
Regional Differences and Impact of Agriculture in Rural AREAS

Prof. D. Sc. (Econ.) Julia Doitchinova

Assoc. prof. dr. Zornitsa Stoyanova

University of National and World Economy – Sofia, Bulgaria

E-mail: juliadoj@unwe.bg

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Abstract

The purpose of the article is to analyze and evaluate the importance and impact of agriculture on rural development. The changes in agriculture and their effects on the socio-economic and environmental characteristics of rural areas are the subject of the study. The object is impact of agriculture within the territory of 13 districts of the country (NUTS3). The survey is based on statistical information and expert evaluation of specialists in agriculture and territorial development in three planning regions (2019).

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Key words: rural areas; impact of agriculture; structural changes

Регионални различия и въздействия на земеделието в селските райони

Проф. д.ик.н. Юлия Дойчинова

Доц. д-р Зорница Стоянова

Университет за национално и световно стопанство – София, България

E-mail: juliadoj@unwe.bg

Резюме

Целта на статията е да анализира и оцени значението и въздействието на земеделието върху развитието на селските райони. Предмет на изследване са промените в селското стопанство и техните ефекти върху социално-икономическите и екологични характеристики на селските райони. Обектът е въздействието на земеделието на територията на 13 области в страната (NUTS3). Изследването се основава на статистическа информация и експертна оценка на специалисти в областта на земеделието и териториалното развитие в три района на планиране (2019 г.).

Резултатите, представени в публикацията, са част от проект № 15/8 от 2017 г. „Устойчиви мултифункционални селски райони: преосмисляне на моделите и системите на земеделието при наранали изисквания и ограничени ресурси“, финансиран от Фонд научни изследвания.

Ключови думи: селски райони; въздействия на земеделието; структурни промени

Introduction

The accession of our country to the EU dynamizes the changes in the development of ag-

riculture. Its characteristics and indicators are changing with different speed in the Bulgarian regions. Researchers of the changes in the new-

ly acceded countries conclude that, despite the different time of accession and social, economic and political conditions faced by the new Member States, their agricultural sectors follow similar pattern. The model is related to the declining share of agriculture in gross value added (GVA) and regional labor activity. Bryceson (1996) introduces the term deagrarianization to describe three interrelated processes: reorientation of economic activity, professional adaptation and spatial rearrangement of settlements. According to a number of authors (Wilson, 2001; McCarthy, 2005), these processes are accompanied by regional differentiation and gradual polarization at the regional level. Areas with favorable conditions for agriculture are gradually being formed, in which farmers can produce and offer on the market competitive agricultural goods. Other areas and districts have limited conditions for agricultural development and farmers have to be supported in order to maintain the importance of agriculture (Potter, Tilzey, 2005; Cairol et al., 2009). At the same time, there is a process of changing the place and importance of agriculture at regional level. According some authors (Corral et al., 2017), agriculture in a number of countries continues to be the main driving force for rural development, for increasing the incomes of the poor and is the sources from which they earn their living.

In this regard, the development of agriculture is closely linked to the changes in rural areas (EC, 2010). The production of high-quality

products, new short circuits involving producers and consumers, organic farming, nature and landscape management, agritourism etc. should be considered as key elements (Stoyanova, Hari-zanova, 2019).

The purpose of the article is to analyze and evaluate the importance and impacts of agriculture on rural development.

Material and Methods

Statistical methods and the method of expert assessment are combined in term to assess the impacts of agriculture on rural development. For the purposes of the survey a questionnaire was developed and the experts give their evaluation through a five-point positive Likert.

86 experts with average professional experience between 11 and 20 years and qualifications in agriculture (71%), social sciences (15%), technical sciences (7%) etc. took part of the survey. The representatives of the state administration at regional and municipal level predominate (85%), followed by municipal councilors and other elected positions at regional level (6%). The representatives of the non-governmental sector are 4% and 6% – others.

