td>32.6</td>
<td>34.6</td>
<td>35.8</td>
<td>38.8</td>
<td>38.9</td>
<td>37.3</td>
<td>36.4</td>
<td>35.3</td>
<td>-4.3</td>
</tr>
<tr>
<td>Share of employed in agricultural sector, %</td>
<td>15.6</td>
<td>15.4</td>
<td>16.8</td>
<td>17.2</td>
<td>17.6</td>
<td>17.1</td>
<td>17.5</td>
<td>17.6</td>
<td>17.7</td>
<td>18.0</td>
<td>2.4</td>
</tr>
<tr>
<td>Share of unemployed in rural areas, %</td>
<td>7.2</td>
<td>7.1</td>
<td>7.5</td>
<td>7.4</td>
<td>7.3</td>
<td>9.5</td>
<td>9.4</td>
<td>9.7</td>
<td>10.4</td>
<td>9.6</td>
<td>2.4</td>
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<tr>
<td>Difference in rural and urban household income, %</td>
<td>12.5</td>
<td>13.1</td>
<td>14.1</td>
<td>14.5</td>
<td>14.4</td>
<td>13.6</td>
<td>11.4</td>
<td>10.5</td>
<td>10.6</td>
<td>10.3</td>
<td>-2.2</td>
</tr>
<tr>
<td>The share of wear of road infrastructure, %</td>
<td>64.2</td>
<td>65.0</td>
<td>67.8</td>
<td>69.3</td>
<td>70.4</td>
<td>72.1</td>
<td>75.9</td>
<td>77.2</td>
<td>78.0</td>
<td>79.5</td>
<td>15.3</td>
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<tr>
<td>Shortage of rural educational institutions, %</td>
<td>7.6</td>
<td>7.5</td>
<td>8.1</td>
<td>9.6</td>
<td>10.1</td>
<td>10.5</td>
<td>12.4</td>
<td>14.0</td>
<td>16.7</td>
<td>19.3</td>
<td>11.7</td>
</tr>
<tr>
<td>Shortage of rural health care facilities, %</td>
<td>15.3</td>
<td>15.0</td>
<td>16.2</td>
<td>16.9</td>
<td>18.0</td>
<td>18.3</td>
<td>20.1</td>
<td>22.4</td>
<td>23.1</td>
<td>22.9</td>
<td>7.6</td>
</tr>
<tr>
<td>Shortage of rural sports facilities, %</td>
<td>43.2</td>
<td>44.0</td>
<td>45.5</td>
<td>46.3</td>
<td>46.9</td>
<td>47.8</td>
<td>49.5</td>
<td>50.2</td>
<td>51.7</td>
<td>51.5</td>
<td>8.3</td>
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The reasons for this were the acceleration of recovery from the 2014-2015 crisis in other sectors of national economy, as well as a set of constraints of agricultural production development, which includes rural development (Kirieieva, Kostyuchenko, 2017; Kvasha, Sokol, Zhemoyda, 2017). Agricultural sector showed the highest growth rates during the crisis in Ukrainian economy, which indicates its stability and adaptation to economic crises.

It can be attributed to the share of agricultural exports with certain exceptions. We indicate active growth of this share in the crisis and post-crisis periods of the national economic system. We emphasize that in 2016-2018 there was also a negative trend of reducing the share of agricultural exports comparing to the total export. It is necessary to notice the increase in agricultural exports in Ukraine during the research period and its critical high value in 2015-2018, which is associated with the problems of export structure and crisis in the
We mark the importance of agricultural exports in conditions of development of the Ukrainian economic system and its dependence on exports. Amidst an increase in the share of agricultural exports, the share of agricultural imports comparing to the total volume of imports of Ukraine decreased, showing a negative trend in 2014-2018 (excluding 2016). This situation was caused on the one hand by increased competition from domestic agricultural producers, and on the other – by a decrease in the purchasing power of the population and business units of the country, taking into account the devaluation of the national currency.

We notice the positive trend of increasing share of capital investments in agricultural sector in comparison to the total volume of capital investments in Ukraine. But 2 aspects of this situation are of concern: change of this trend in 2018: predominant growth of this share due to decrease in the total amount of capital investment in the country, as well as the impact of inflation and devaluation (especially in the period of 2014–2017). We highlight critically low share of agricultural sector in foreign direct investment in Ukraine. This share did not exceed 2.0 % of the total volume of FDI. We mark low investment attractiveness of Ukrainian agricultural sector for foreign investors, which is caused by problems in regulating ownership of agricultural land in the country and difficulties of business management in this sector.

