SECTION 9: AGRICULTURAL ECONOMICS

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Original scientific paper

THE DEVELOPMENT OF THE AGRICULTURE AND THE VILLAGE IN INDEPENDENT MACEDONIA

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Abstract
As part of the economy in Macedonia, the agriculture could have and should have (it was expected) to contribute for the development of the overall economy. There are well relevant indicators for agriculture from which it is concluded that it has given a certain contribution in the overall economy such as: real value of increased GDP, increased export, increased crop per unit capacity etc. However, the key indicators point to unsatisfying realization where the most important are: decreased basic production capacities, an increase of import rather than the increase of export especially for food and others. The comparison among the key indicators for the development of agriculture is made through natural and financial data, by previous comparison of the production capacities, their usage, the change of the production structure and comparison of the crop according to published official data. This paper analyses the socio – economic processes in the Macedonian village and the assumptions and limitations for preservation of the valid agricultural household – analysis of the basic features of the life of the village population, as a significant segment in the lifestyle of the contemporary village. This paper should encourage a creation of model for development and realization of the agricultural policy in Macedonia.
Key words: agriculture, development, export, village, farm.

Introduction

After twenty years of independent Macedonia, it is very common that there is a need for analysis of the past road and estimation for the comparative indicators for the movement of the Macedonian economy. In the context of such analysis, we think that the agriculture as its important segment deserves to be thoroughly perceived of the past twenty year road not only as a proof for vitality with positive movements, but as a way to understand the mistakes and the negative indicators so that we „can learn from our mistake “ and to realize better results in the future. Macedonian agriculture still has a relatively high participation in the GDP of the country (almost 10%), and that is why it deserves to be more present in the future and to be supported in any was so that it can face the upcoming challenges in the production of safe, economic and competitive food and goods, as well as to provide a higher standard of the agriculturalists.

Aim of the paper-The aim of this paper is to trace the key aspects in the development of the agriculture and the village throughout the key indicators, beginning with the movement of the

disposable capacities, the way of usage of the agricultural capacity, the structure of the prevalent productions, the movement of the overall production, the movement of the value of the export and the import, as well as the financial results through the economic accounts in the last five years. These aims are realized by implementation of the indicators in the road of development monitoring a twenty years period through 5 five years data at the level of the country. It was not our aim to analyse the agricultural policy, because it was reflected in the results, but we will point out that for these 20 years it was improper for the problem about the village.

Material and methods

The method is based on the view and the comparison of the official statistical indicators as well as our calculations. As a base year we use 1991, when Macedonia is becoming an independent, and then we monitor the movement of the indicators for every 5 years like in 1996, then in 2001, then again in 2006 and the last year is 2011. The table display and the graphic display are applied for the more important data so that the movements of the development stage can be clearly viewed.

Results and discussion

The production capacities with which the Macedonian agriculture had at its disposal are: relatively limited scope of agricultural and cultivated land which permanently decrease (table 1), so in 2011, the agricultural land is decreased by 175.000 ha, and the cultivated land by 153.000 ha, which should seriously worry us, and more because there not almost any actions taken for protection especially for the cultivated land located in the most fertile areas for the competitive production. The livestock fund expressed in the numbers of the livestock unit in the last 10 years is decreased by the number of 27.000, for which the import of livestock products is increased, and especially meat. The importance of irrigation for the Macedonian agriculture is well known, but instead of an increased irrigated areas (as an indicator for development), in the last years it reached only 34% of the built irrigation systems before 1991 (127.000 ha), and 64% from the irrigated ones in 1991. The number of tractors is continually growing, but the decrease of the cultivated land led to the fact that today one physical tractor cultivates only 7,3 ha, and because of this the tractor is not effective. The number of the individual agricultural holdings, but the companies as well, continues to grow which has led to a smaller farm size of land, and thus in 2011 in a production subject on average there is only 2,7 ha agricultural land.

Cultivated land by category of use, in accordance with its decrease, the arable land and the gardens, the orchards and the vineyards were decreased, and the area with meadows was increased (table 2). Such structure of the usage of the cultivated land, points to the fact that in 1991 in the Macedonian agriculture the intensive systems had a bigger participation, that is, the orchards and the vineyards with share of 8,8%, meadows 8,1%, while in 2011, the orchards and vineyards participated with 6,8%, and meadows with 11,9%.

