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STEPS TOWARDS SUSTAINABLE RURAL DEVELOPMENT. A COMPARISON BETWEEN BULGARIA AND ROMANIA AFTER 17 YEARS IN THE EU

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Abstract
The two European neighbor countries, Bulgaria and Romania, have a tangled history and share more than the Danube boarder and their location in the Balkan area. They have shared part of their history, culture, religion and traditions. Even more, they constantly compare to one another in terms of development. This closeness has led to European political and strategical decisions to be made commonly for both countries, such as the adhesion to the European Union (EU) in 2007.
After a considerable period of being full members of the European Union, Bulgaria and Romania still face similar challenges and are frequently seen as a whole by other members of the EU when important decisions, like adhering to the Schengen area, are made. Nevertheless, Bulgaria and Romania have been full members of the EU for 17 years and need to contribute to the same goals as every member of the EU, including sustainable rural development, currently implemented through the Sustainable Development Agenda.
This paper aims to analyze the evolution of the two neighboring countries in this regard by using statistical data from Eurostat bearing in mind the Sustainable Development Goals (such as Area under organic farming or Persons at risk of poverty or social exclusion in rural areas) by using a multicriterial analysis.
Some findings suggest that, while both countries have a small percentage of agricultural area converted to organic farming, Bulgaria currently shows a decrease in this area, while Romania is slowly increasing the organic cultivated area. Also, the rate of people at risk of poverty and social exclusion is decreasing for both countries, Bulgaria showing a more accelerated pace. Yet, these two countries are considerably behind the EU average for this social indicator. In Bulgaria being around 39%, in Romania around 45% and around 21% for the EU average. Therefore, these two countries have a difficult time in providing social improvements dedicated to the rural areas. Even more, this piece of research points out that little of the data regarding sustainability available on Eurostat is focused on the rural areas. Therefore, a clear differentiation between stages of development and possible strategies for the rural areas are impossible to make. This comes also as a limitation of this research. The paper points out the current state of sustainable development in the rural areas of the two countries and the weak spots regarding data gathering for enabling proper analysis and should be of interest to both scholars and public decision-makers for further analysis.
Key words: development; rural development; sustainable development; neighbor countries; evolution, SDG
JEL code: Q01; Q50; Q10

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Introduction

Sustainable development has become a trending phrase, used to describe the current developmental orientation in all domains. Rural development makes no difference in this case. The Brundtland Report (Burton, 1987) considers sustainable development as a current development rate that does not affect the developing possibility of future generations at least at the same rate.

The rural area is difficult to define, and this definition differs due to factors such as political or administrative ones and most of area is rural, rather than urban (Arellano and Roca, 2017). Other authors (Popescu et al., 2018) highlight the fact that rural is often seen as a physical, economic, social and cultural entity opposed to the urban, while the OECD and the EU (Dax, 1996) understand it as non-urban or peripheral to urban areas based on the people density per square kilometer. Therefore, the vagueness of these definitions in relation to rural areas have led to a higher need for research in this area so to allow development programs to fit also to the rural. Several authors describe the need for a new narrative (Ashley and Maxwell, 2001) or consensus (De Janvry, Sadoulet & Murgai, 2002) in what comes to mind regarding rural development and rural policy, especially considering that the world's most poor livelihoods are rural (De Janvry, Sadoulet & Murgai, 2002).

The EU has kept close to the rural area through its agricultural and rural development policy and funding programmes, providing a framework in this area through the Common Agricultural Policy that is one of the earliest and most important frameworks of this structure (Ludlow, 2005). There are also authors who claim that the CAP should be restructured (Hubbard and Gorton, 2011) due to its failures so far. The effects of funding on agricultural development have been studied by many authors such as Constantin (2019), Kalinowska et al. (2022) or Stoian et al. (2022). The structure of the financing programs in the EU is a seven-year cycle and considering the fact that Bulgaria and Romania have been candidates for the EU and then full members of it in the same years, they benefitted from pre-adhesion funds until 2007 and full funding since then.