We emphasize a positive trend in depreciation of fixed assets in agriculture and one of the best positions of this sector for this indicator among other sectors of the national economic system (State Statistics Service of Ukraine, 2020). Simultaneously, we pay attention to the significant share of depreciation of fixed assets of agricultural producers during the entire period of this research. Separately, we underline a positive trend and high share of employed in agricultural sector comparing to the total number of employed in Ukraine (Bezpiata, 2016; Zinchuk et al., 2017). The difference in rural and urban household incomes remains high, despite its gradual decrease (-2.2 % over 10 years).

Critical are the problems of rural areas connected with the deterioration of road infrastructure, especially roads for automobile transport, which has become a key element of agricultural logistics amidst raising problems of railway transport and rather slow recovery of water transport (Bukharina, Birukov, 2018; Stroiko, Bondar, 2017).

Most of functioning institutions were opened at the time of Ukraine’s entry into the USSR and have not been renovated since then. We specify some improvements in 2017-2018, which is a consequence of the territorial reform and growth of activity of united territorial communities.

Thus, the above confirms the point of view of scientists regarding poor development of rural infrastructure and lagging of rural socio-economic development comparing to development of agriculture in Ukraine in general (Tkachuk, 2013; Tomashuk, 2017). The above points to the extremely inefficient management of such territories by the state and local authorities, as well as some improvements due to the territorial reform and introduction of public management in the country and its rural areas. Meanwhile, we consider it appropriate to investigate problems of implementing this type of management in more detail on the case of Ukraine and its rural areas in particular.

**Bottlenecks of introducing public management in Ukraine and its rural areas**

The socio-economic development of Ukraine and its rural areas indicates that key negative factors have been state and municipal management since independence times. Under these conditions, the country in general and its rural areas require introduction and implementation of modern management concepts in the field of state management, which include the concept of public management. According to the researches of Keeling (1972), public management began to actively replace state administration in economically developed countries and a number of developing countries. We note significant scientific interest in public management by foreign scientists (Bouckaert, 2002).

Taking into account the above, we consider it appropriate to highlight the key features of public management as an economic category: management of state and municipal government institutions; interaction of state and municipal government institutions with consumers of their services (legal entities and households); it is based on the principles of democracy, openness, transparency and impartiality; it is aimed at maximum satisfaction of consumers and their demands for services of state and municipal government institutions;

The combination of the above features will, in our opinion, form a modern definition of public management, which may be used by state and municipal government institutions in Ukraine, including those in rural areas. We emphasize significant interest in the disclosure of essence and components of public management by Ukrainian scientists (Al-Atti, 2018; Bosak, 2010), including its implementation in rural areas (Danylenko, Sokolska, 2017; Rossokha, Plotnikova, 2018; Savkov, Orlatyi, Kucher, 2016). Additionally, there is a significant number of practical problems in implementing public management in Ukraine and its rural areas. In view of the above, we highlight the need to improve the efficiency of public management of rural areas in Ukraine. In our opinion, it is important to study and implement the experience of the European Union for this purpose.
Experience of the European Union in rural development and introduction of public management
Considering the identified problems of introducing public management in Ukraine and its rural areas, our country requires the study and use of foreign experience of such management implementation, especially in rural areas. In this regard, we consider it appropriate to analyze the experience of the EU, which develops and implements public management, including in rural areas. It should be marked that the EU is paying considerable attention to rural development, since 210 programs for the development and support of agriculture and rural areas are being implemented now or have been developed and implemented since its creation. They include the programs on introduction and development of rural public management (Samoggia, Bertazzoli, Ruggeri, 2019).

The Common Agricultural Policy (CAP) is a key tool for public management of the European Union in the framework of rural and agriculture development. Its new version was developed for the period of 2014-2020 (European Commission, 2020) and includes financial assets for 408 billion Euros.

The research of public management practices in the European Union and its rural areas allows us to distinguish its advantages (Fig. 1).

We should highlight the high level and ramified structure of public management in the EU rural areas, which requires imitation by Ukrainian government institutions at the national and regional levels.

**Fig. 1:** Interrelation of public management subjects in the EU rural areas

Directions for enhancing the efficiency of public management of Ukrainian rural areas
Public management of rural areas in the country requires improvement. Furthermore, key directions for improving the efficiency of public management in Ukrainian rural areas should be:
- clear definition of the goal hierarchy;
- involvement of all subjects in management;
- formation of an effective methodology for assessing the management quality.