Table 1. Major production capacities

Indicator (‘000)	1991	1996	2001	2006	2011
Agricultural land (ha)	1.295	1.291	1.244	1.226	1.120
Cultivated land (ha)	664	658	612	537	511
Pastures (ha)	629	632	630	688	608
Number of livestock (no.)	325	337	305	286	278
Tractors (no.)	46	54	61	66	70
Irrigated area (no.)	67	52	48	21	43
Individual agricultural holdings (no.)	163	168	159	178	192
Agricultural companies and cooperatives (no.)	211	191	160	128	297

Table 2. Cultivated land by category of use (in 000 ha)

Indicator	1991	1996	2001	2006	2011
Arable land and gardens	552	554	512	439	415
Orchards	23	20	17	13	14
Vineyards	35	29	28	26	21
Meadows	54	55	55	60	61

The usage of the arable land and the gardens, in accordance with their overall constant decrease from 1991 to 2011 is manifested with a decrease of the areas of all groups of crops (table 3). The cereals have the highest participation which from 42,9% in 1991 fell down to 39,3%, and the sowed areas with wheat in the same period were decreased by 31,2%. However, the sowed areas with industrial crops from 1991 to 2011 are decreased by 125%, as a result for which there is no more sugar beet production, there is a minimum representation of the sunflower, and only the tobacco remains within a stable scale of areas. The areas with vegetable crops from 61.000 ha have decreased to 51.000 ha in 2011. These two groups of crops are considered as a national advantage, because they traditionally use the Mediterranean influence of the climate in Macedonia at best. The maintenance of the forage crops is positive at the level from 34 to 39.000 ha. The most negative is the maintenance of the fallow and the uncultivated arable land at a high level of areas with several times bigger scope of sowed areas of the industrial, vegetable and fodder crops, and with the participation of 33% from arable land and gardens and 27,0% from the cultivated areas (in 2011). This scope of arable land and gardens as well as a high participation of fallow and uncultivated arable land must seriously concern us. The insistence for an increase of the areas of any group because of the increased production is reflected on decrease in other groups, and as can be seen they are with a limited scope. The increase in the production of the current crops as well as an eventual broadening of the range is possible just by providing conditions for activation of a part of the uncultivated arable land (it is considered that around 50% from it can still be activated), but also faster implementation of new varieties, higher technologies and increase in the scope of the irrigated areas.

The area of the major annual crops has a similar tendency, the same as the groups of cereals, industrial, fodder and vegetable crops. From the nine chosen annual crops (table 4), it can be seen that the areas with wheat, are decreased by 39,1% in 2011 in comparison to 1991, and in the last 5 years by 21,1%.

Table 3. Arable land and gardens by category of use (in 000 ha)

Indicator	1991	1996	2001	2006	2011
Cereals	237	222	220	290	163
Industrial crops	63	40	31	23	28
Vegetable crops	61	61	56	51	51
Fodder crops	36	39	36	34	35
Fallow and uncultivated arable land	163	194	169	140	138

It is obvious that with such scope of areas (78 thousand ha) with wheat, we will be more dependable from the import, if the crop is not greatly increased by implementation of high quality certified seeds and an appropriate technology, because the horizontal extension of production (the areas) lead to decrease in the areas with other also very important crops for the Macedonian agricultural complex. The same referees to the sunflower whose scope of areas in 2011 is smaller for nearly 5 times in comparison to 1991. The areas with rice, the decrease in the analyzed period is nearly 50%, with the corn by 33%, whereas with the vegetables, the tobacco, the alfalfa and the fodder maize, the scope of the areas is maintained throughout the whole period nearly at the same level.

Table 4. Area of the major annual crops (in 000 ha)

Indicator	1991	1996	2001	2006	2011
Wheat	113	118	115	98	78
Corn	43	42	33	32	29
Rice	9	4	2	3	5
Tobacco	18	19	20	17	20
Sunflower	29	16	6	4	6
Tomatoes	9	9	6	6	6
Peppers	9	9	7	8	9
Alfalfa	19	20	19	18	19
Fodder maize	2	2	3	2	2

The orchards in relation to the scope of certain types (table 5) are presented with the number of fruit-bearing trees (in accordance with the official statistics). As can be seen, with all fruit types the number of fruit-bearing trees decreased in the analysed period, except the number of the apples trees increase by 65,7%. This increase led to the fact that in 2011 with over 57% of the total amount of all types of fruit-bearing trees, made the apple trees to participate (Statistical Yearbook 2012). This has led to difficult selling of apples, and has led to deficiency of the domestic market and import of pears, peaches, apricots, walnuts, and berry fruits. Unfortunately this is a result of inappropriate financial support of the fruit types.