The funds received for rural development and agriculture during 2000 and 2006 have mostly helped the two candidates in aligning their producers and businesses to the EU standards. The main interest domains that were considered at that point were: Farms, Diversification of economic activities in the rural area, Forming agricultural, forestry and fishing producers' groups, Ecological methods for agriculture and Forestry (AFIR, 2024; EU Commission, 2024). After 2007, when Bulgaria and Romania were declared full members of the EU, the funding priorities for the rural area focused on: increasing economic competitiveness, improving the environment and rural space, improving the quality of life and diversifying the rural economy and LEADER (local action groups, local strategies etc.) (ARDM, 2024, EU Commission, 2024). After 2014 the priorities included consultancy and knowledge trans-

fer, physical investments, developing farms and other enterprises, renewing villages, forestry investments, forming producer groups and cooperation, agri-environmental and climate, ecological agriculture, payments for areas with natural restraints, animal welfare, forestry services, risk management and LEADER (ARDM, 2024, EU Commission, 2024). Since 2020, the funds directed to agriculture and rural development have been included in national strategical plans and they aim more towards farm resilience in European context and increasing competitiveness through market orientation, improving the role of the farmer and attracting new young farmers, climate change alleviation, natural resource management, improving the quality of life in rural areas, increasing food security and safety and knowledge transfer (ARDM, 2024, EU Commission, 2024).
The paper is structured in three main chapters. First, some introduction remarks to set the context are made, followed by the objective of the paper and the research methodology. Second, the main findings of the paper are presented. Last, a series of conclusions are drawn based on the findings and other observations derived through this analysis.

Objective of the paper

The present paper aims to analyze the evolution of indicators related to sustainable rural development as they appear on Eurostat for Bulgaria and Romania and the EU average, in order to see how the two countries, align with the ambitions regarding the Sustainable Development Goals (SDG) related to the rural area.

Research methodology

With a total area of 111.000 km^2 of which 46.5% is rural area for Bulgaria and a total area of 230.080 km^2 of which 56.8% rural for Romania (World Bank, 2024) in 2021, the two countries have a considerable rural population and area that needs to be considered when speaking about sustainable development. Also, since 2007, the two countries benefited from European funding dedicated to the rural area and some considerable improvements in the sense of achieving the SDG's should be seen. Therefore, the present study aims at presenting a simple quantitative analysis by selecting multiple criteria in the form of statistical indicators available on Eurostat for both countries, since 2007 where available, regarding sustainable rural development and to see how they evolved by comparing the countries to one another and the EU average. The indicators that will be considered are: Persons at risk of poverty or social exclusion by degree of urbanization (under SDG 1 – No poverty); Area under organic farming and Use and risk of chemical pesticides (under SDG 2 – Zero hunger).
Due to the fact that few of the SDG indicators are calculated differently for the rural area, the picture is completed by other agri-environmental indicators available on

Eurostat: Final energy consumption by agriculture/forestry per hectare of utilized agricultural area and Ammonia emissions from agriculture as percentage of total emissions.

Findings

The results of the quantitative analysis regarding the evolution of the selected indicators are presented in the following lines.

In Figure 1 the percentage of people at risk of poverty in the rural areas is decreasing for Bulgaria and Romania at a similar rate, from around 60% in 2015 to less than 50% in 2023. Yet, the percentage in lower in Bulgaria and the decrease rate is higher here. Nevertheless, the two countries are far behind the EU average, which has gotten to around 21% in 2023. The decreasing pace is slower for the EU average, but the difference between these two countries and the EU average points out the need for social policy improvements dedicated to the rural areas of Bulgaria and Romania.