The regions included in the survey are determined on the basis of differences in the performance indicators of agriculture such as: net added value and net income per annual working unit and per unit of utilized agricultural area in hectares. According to the indicator net added value

Table 1. Regional differences in net value added and net income per AWU and per hectare (2017)

Таблица 1. Регионални различия на нетната добавена стойност и нетния доход на една годишна работна единица и един хектар (2017 г.)

Regions	Net value added per AWU	Net income per AWU	Net value added per ha	Net income per ha
North West	32301	19749	953	582
North Central	35600	11297	1338	613
North East	37817	10965	1329	473
South West	15481	6039	1243	834
South Central	15699	8122	1248	685
South East	26575	12093	1049	475

Source: Ministry of Agriculture, Food and Forestry, Agrostatistic.

Източник: Министерство на земеделието, храните и горите, Агростатистика.

and net income, the regions with the highest and lowest values are included. These are the North East, South West and South Central regions (level NUT2).

The North East region is the leader in terms of net value added per annual work unit and second in terms of net value added per hectare, but with the lowest net income per hectare (Table 1). The South West region has the lowest values in both indicators per annual work unit and the highest value in terms of net income per hectare. The indicators of the South Central region are very close to the data of South West region.

The survey was conducted at the end of 2019 in three planning regions of the country, which represent 51.76% of the territory and 63.7% of the population. Agriculture in these areas differs in a number of characteristics and results due to the formed agricultural models in them (Doitchinova, 2019; Doitchinova et al., 2019).

Studied regions

Table 2 presents some main characteristics of agriculture in 13 districts (level NUT-3), which are part of the three planning regions. The importance of agricultural for different districts, measured by the relative share in the gross value added shows significant differences in the range from 2.49% for Varna district to 13.85% for Dobrich district. The relative share in the gross value added is up to 5% in 4 of the districts and from 5% to 10% in 5 districts located in the South West and South Central regions. With more than 10% relative share in the gross value added of local economies are three districts in the North East region (Dobrich, Shumen and Targovishte) and one in the South Central region (Kardzhali).

The contribution of the gross value added from agriculture is also different. The highest contribution is from Plovdiv district (6.98%), followed

Table 2. Characteristics of agriculture by districts

Таблица 2. Характеристики на земеделието по области

Districts	Share of agriculture in GVA (%)	Share of district and region in national agricultural GVA (%)	GVA per hectare (BGN)	Share of agriculture in employment (%)	Share of district and region in national employment (%)
Kardjali	12.95	3.91	1522.43	42.96	4.45
Pazardzhik	7.89	4.37	1361.65	33.05	5.65
Plovdiv	3.39	6.98	873.86	20.00	10.36
Smolyan	8.41	2.22	1674.37	19.97	1.50
Haskovo	8.49	3.91	639.16	31.51	4.74
South Central region	5.87	21.4	1008.68	26.23	26.71
Blagoevgrad	8.57	6.00	1640.59	21.40	4.84
Kjustendil	8.05	2.10	815.07	19.66	1.46
Pernik	4.99	1.30	450.94	17.38	1.06
Sofia-district	4.59	3.88	664.22	21.09	3.05
South West region	1.2	15.02	933.73	20.57	10.41
Varna	2.49	4.27	796.93	12.14	3.91
Dobrich	13.85	5.21	524.99	40.73	5.10
Shumen	11.00	2.88	730.11	36.05	2.81
Targoviste	10.80	4.11	896.88	36.26	4.31
North East region	6.03	16.47	691.67	25.04	16.14

Source: Ministry of Agriculture, Food and Forestry, Agrostatistic; National statistical institute, 2018.

Източник: Министерство на земеделието, храните и горите, Агростатистика, Национален статистически институт, 2018 г.

by Blagoevgrad (6.0%) and Dobrich (5.21%). Areas with a relative share in the national indicator up to 4% (7 districts) predominate, followed by those with a relative share from 4% to 6% (4 districts).