The vineyards, as it was shown in table 2 from 35.000 ha in 1991 continually decreased so in 2011 there are only 21.000 ha. A serious problem in the viticulture is the inadequate presence of the species (wine grapes, table grapes) but the grape variety as well. Unfortunately, the financial support in viticulture was inappropriate, with insufficient support of the table grapes in a time when the wine varieties were not required due to serious problems in the global market of wine, and wine grape varieties was supported with higher amounts, which had reflection on the overall price policy.

Livestock, poultry and beehives in relation to its capacity is represented through the breeding number of the cattle, sheep and pigs and the total amount of poultry and beehives (table 6).

Table 5. Number of fruit-bearing trees (in 000 no.)

Indicator	1991	1996	2001	2006	2011
Apples	2.593	2.515	3.203	3.803	4.281
Pears	1.091	707	649	417	361
Plums	1.515	1.470	1.472	1.348	1.489
Sour cherries	1.326	771	758	765	606
Apricots	536	286	189	145	140
Peaches	776	490	511	435	413
Walnuts	164	160	167	163	162

It is well known that sheep breeding is considered as a priority in the livestock sub-sector because of the particularly appropriate conditions presented with vast and quality pastures, but as well as with the tradition of the Macedonian sheep breading. However the strong migration village – city, as well as the inappropriate policy of many years, has led to a constant decrease of the number of sheep which are only 33,6% of the total number of the ewes for breeding 20 years ago. With the total number of sheep (767.000 in 2011), not even 20% of the pastures are used, which Macedonia has at its disposal. The number of the cows and heifers in calf is maintained at nearly the same level in the last five years as well as in 1991, but from 1996 to 2011 the number was bigger for ten thousand of heads. The number of the sows and first farrow sows had a similar tendency, while the number of poultry is constantly decreased, and today it is only 42,6% compared to the one in 1991.

Table 6. Number of livestock, poultry and beehives (in 000 no.)

Indicator	1991	1996	2001	2006	2011
Cows and heifers in calf	164	176	174	164	164
Ewes for breeding	1.623	1.233	897	859	545
Sows and first farrow sows	23	29	27	28	24
Poultry	4.562	3.361	2.750	2.585	1.944
Beehives	77	68	67	68	65

The overall production of the most important products mainly corresponds to the trends of the capacities, which indicates that the decreased areas of certain crops and the number of livestock heads mainly is not compensated with the increased production per unit capacity. A relatively small number of agricultural products are with an increased production in the last years in relation to 1991, and those are the alfalfa, apples, cow milk and honey (tab. 7).

Table 7. Production of major products (in 000 tons)

Indicator	1991	1996	2001	2006	2011
Wheat	341	269	246	393	256
Corn	135	117	141	147	126
Rice	38	22	9	14	27
Tobacco	25	15	23	25	26
Sunflower	37	21	5	6	8
Tomatoes	169	146	126	142	166
Watermelon	152	116	130	130	127
Alfalfa	114	107	104	126	129
Apples	48	65	38	96	125
Grapes	264	215	230	254	235
Cow milk (mil.litres)	119	134	201	295	376
Meat total	35	28	26	28	22
Eggs (mil.no.)	574	435	395	331	196
Honey (tons)	918	1.352	928	868	1.105

The economic accounts with prices from the previous year according to official statistics in the last five years (from 2006 to 2010) point to significant trends in the Macedonian agriculture, despite the fact that it is not in accordance with the analyzed period. The value of the crop output is increased by 3,6%, and of the animal output by 25,8% (table 8). This difference does not derive from the big differences of the crop and animal output, here it is a result of a various increase of prices (according to the methodology applied "quantity x price"). The value of the crop and animal output– the agricultural goods output from 2006 to 2010 is increased by 8,6%. The value of the services in agriculture is increased, while the value of the "secondary" activities is with a decreased value, but the value of the "subsidies of agricultural products" is increased by 313% and as a result of that, the value of the agriculture as an "industry" is increased by over 12,9%. The gross value added in the last 5 years was constantly increasing and in 2011 it is higher from the one in 2006 by 29,4% as a net value added, because in the value of consumption of fixed capital there was not any significant increase.