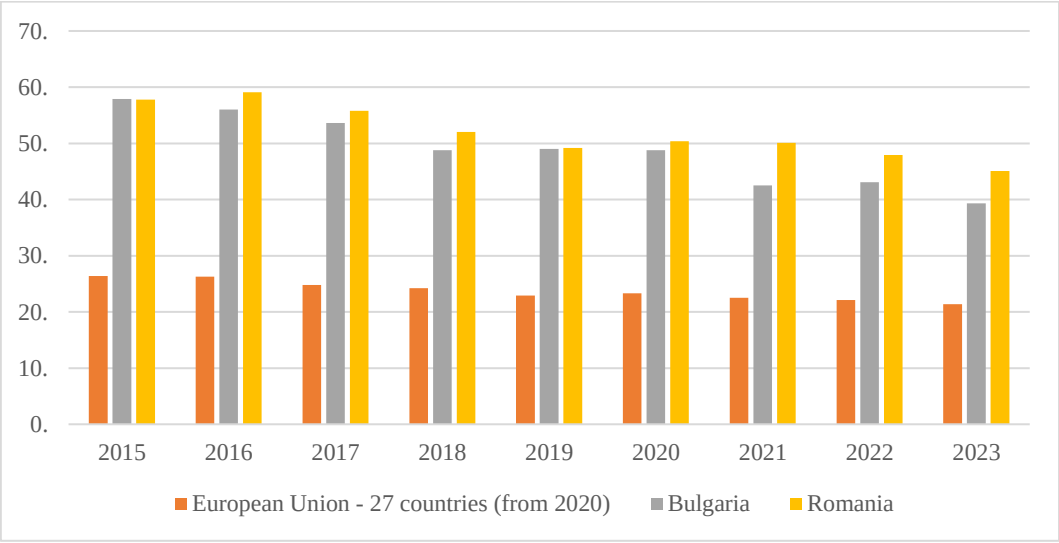

Figure 1. Persons at risk of poverty or social exclusion in rural areas (%)

Source: own processing after Eurostat data, 2024

While we could say that the funding for increasing the quality of life have an influence on the reported decrease in this indicator, the assumption might be unfunded and the decrease could be just a natural one, driven by the general state of development of the two countries.

In Figure 2 the percentage of areas under organic farming, in conversion or fully converted, is presented. While the data for the EU average is incomplete for the selected time frame, the given values are considerably higher than those in Bulgaria

or Romania, they reach 9% in 2020, while for the two countries the percentage is under 4%. Considering the trends followed by the two countries, Bulgaria shows an increase, with a maximum point of 3.2% in 2016, followed by a steady decrease to 1.7% in 2021. For Romania, the trend is slightly fluctuating, having a lower period in 2015-2017, than increasing to almost 4.5% in 2021.
A clear correlation between the funding for organic farming and these trends is difficult to make, especially due to the opposed trends followed by the two countries.

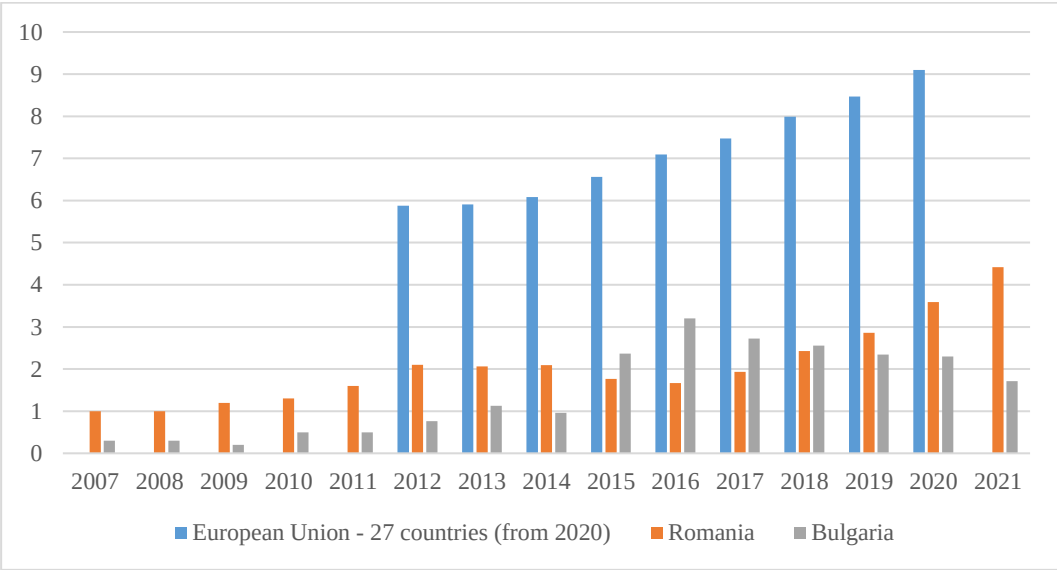

Figure 2. Area under organic farming (% of total UAA)

Source: own processing after Eurostat data, 2024

The calculated index for risk and the use of chemical pesticides shows a general decreasing trend for all three analyzed structures. While for the EU average the index is lower than 117 since 2011 and reaches a value of 67 in 2021, both Bulgaria and Romania show some fluctuations. Bulgaria has a maximum point of 300 in 2011, then drops to the lowest points during 2012 – 2014 (a value of only 30 in 2014) only to reach other high points in 2018 (of 180) and 2019 (of 193) and to drop again to a value of 85 in 2021. Romania has the highest point in 2012, with a value of 196, then decreases and finds itself on a similar scale to the EU average since 2017 and reaches the lowest point in 2021 with a value of 56.