Indicative for the differences in the production directions of agriculture by districts is the indicator of gross value added per unit of utilized agricultural area. The differences in this indicator range from BGN 1,674.37/hectare in Smolyan district to BGN 450.94/hectare in Pernik district. The formed values are over BGN 1000 in 4 districts. In the other districts they range between BGN 500 and BGN 1000.

The relative share of employment in agriculture in the studied districts varies widely – from 12.14% in Varna district to 42.96% in Kardzhali district and 40.73% in Dobrich district. The highest are the values of the relative shares of the employed in Plovdiv district (10.36%), Pazardzhik (5.65%) and Dobrich (5.10%). The lowest are the values of employment in the districts of Pernik (1.05%) and Smolyan (1.5%).

65.41% of the farms in the country operate in the studied districts (2016), incl. 66.40% of the holdings of natural persons, 49.79% of the sole traders, 47.98% of the cooperatives, 45.67% of the commercial companies and 45.35% of the civil associations and others.

The structure of the holdings by legal status shows significant differences between the districts (Figure 1). The holdings of individuals are over 97% in both southern regions and 91.35% in the North East region. At the same time, 5.76% are commercial companies and 1.87% are sole traders against their significantly lower presence in the South Central region (respectively 1.65% and 0.56%) and in the South West region (1.96% and 0.61%). The smallest differences are in the cooperatives and associations.

Regional Analysis'

The importance of agriculture for rural areas is highly evaluated from the experts with an average score of 4.15 (Table 3). They consider ag-

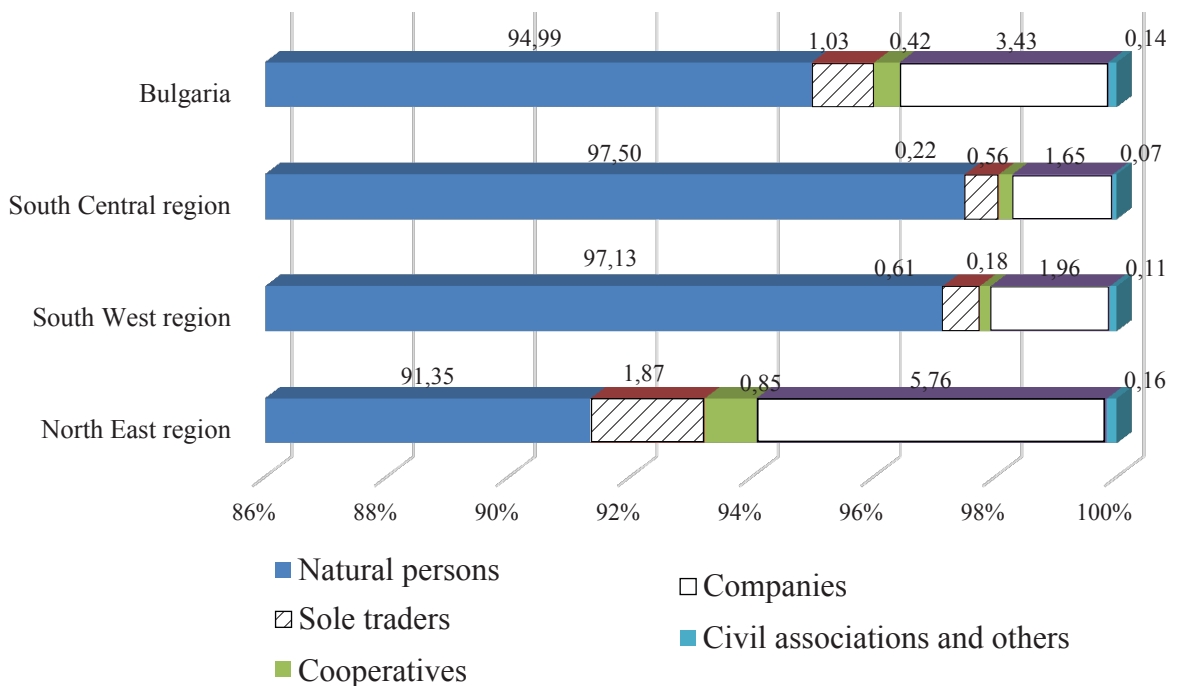


Fig. 1. Structure of agricultural holdings by legal status (2016)

Фиг. 1. Структура на земеделските стопанства по юридически статут

Sources: Ministry of Agriculture, Food and Forestry, Agrostatistic.