The export of agricultural products is an especially significant indicator through which we can see the participation of the sector in the international division of the labour on the one hand, and on the other, as a possibility for our products (fruit, vegetable, tobacco, sheep products, grapes and wine), which exceed the domestic expenditure to be exported and to prove their competitive ability. In the first 10 years after the independence of Macedonia the value of the export was increased by several times, but in 2001 was decreased by 35% (due to the war conflict) in relation to 1996. In 2006 the export was increased by 99% compared to 2001, and in the last 5 years (from 2006 to 2011) by 60%, when the value of the export in 2011 exceeds half a million dollars for 126 million (table 9). The structure of the overall value of the export has changed very interestingly, namely while in 1991 the value of the exported food participated with 44,5%, and the tobacco with 49%, in 2011 the export value of food participates with 59,6%, and the tobacco with 24,5%. The participation of the beverages was increased for more than double. While the value of the export of the food in the last

years is increased by 484%, the value of the overall export is increased by 337,8%, which is appreciated as a positive trend, and especially the high participation of the value of food in the overall export in 2011 by nearly 60%.

Table 8. Changes in the economic accounts in the last 5 years (million denars)

Indicator	2006	2007	2008	2009	2010
1.Crop output	49.460	46.293	47.613	50.079	51.259
2. Animal output	14.356	15.721	18.448	21.719	18.058
3. Agricultural goods output (1+2)	63.816	61.954	66.061	71.798	69.317
4. Agricultural services output	171	259	248	201	361
5. Agricultural output (3+4)	63.987	62.213	63.309	71.998	69.678
6. Non-agricultural secondary activities	1.479	1.462	1.070	925	1.325
7. Subsidies on products	977	901	1.693	3.339	4.214
8. Output of the agricultural "industry" (5+6+7)	66.443	64.576	69.072	76.262	75.217
9. Total intermediate consumption	34.372	31.831	34.936	34.926	33.719
10.Gross value added (8-9)	32.071	32.745	34.136	41.336	41.498
11. Consumption of fixed capital	2.637	2.669	3.017	3.184	3.425
12.Net value added	29.434	30.076	31.119	38.152	38.073

The import of the agricultural products is characterized mainly with a higher total value from the export, and that is especially expressed with the food (table 10). While, in the export of food dominate the value of fruit, vegetable and other processing, in the import of food dominate the meat, the maize, the milk, the edible oil and the sugar. In the years from 1991 to 2001 the import grew, then it decreases in 2001, but in 2006 the value is increased by 83,5%.

Table 9. Value of the export according to Standard International Trade Classification – SITC

Indicator ('000.000 $)	1991	1996	2001	2006	2011
Food	63,6	95,4	65,3	191,8	373,2
Beverages	7,8	40,4	46,5	80,3	81,5
Tobacco and processing	70,1	114,5	75,0	111,7	153,5
Other	1,5	7,5	9,8	7,4	17,8
Total	143,0	257,8	196,6	391,2	626,0

The high increase continued so in 2011 in relation to 2006 it is increased by 94,3%, which value (in 2011) reaches over 800 million dollars. Thus the high value of the import exceeded the overall export for over 190 million dollars, that is, the coverage is 76,6%. The participation of the value of food in the overall import in 2011 is 82,3% (in export 59,6%). The imported food by the value dominates in the whole 20 year period (1991-71,2%, 1996 – 83,2%, 2001 – 84,8%, 2006 – 87,9%). Despite the relatively high non-coverage of the import with the export, what is more concerning is the higher trend of the import than the export. Namely, from 2006 to 2011 the export is increased by 60%, and the import by 94,3%. This shows that we did not have a competitive production for export and also insufficient production for substitution for imported products for the domestic market.

Table 10. Value of import according to the Standard International Trade Classification – SITC

Indicator (‘000.000 $)	1991	1996	2001	2006	2011
Food	124,3	218,2	194,1	396,6	672,0
Beverages	11,5	3,8	4,7	18,2	38,8
Tobacco and processing	32,3	13,6	13,4	13,9	30,1
Other	6,1	26,4	16,7	18,5	75,6
Total	174,2	262,0	228,9	420,2	816,5

Unequal social and economic development of the village. The current economic, social and agricultural policy in Republic of Macedonia has positive reflection to the development of the bigger villages and those closer to the cities and on the villages which are well connected with traffic with the city environment, as well as in the villages where economical and infrastructural facilities are built. On the other hand, the population in the hilly and mountains villages and in the economical and social provincial areas, because of improper road communication and deprived basic infrastructure (communal, social activities) permanently migrate and leave their village.