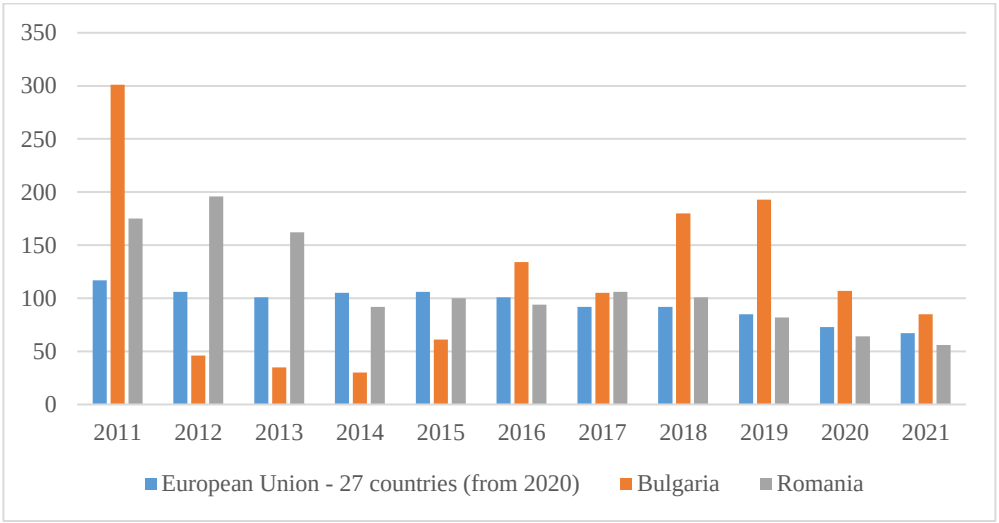

Figure 3. Use and risk of chemical pesticides (calculated index)

Source: own processing after Eurostat data, 2024

The EU regulations regarding the use of pesticides should be the reason for the observed decreases, since Bulgaria and Romania are Member States and their agricultural products sold on the EU market must fall under the EU standards and regulations.

The fourth Figure refers to the energy consumption in agriculture and forestry per hectare as sum of energy used. This indicator points out the fact that Bulgaria and Romania use considerably less energy in agriculture and forestry than the EU average. This should not be seen as a positive result of EU funding, but as a need for further funding regarding agricultural modernization (in irrigation, mechanization, digitalization) in the two countries.

While the value of this indicator seems almost constant during 2011 and 2022 in Bulgaria and Romania, remaining around 40, the value of this indicator in the EU reaches the highest point of 177 in 2021, but it is never below 150 in the analyzed period.

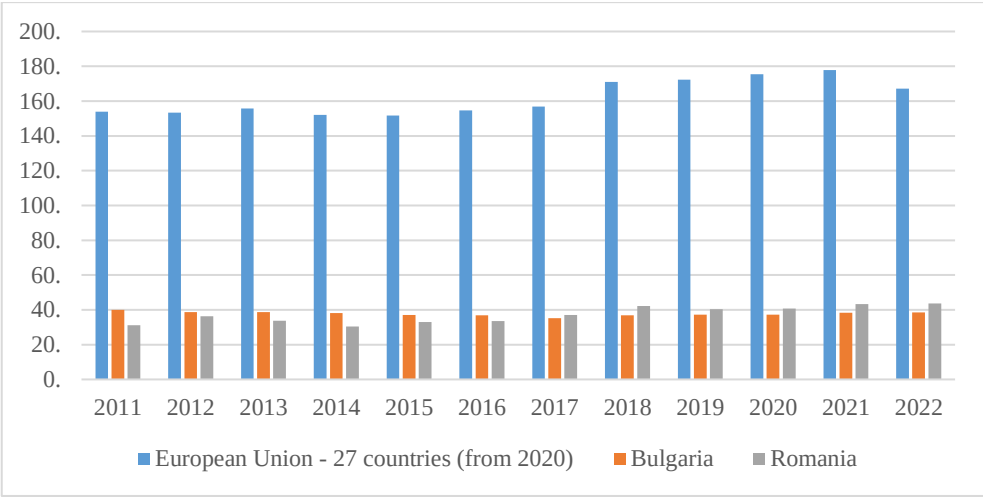

Figure 4. Final energy consumption by agriculture/forestry per hectare of UAA (value)
Source: own processing after Eurostat data, 2024