Источник: Министерство на земеделието, храните и горите, Агростатистика.

riculture is more a source of income than a jobs creator, respectively 3.61 and 3.49 points. In a comparative plan between two of the regions – South Central and North East there are no differences in terms of the importance of agriculture for income generation and employment, respectively the evaluation for the whole regions are about 3.7 for income generation and 3.6 for the creation of job. With lower score is the South West region, respectively 3.3 for income generation and 3.2 for job creation. The highest score is given to the importance of agriculture for income generation and job creation in the districts of Dobrich and Haskovo, and the lowest in Sofia - district (2.57) and Kardjali (2.6).

In contrast to the almost identical assessments of the importance of agriculture for employment and income, experts give different assessments for the positive impact of agriculture for the environment in different districts. They rated the importance in the South Central region with 3.88 points, with 3.24 for the South West region and

with 2.92 for the North East region. For different districts, the estimates range from 2.5 in Varna district to 5 in Smolyan district.

The respondents give average assessments of 3.3 points for the statement that specialization of the farms is appropriate for the rural areas. They vary from 2.67 (Targoviste) to 4.16 (Dobrich).

The assessment of the statement that natural and climatic conditions create preconditions for the cultivation of crops and animals, from which higher incomes can be realized differ significantly in different districts (Table 4). The score is from 1 for Smolyan district to 4.3 for Blagoevgrad and Dobrich. Insufficient irrigation areas cause reduction in vegetable and fruit production is evaluated with a very high score (from 4.27 to 4.4 points) for all the three surveyed regions. This means that the availability of water resources and effective water management is very important condition for the areas specialized in vegetables and fruits.

Labor shortages are a reason for limiting labor-intensive industries is a statement, that re-

Table 3. Assessment of the importance of agriculture for rural areas

Таблица 3. Оценка на значението на земеделието за селските райони

Regions and districts	Agriculture			
	importance in rural areas	provides income	provides jobs	positive impact on the environment
Pazardzhik	3.8	3.67	3.5	3.33
Plovdiv	4.6	4.0	3.58	3.28
Haskovo	4.6	4.36	4.33	4.0
Smolyan	4.0	4.0	3.83	5.0
Kardjali	3.0	2.6	2.66	4.0
South Central region	4.04	3.72	3.56	3.88
Blagoevgrad	4.5	3.7	4.0	3.5
Kjustendil	4.45	3.82	3.55	3.55
Pernik	3.8	2.8	2.8	3.0
Sofia-district	3.57	2.57	2.0	2.57
South West region	4.18	3.36	3.24	3.24
Dobrich	5	4.5	4.33	3.6
Shumen	4.33	4	4	3.33
Targoviste	4	3.25	3.75	2.75
Varna	3.75	3.25	2.7	2.5
North East region	4.27	3.74	3.67	2.92

Source: Own study.

Източник: Собствено изследване.

ceive evaluation above average as for South Central region the score is 4.16, for the South West – 3.78 and for the North East – 3.66. Only in Pernik, Targoviste and Haskovo the evaluation is less than 3. The statement that there are a growing number of farms that aim to produce better quality products, not just their quantity receives also score that is close to the average – 3. On district level the score varies from 2.5 in Kardjali to 3.33 in Plovdiv and Haskovo.

The results from the survey show that large specialized farms have the highest presence and importance in the districts of Dobrich and Haskovo (100%), Targovishte (75%) and Plovdiv (57%). At the same time, the mixed farms are with the greatest importance in the districts of Smolyan (100%), Shumen (80%), Pazardzhik (80%), Haskovo (66.7%) and Plovdiv (57%).