The village population and especially the young population is still not satisfied with the services of certain life areas in the country. This especially refers to the services in: education, health care, local self government and the culture. The level of dissatisfaction from the services of the institutions of the system rises with the rising of the altitude and the distance from the villages and the municipality centres.

The unfavourable age structure of the village population. The migration movements contribute to flowing of the young and hard-working population and the demographic ageing of the village. These migratory movements greatly led to growth of the regional difference in the age structure of the village population. Namely, the population in the village areas of the municipalities Demir Hisar, Kratovo and Resen in 2002 is in a deep demographic old age. In one third of the municipalities in Macedonia, the village population is in a demographic old age (Berovo, Bitola, Gevgelija, Kavadarci, Kocani, Kriva Palanka, Ohrid, Prilep, Probistip, Sv. Nikole I Stip), and the municipalities Skopje, Gostivar, Debar, Struga and Tetovo are characterized with a young village population.

The unfavourable age structure in relation to the average at the state level (10.9%) is noticed in the villages in the Pelagonia Region (18,8%), Eastern region (15,5%), Vardar region (12,9%) and Northeastern region (12,7%) according to the census in 2002.

The extended poverty with the village population. In Republic of Macedonia the village population is facing with small incomes and unsolved basic infrastructural needs of the village community. The income of the village households are at e low level and insecure. The agriculture still has a dominant part in the village economy. In the countryside, 38,4% of the children from 0-17 years live under the official boundary of poverty (situation in 2011). Among the most poor households are the households in the hill and mountain areas. The serious economic and social problems are retained and cause decrease in the real life standard of the population which affects the development of the children. The decrease in the life standard does not have an equal influence on the way of life of the different social categories. So for example, with some, the possibility for realization of the purchasing power is limited, with the others, which are in a great number it is necessarily decreased to an already minimal financial resources for food, clothes, education of the children etc.. In that

sense, their dissatisfaction from the effects of the economical transition is not in the same nature and with the same intensity and does not cause an equal willingness for a change of the situation in a certain direction.