As part of the first direction for improving the efficiency of rural public management in Ukraine, it is necessary to use SMART-technology and a multi-level system for forming management goals with the consideration of peculiarities of management activities of management subjects. In addition, every subject of management activities related to rural public management should develop general, strategic and tactical goals of such management using the “goal tree” method (Fig. 2).
Moreover, according to Figure 2: GG is meant by general goal of every subject of rural public management in Ukraine; \(i\) – number of subjects of rural public management in Ukraine; \(SG\) – strategic goals; \(n\) – number of strategic goals; \(V\) – significance index; \(TG\) – tactical goals; \(m\) – number of tactical goals; \(U\) – disjunction.

Taking into account the data shown in Fig. 2, we consider it appropriate to identify the main subjects of rural public management in Ukraine: state government institutions (SGI); local authorities (LA); business (B); society (S).

Based on Fig. 2, the formation and achievement of the goal hierarchy can also be represented as the use of mathematical methods, namely the analytical form of the Boolean algebra logical function:

- to achieve the general goal of a separate subject of rural public management in Ukraine:

\[
GG_i = SG_i \cup USG_1 \cup USG_2 \cup \ldots \cup USG_n = (TG_{1.1} \cup \ldots \cup TG_{1.m}) \cup (TG_{2.1} \cup \ldots \cup TG_{2.m}) \cup \ldots \cup (TG_{n.1} \cup \ldots \cup TG_{n.m}),
\]

- to achieve the common general goal (CGG) of rural public management in Ukraine:

\[
CGG = GGSI \cup UGGL \cup UGB \cup UGS
\]

Second direction of improving the efficiency of rural public management (PM) in Ukraine is to involve all the above-mentioned subjects of this management in management activities in rural areas of the country (Fig. 3).

**Fig. 2: Formation of the goal hierarchy by every subject of rural public management in Ukraine using the “goal tree” method**

**Fig. 3: Interaction of rural public management subjects in Ukraine**

Improvement of the effectiveness of rural public management should be based on the quality assessment of this management using the appropriate methodology, according to which it is necessary to calculate an integral indicator:

\[n\]
where $\Pi_{pm} = \sum_{j=1}^{n} CPM_j$, $C_{pm} = \sum_{j=1}^{n} CPM_j$; $\Pi_{pm}$ is an integral indicator of quality assessment of rural public management in Ukraine; $PM$ – separate component of the PM quality assessment in Ukrainian rural areas; $i$ – the number of rural public management subjects (see above); $j$ – components of the PM assessment in rural areas; $n$ – the number of components of quality assessment of rural public management.

**DISCUSSION**

Ukraine needs to find ways to enhance rural development and solve key problems in its rural areas, where special attention should be paid to the introduction of public management in these areas. At the same time, the PM introduction in rural areas of the country requires scientific research and testing of a number of hypotheses.

Studying the practice of rural public management implementation and conducting a survey of consumers of rural management activities of state and municipal government institutions (legal entities and households) revealed a significant number of problems and confirmed the second hypothesis of this research.

To confirm the fourth hypothesis of this research, we proposed a set of directions for improving the efficiency of rural public management in Ukraine, which includes three components: a clear definition of the goal hierarchy; involvement of all the subjects to the management; formation of an effective methodology for assessing the management quality.

The core value of the article is the developed set of directions for improving the efficiency of rural public management. In this regard, we can highlight some limitations in the application of this article results, namely the need for: a clear definition of the general goal, strategic and tactical goals for every subject of rural public management in Ukraine; identification of all individual components of the PM quality assessment in rural areas of the country in terms of the developed assessment methodology.

**CONCLUSION**

1. Rural areas are becoming increasingly important for the development of the agricultural sector and the economic system of Ukraine. In addition, it is crucial for Ukrainian rural areas to introduce public management in these areas. At the same time, the development of public management in Ukraine and its rural areas faces a significant number of issues to be identified and solved in the context of the PM efficiency improvement.

2. Practical implementation of the proposals and conclusions of this article should be considered in the context of their importance for improving the efficiency of rural public management in Ukraine, through identifying problems and implementing the experience of rural management in the European Union.

3. Prospects for further research based on and with the use of scientific results of this research are to finalize the general goal, strategic and tactical goals for every subject of rural public management in Ukraine, as well as to identify all individual components of the PM quality assessment in rural areas within the framework of the developed assessment methodology.

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