The final indicator analyzed is related to the ammonia emissions from agriculture. In Figure 5 we may see that the emissions are lower in Bulgaria and Romania then the EU average, which should be correlated with the lower development of agriculture in the two countries. Yet, the percentage is significantly increasing, at a similar rate in both countries, from 84% in Bulgaria and 85% in Romania in 2010 to 88% in Bulgaria and 89% in Romania in 2021. The EU average, on the other hand, is rather constant, with percentages between 90 and 91% during the analyzed period.

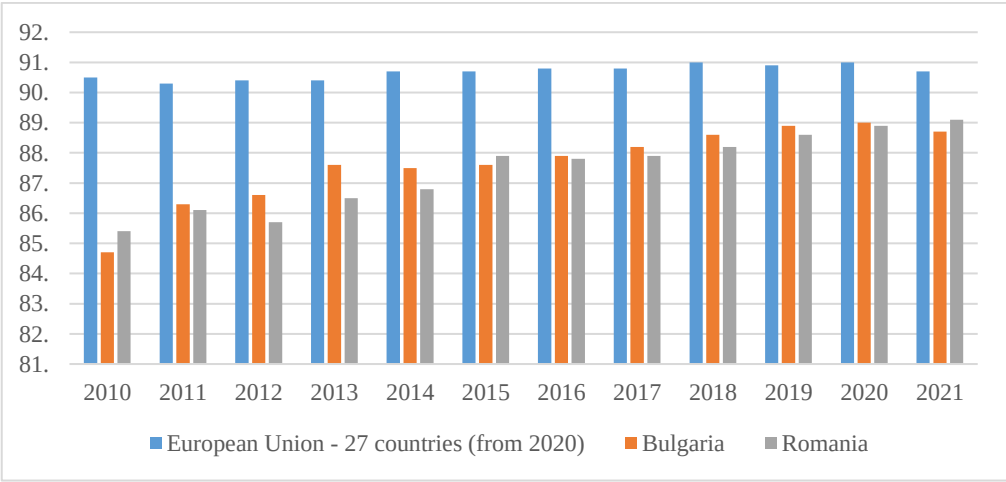

Figure 5. Ammonia emissions from agriculture as percentage of total emissions
Source: own processing after Eurostat data, 2024

Conclusions

Considering the analyzed indicators, we may say that the agricultural and rural development funding dedicated to Bulgaria and Romania helped in areas such as increasing mechanization due to the increase of energy use in agriculture and increased the area under organic farming in both countries, even if the values are considerably lower than the EU average.

The only indicator that may be correlated with the quality of life specifically for the rural areas is the percentage of people at risk of poverty which shows very high values for Bulgaria and Romania compared to the EU average, even though they are slowly decreasing.

Even though there are several measures in both countries regarding improving the quality of life and renewing or revival of the rural areas, and this could easily be connected to more than one SDG, the indicators are not differentiated by rural-urban criteria, so analyzing them would be out of the scope of this paper. This is a limitation of this research that should be filled first by the authorities who are responsible for the right implementing of EU programs and regulations by gathering data differentiated by rural and urban for the majority of the indicators in order for specific analysis to be carried out by researchers and therefore differentiated strategies to be provided.

Therefore, the sustainable development of the rural area in Bulgaria and Romania might come more from the lack of mechanization and use of pesticides compared to the EU average than from funding dedicated to its development.

This paper fills a picture related to the level of development considering different indicators that may be correlated to sustainable rural development and points out that the use of EU funding for rural development in these two countries has not brought a significant social and environmental improvement and should be of interest to both fellow researchers and public resort authorities.

More research in this area might select different Member States for comparison or different indicators in order to paint a larger picture regarding sustainable rural development.

References

Agentia de Plati si Interventie in Agricultura (AFIR), 2024. *Informatii generale SAPARD*. Available at: https://portal.afir.info/informatii_generale_sapard_prezentare. Accessed: June 17, 2024.