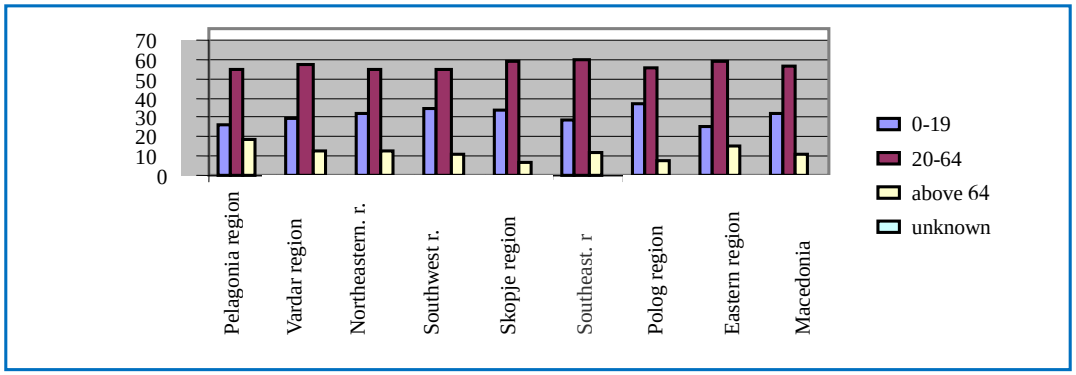

Figure 1. Age structure of the village population by regions

Conclusions

The development in the Macedonian agriculture after the independence of the country is unquestionable, however it is not sufficiently high enough having in mind the natural conditions, the locality, the tradition and the relatively stable macro-economical conditions and the relatively free market. The decrease in the key production factors such as agricultural and especially the cultivated land, then the number of livestock, the decrease in the irrigated areas, the perennial cops, and others, had a strong reflection which is shown in the stagnation of some elements of the development. Despite the increase of the extensive usage of the cultivated land (12% of natural meadows), the percentage of the uncultivated land is also high (27% of cultivated land). Despite the big deficiency of the domestic offer of cereals (especially wheat and maize), the areas with cereals in 20 years are decreased by 42%. In the orchards there is a discontinuity and a decline of the number of fruit – bearing trees at the stone fruit and pears, and the apple orchards are in a strong growth whose crop is already facing problems in the market. The situation with the viticulture is similar where the table varieties of grape are neglected and the wine varieties are forced with unreasonably high financial support. Inappropriate relation towards sheep breeding and the pastures led to the decrease in the number of sheep. While the number of cattle breeding and pig-breeding is at the same level as 20 years ago, the poultry farming is significantly in a decrease. The movement of the overall production with the 15 most important productions is a result of the used capacities, and because of this only 4 products have an increased production in 2011 in relation to 1991. According to the economic accounts, in the last 6 years the crop output has a relatively small increase despite the little increase in the production, while with the animal output, the increase is much higher, as a result of a higher growth of the prices in this period. The value of the export and import in the last 20 years is greatly increased, more with the import than with the export, and in 2011, the value of the export and import reached 1,44 billion dollars which is 4,5 times more than the one in 1991. And yet, one of the main aims of the future agricultural policy must be growth in the production by implementing highly productive varieties and species (because there are limited possibilities for

horizontal expansion unless the unused arable land is activated) and high technology, together with a higher degree of finalization of the primary production.

Directions of action for the development of the village*:* The major participation of the non-agricultural economy in the village community will contribute for the economic and social demographic stability of the village. The agriculture and the village population in the modern village community are closely related to the other activities and occupations outside and also inside the household itself. That is why today every isolated approach and solution of problems in the village does not give successful results.

The integral development of the village community, where it is referred to the overall economic, social and cultural progress of the rural areas and the community, has proven to be a successful model for revival and progress of the village communities in Western Europe.

Such a concept of development requires special conditions and not only in maximization of the economic sizes (profit) but also optimization of the natural and human resources. This approach implies multi-sectoral, and not mono-sectoral development (agriculture) as it was until now in Republic of Macedonia. The village needs a development of the infrastructure as a prerequisite for a lively economic, social and cultural development, which will provide a better life standard for the population. A special attention should be turned to the development of the small enterprises in the rural communities and areas where there are unused capacities and human resources. Measures for integration or re-integration of population in the hills or mountains and the socially provincial areas by investment for development of infrastructural objects, credits for returners in the village, tax relief etc. has to be taken.

References

Anakiev, B. (1998). The expansion of the export of agro-industrial complex-Macedonian Academy of Sciences and Arts (MANU). Skopje.

Jakimovski, J. (2011). Dominant Trends in the Macedonian Village, Proceedings of the Conference Bulgarian, Diversity and Inequality in Rural Europe - The Bulgarian case, Institute for the Study of Societies and Knowledge at the Bulg Aca of Sciences, pp. 78-86.

Jakimovski, J. (2010). The Socio-Demographic Context of Rural Poverty, Eastern European Countryside, 16, Torun, pp. 131-155.

MANU *at al*. (2001). Strategy for the development of the agriculture in RM until 2005 – Macedonian Academy of Sciences and Arts – Skopje.

Ministry of Agriculture, Forestry and Water Economy Skopje. (2005). Ann. agric. report.

National Human Development Report. (2001). Social Exclusion and Human Insecurity in FYR Macedonia, UNDP.

MANU *at al*. (1998). Strategy of Policy and Government of the Development of the Rural
Areas, Institute for Sociological, Political and Juridical research, Skopje.

MANU *at al*. (1995). The Influence of the Industrialization on the Social Processes and Changes in the Villages in the Republic of Macedonia, Institute for Sociological, Political and Juridical Research, Skopje.

Statistical yearbooks of RM 1991, 1996, 2001, 2006, 2011.