Over 50% of the experts consider that small farms predominate in the districts of Kardzhali (75%), Smolyan (66.7%), Pazardzhik (60%), Sofia (57.1%) and Targovishte (50%).

The importance of small and medium enterprises in districts such as Blagoevgrad, Pernik, Kardzhali and Haskovo is at the highest degree and this is the opinion of all the respondents. 91% of the surveyed experts from Kyustendil district, 66.7% in Smolyan district and 57.1% of those in Sofia district give similar assessment.

The statement that the farms aiming at provision of livelihood to the household has increased during the last 15 years receive different evaluation and they vary from 2 (Dobrich) to 4.33 points (Kardjali). This statement is evaluated with a score of around 3.4 for South Central and South West region and with 2.86 for North East

Table 4. Assessment of the impact of the factors that determinate the farm specialization on district level
Таблица 4. Оценка на вличието на фактори, които определят специализацията на стопанството

Regions	Specialization of the farms is appropriate for the rural area	Natural and climatic conditions, etc. create preconditions for the cultivation of crops and animals, from which higher incomes can be realized	Insufficient irrigation areas cause decrease in vegetable and fruit production	Labor shortages are a reason for limiting labor-intensive industries	There are a growing number of farms that aim to produce better quality products, not just their quantity
Pazardzhik	3.5	3.8	3.82	4.16	2.8
Plovdiv	3.33	4.16	4.28	4.58	3.33
Haskovo	3	3.33	4	3	3.33
Smolyan	3	1.0	5	5	3.0
Kardjali	2.33	2.25	5	4.33	2.5
South Central	3.02	2.9	4.4	4.16	2.99
Blagoevgrad	3.8	4.3	4.75	4.22	3.7
Kjustendil	2.54	3.63	4.54	3.9	2.7
Pernik	3.2	3.25	3.33	2.5	3.4
Sofia-district	3.29	3.42	4.47	4.51	3.28
South West region	3.2	3.65	4.27	3.78	3.27
Dobrich	4.16	4.33	4.33	4.16	3.0
Shumen	3.57	3.6	4.3	4.2	2.6
Targoviste	2.67	2	4.5	2.5	2.67
Varna	2.87	3.37	4	3.8	2.67
North East region	3.32	3.33	4.28	3.66	2.74

Source: Own study.

Източник: Собствено изследване.

region (Table 5). The score for the statement that the number of holdings making direct sales has increased receives from 3.09 to 3.7. Organic farms are growing receive score around 3 for all the three surveyed regions. Farms that apply agrienvironmental practices are growing is a statement that receive also score 3 for South Central and South West region and the score is less for the North East region – 2.29. The evaluation of the statement that the holdings that diversify their activities with tourist activities is growing vary from 1.33 (Kardjali, Targoviste) to 4 (Smolyan).

Conclusion

In recent years, under the impact of the Common Agricultural Policy occurs changes in agriculture such as the production of high-quality products, new short circuits involving producers and consumers, organic farming, nature and

landscape management by farmers, agritourism and others. These changes are also observed in Bulgarian agriculture, but they happen slower than in the other countries and with a different significance. The conducted survey among experts gives grounds for the following important conclusions:

- Evaluation of the importance and impact of agriculture on rural areas are higher in areas with favorable conditions, especially in cases where the relative share of gross value added from agriculture is above the national average.
- In some of the districts in the southern regions of the country and near the larger urban centers the development of organic farming, direct sales and diversification of agricultural activities are carried out faster. There are serious difficulties in the transition to the production of high quality products and in organizing producers to register and protect their products.