Agriculture and Rural Development Ministry (ARDM), 2024. Last accessed: 27 June, 2024, Available at: https://www.madr.ro/planul-national-strategic-pac-post-2020/programare-ps-pac-2023-2027/documente-de-programare.html

Agriculture and Rural Development Ministry (ARDM), 2024. Last accessed: 27 June, 2024, Available at: https://www.madr.ro/pndr-2007-2013/programul-national-pentru-dezvoltare-rurala-2007-2013.html

Agriculture and Rural Development Ministry (ARDM), 2024. Last accessed: 27 June, 2024, Available at: https://www.madr.ro/pndr-2014-2020/implementare-pndr-2014-2020.html

Arellano B. & Roca J. (2017). "Defining urban and rural areas: a new approach", Proc. SPIE 10431, Remote Sensing Technologies and Applications in Urban Environments II, 104310E; https://doi.org/10.1117/12.2277902

Ashley, C., & Maxwell, S. (2001). Rethinking rural development. Development policy review, 19(4), 395 – 425.

Burton, I. (1987). Report on reports: Our common future: The world commission on environment and development. Environment: Science and Policy for Sustainable Development, 29(5), 25 – 29.

Constantin, F. (2019). The Effects of Direct Payments on Romanian Agriculture Development. Institute Of Agricultural Economics Belgrade, 244.

Dax, T. (1996). Defining rural areas – International comparisons and the OECD indicators1. Rural Society, 6(3), 3 – 18. https://doi.org/10.5172/rsj.6.3.3

De Janvry, A., Sadoulet, E., & Murgai, R. (2002). Rural development and rural policy. Handbook of agricultural economics, 2, 1593-1658.

European Commission, 2024. Rural Development Program for Bulgaria. Last accessed: 28 June, 2024, Available at: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/ https://ec.europa.eu/enrd/enrd-static/fms/pdf/20D4D1D8-CF06-BC4C-488B-22633A5AFCFD.pdf

Eurostat, 2024. Ammonia emissions from agriculture as percentage of total emissions. Last accessed 28 June, 2024. Available at: https://ec.europa.eu/eurostat/databrowser/view/tai07/default/table?lang=en&category=ai

Eurostat, 2024. Area under organic farming (% of total UAA). Last accessed 28 June, 2024. Available at: https://ec.europa.eu/eurostat/databrowser/view/sdg_02_40/default/table?lang=en&category=ai

Eurostat, 2024. Final energy consumption by agriculture/forestry per hectare of UAA. Last accessed 28 June, 2024. Available at: ttps://ec.europa.eu/eurostat/databrowser/view/tai04/default/table?lang=en&category=ai

Eurostat, 2024. Persons at risk of poverty or social exclusion by degree of urbanization. Last accessed 28 June, 2024. Available at: ttps://ec.europa.eu/eurostat/databrowser/view/sdg_01_10a/default/table?lang=en&category=sdg.sdg_01

Eurostat, 2024. Use and risk of chemical pesticides. Last accessed 28 June, 2024. Available at: https://ec.europa.eu/eurostat/databrowser/view/sdg_02_53/default/table?lang=en&category=sdg.sdg_02

Hubbard, C., & Gorton, M. (2011). Placing agriculture within rural development: evidence from EU case studies. Environment and Planning C: Government and Policy, 29(1), 80 95.

Kalinowska, B., Bórawski, P., Bełdycka-Bórawska, A., Klepacki, B., Perkowska, A., & Rokicki, T. (2022). Sustainable development of agriculture in member states of the European Union. Sustainability, 14(7), 4184.

Ludlow, N. P. (2005). The making of the CAP: towards a historical analysis of the EU's first major policy. Contemporary European History, 14(3), 347 – 371.

Popescu, M., Popescu, C., Per, E., & Csosz, I. (2018). Rural area and rural development. Definition and features.

Stoian, M., Ion, R. A., Turcea, V. C., Nica, I. C., & Zemeleaga, C. G. (2022). The influence of governmental agricultural R&D expenditure on farmers' income-disparities between EU member states. Sustainability, 14(17), 10596.

World Bank, 2024, Agricultural land, Bulgaria and Romania. Last accessed: 27 June, 2024, available at: https://data.worldbank.org/indicator/AG.LND.AGRI.ZS?locations=BG-1W-RO