РАЗВОЈОТ НА ЗЕМЈОДЕЛСТВОТО И СЕЛАТА ВО НЕЗАВИСНА МАКЕДОНИЈА

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Апстракт

Како дел од стопанството на Македонија, земјоделството можеше и требаше (се очекуваше) да има важен придонес во развојот на вкупната економија. Има сосема релевантни показатели за земјоделството од кои се заклучува дека дало определен придонес во вкупната економија како што се: реална вредност на зголемен БДП, зголемен извоз, зголемени приноси по единица капацитет и сл. Меѓутоа важни индикатори укажуваат на незадоволителни остварувања од кои најважни се: намалени основни производни капацитети, повисок пораст на увозот од порастот на извозот особено на храна и друго. Споредбата помеѓу поважните показатели за развојот на земјоделството е направена преку натурални и финансиски податоци, со претходна споредба на производните капацитети, нивното користење, промената на производната структура и споредба на приносите според објавени официјални податоци. Трудот ги анализира и социоекономските процеси во македонското село и претпоставките и ограничувањата за одржување на валидно фармерско домаќинство-анализа на основните белези на животот на селското население, како значаен сегмент за начинот на живеење на современото село. Трудот треба да поттикне создавање на модел за развој и спроведување на аграрната политика во Македонија.

Клучни зборови: земјоделство, развој, извоз, село, фарма.

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ECONOMIC ANALYSIS OF APPLE PRODUCTION IN MACEDONIA: THE CASE OF PELAGONIA REGION

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Abstract
Apple production in the Republic of Macedonia holds the greatest importance among all fruit crops in terms of export value, production quantity and area of land under apple trees. The favorable climatic conditions and the long-established tradition of growing apples offer huge potential for the development of this branch of fruit growing. Low productivity levels and high production costs of apple put major limitations to the competitiveness on domestic and foreign markets, mainly due to inadequate and obsolete cultivation practices and technologies applied. The research addresses the economic performance of family agricultural holdings. For the purposes of the analysis, a filed study has been conducted on 39 apple holdings in Pelagonia region for the production years 2009 and 2010.Besides the standard performance indicators, the following social and economic factors affecting the apple producers performance have been analyzed: area of land, farmers' age, gender issue, apple varieties and land location. The methods of descriptive statistics and empirical methods of data analysis were used to process data. The findings demonstrate that apple trees are produces on small areas, with very high plant protection costs and seasonal work force. Farms' economic success depends on the apple variety as well as the location of the orchards. Farmer's/manager's age correlates poorly with the farm's success, whereas farms with greater economic size are more successful in apple production.
Key words: apple producers, economic analysis, Pelagonia region, performance indicators.

Introduction

Fruit production is of considerable importance to the Macedonian economy. According to the latest Agricultural Census (SSO, 2007), orchards encompass area of 11,264 ha, out of which apple orchards take 38%, plums 19%, peaches 13%, sour cherries 12% and the rest belongs to other fruits. The area under orchards in the individual farms sector increased from 11,756 ha in 2007 to 12,903 ha in 2010, whereas the orchards' area at business entities has decreased from 1,644 ha in 2007 to 1,029 ha in 2010 (SSO, 2008 - 2011). The production of apples, in the period from 2004 to 2011, in average amounts to 118,000 tons. The production itself had an upward trend with a 32% increase, hence from 82,414 tons in 2004 to 124,552 tons in 2011; the number of fruit-bearing trees in 2011 reached 4.3 million, which is a 16% increase when compared to 2004 (SSO, 2012). Within the fruit sub-sector, apple production is with highest perspective and significance in our country and is

spread on total agricultural area of 4,113 ha. Apples are net-export product generating an average annual inflow of 9.3 million euro for the period 2004 to 2011 година (SSO, www).

The highest concentration of apple plantations is in the region of the great lakes at about 700 m above sea level; this area is situated in the geographical regions of Pelagonia and South-West as determined by the State Statistical Office (SSO), and comprises 3.352 ha or 79% of the total area under apples (SSO, Ag Census, 2007). The focus of this study is the production of apples in the Pelagionia region where the respective share is 67%, i.e. it concentrates on the municipalities of Resen (with 2.567 ha, 99% of total area under fruit orchards) and Bitola (135 ha or 54% of total area under fruit orchards).

The aim of this paper is to conduct an economic analysis of the performance of the individual apple producers, in the Pelagionan region as the biggest apple production region in the Republic of Macedonia. The paper is structured into several chapters; following the introduction is the material and methods chapter, the presentation of the results and the discussion, and the conclusions are given in the end along with some recommendations for improvement of the economic performance of the apple producers.