Table 5. Assessment of the changes in the development of agriculture during the last 15 years
Таблица 5. Оценка на промените при развитие на земеделието през последните 15 години

Regions	The farms aiming at providing livelihood to the household has increased	The number of holdings making direct sales has increased	Organic farms are growing	Farms that apply agri-environmental practices are growing	The holdings that diversify their activities with tourist activities is growing
Pazardzhik	3	2.8	3.4	3	2.6
Plovdiv	3.25	4.2	3.16	3	2.33
Haskovo	3.0	3.33	3.67	3.33	3
Smolyan	4.0	5	1	2.16	4
Kardjali	4.33	3.25	2.25	2.5	1.3
South Central region	3.51	3.72	3	3.69	3.5
Blagoevgrad	3.57	4	3.4	3	3
Kjustendil	3.45	3.67	2.7	2.67	2.27
Pernik	3.8	3.25	3.3	1.67	1.67
Sofia-district	2.83	3.29	3	2.85	2.85
South West region	3.41	3.55	3.1	3	3
Dobrich	2	2.75	2.5	2.8	2.8
Shumen	3.37	2.75	3.5	2.3	2.3
Targoviste	3.5	3.5	3	1.33	1.33
Varna	2.56	3.14	3.37	2.75	2.75
North East region	2.86	3.09	3.09	2.29	2.29

Source: Own study.

Източник: Собствено проучване.

- The assessments of the production specialization of the agricultural holdings and of the opportunities in the similar regions to develop productions with higher value added, give grounds for development in the direction of better use the potential of the rural areas. For this is necessary to intensify the policy in the direction of stimulating investments and employment in agriculture and restoration and construction of new hydromeliorative facilities.

- The importance of agriculture for rural areas is significant. Agriculture is more a source of income than a job creator. The analysis shows that there are no significant differences in the assessments for the importance of agriculture for income generation and job creation between different districts, but assessment of the positive impact of agriculture for the environment in different districts differ significantly.

- The development of agriculture in the North East region and the structure with significant participation of companies, sole traders and cooperatives (mostly with the similar type of specialization) implies and requires directing efforts for establishment of network producer's organizations in order to create additional competitive advantages.

- The development of agriculture in both southern regions and the large predominance of family farms in them imply policies to improve market infrastructure, irrigation systems and creation of farmer's organizations.

References

Bryceson, D. F. (1996). Deagrarianization and rural employment in sub-Saharan Africa: a sectoral perspective. *World development*, 24(1), 97-111.

Cairol, D., Coudel, E., Knickel, K., Caron, P., & Kröger, M. (2009). Multifunctionality of agriculture and rural areas as reflected in policies: The importance and relevance of the territorial view. *Journal of Environmental Policy & Planning*, 11(4), 269-289.

Corral, S., Díaz, A. S., Monagas, M. D. C., & García, E. C. (2017). Agricultural policies and their impact on poverty reduction in developing countries: Lessons learned from three water basins in Cape Verde. *Sustainability*, 9(10), 1841.

Doitchinova, J. (2019). Structural Changes and Regional Models of Agriculture. *Trakia Journal of Sciences*, 17(1), 154-159.

Doitchinova, J., Miteva, A., & Zaimova, D. (2019, September). Determinants and Directions Of The Transition From Traditional To Sustainable Agriculture: The Bulgarian Case. In *CBU International Conference Proceedings* (Vol. 7, pp. 75-80).

McCarthy, J. (2005). Rural geography: multifunctional rural geographies-reactionary or radical?. *Progress in human geography*, 29(6), 773-782.

Potter, C., & Tilzey, M. (2005). Agricultural policy discourses in the European post-Fordist transition: neoliberalism, neomercantilism and multifunctionality. *Progress in Human geography*, 29(5), 581-600.

Stoyanova, Z., Harizanova-Bartos, H. (2019). Agriculture as a possible way for sustainable districts development in Bulgaria, Vol 7 (2019): CBU International Conference Proceedings 2019 , pp. 315-322.

Wilson, G. A. (2001). From productivism to post-productivism... and back again? Exploring the (un) changed natural and mental landscapes of European agriculture. *Transactions of the institute of British Geographers*, 26(1), 77-102.

EC. (2010). The CAP towards 2020: Meeting the Food, Natural Resources and Territorial Challenges of the Future. COM, Brussels 672 final.

Ministry of agriculture, food and forestry, Agrostatic. National statistical institute. (2019). Regional statistic.