Material and methods

This research is based on primary and secondary source of data. The target group are the individual agricultural holdings (family farms) that according to the Agricultural Census data operate on 94% of the total area under apples. The survey refers to the production years of 2009 and 2012; it includes data from 39 individual agricultural holdings. To facilitate the data collection, a questionnaire was designed and a field survey was conducted. Additionally, many farmers were interviewed individually with an additional set of questions mainly covering the issues of farms assets and investments. Apple production experts were also consulted during this process. Following the initial data processing, a panel discussion was organized with relevant participants from the sub-sector: apple producers, researchers and scholars, processors, producers of plant material, преработувачи, advisors and extension agents. Data from the official statistics as well as results from previous studies were used as secondary sources.

In order to determine the sample size, a calculation of the maximum allowed error threshold was calculated, which represents half of the length of the appropriate confidence interval i.e. margin of error. Higher level of the margin of error will mean smaller sample, and vice versa. Factor in the determination of the upper limit of error level is the sample variation, or the standard variation (Delova Jolevska, 2008).

The determination of the sample size depends upon three factors: confidence level, upper error limit and the variability of the statistical mass expressed through the variance (Risteski, 1999). The interaction of these three factors is expressed as follows:

$$E = Za/2 * \frac{\delta}{\sqrt{n}}$$

The optimal sample size is calculated according to the following formula (Delova Jolevska, 2008, Risteski, 1999):

$$n = \frac{N * Z_{\frac{\alpha}{2}}^{2} * \sigma^2}{Z_{\frac{\alpha}{2}}^{2} * \sigma^2 + \left(\frac{E}{2}\right)^2 * (N-1)}$$

where as:
E = maximum margin of error
Z = standardized normal value corresponding to the confidence level
1-α = error risk
σ = standard deviation of the statistical mass
n = optimal sample size
N = sample size

The confidence level for the determination of our sample was set at 0.90, meaning that 90% of the mean of the sample will be in the interval of 1.64 standard deviations to the arithmetic mean of the statistical mass. The calculated optimal size of the sample was 37, and the survey was done at 39 farms.

In order to determine the economic performance of the farmers, standard performance indicators are used. The output/input value coefficient demonstrates the production efficiency (PE) or the productivity in the larger sense and is calculated as a ratio between the total value of the production output (OV) and the value of the total inputs (IV). Alternatively, it can be calculated in the reverse order i.e. input value over output value. The formula used in this paper is as follows:

PE = OV/IP

The apple production is recognized as efficient if this coefficient is higher than 1, i.e. when the total value of outputs is higher than the total value of inputs. In order to determine the level of economic effectiveness of the farms, a calculation of the rate of profitability (RP) is applied, expressed as ratio of the farm profit (FP) over the total output value (OV):

RP = (FP/OV) x 100 (%)

Higher rates indicate higher profitability.

The cost of production of apples is also calculated, as a ratio of the total costs i.e. input value (IV) over the total quantity of product (PQ), and it is expressed in Macedonian denars per kg:

COP=IV/PQ

The survey included collection of data concerning the labor; it enabled a calculation of the labor productivity indicator as an important aspect of the farm economic analysis. The labor productivity (LP) is determined as a ration between the total value of output (OV) and the total cost of the labor input (LI):

LP = OV/LI

The labor compensation is a sum of the costs of hired labor and also the cost of family labor in terms of opportunity cost. The labor unit equals the annual workload of one person i.e. the Annual Work Unit (European Commission, Farm Definitions 2005) and is equivalent of 275 workdays or 2200 labor hours. In order to systemize the output and inputs in apple production adequate analytical enterprise budgets were constructed, contacting both the variable and fixed production costs.

Standards methods of the descriptive statistics were used for the sample analysis and the analysis of the performance indicators; mean (M_x), standard deviation (SD) and coefficient of variation (CV). Lower values of the coefficient of variation, as a relative measure of dispersion, indicate lower deviation in the sample from the arithmetic mean, and vice versa (Risteski, 1999).

Results and discussion

Description of the sample

The farm survey and individual interviews gave ground to describe the typical features of apple farms in the Pelagonia region.

In general, apple farms are characterized with high specialization in the Resen municipality, while in the Bitola municipality farms are usually of mixed character.

The total area of the included family farms in the survey is 84.22 ha. In average, an apple farm has 2.2 ha ov apple orchards, and this per farm area in the sample ranges from 0.1 ha to 8 ha. Farms are larger in the Resen municipality with an average of 2.5 ha, compared to the farms in Bitola municipality with 1.5 ha (Figure 1). The farms are highly fragmented, with 4 to 10 land parcels per holding.

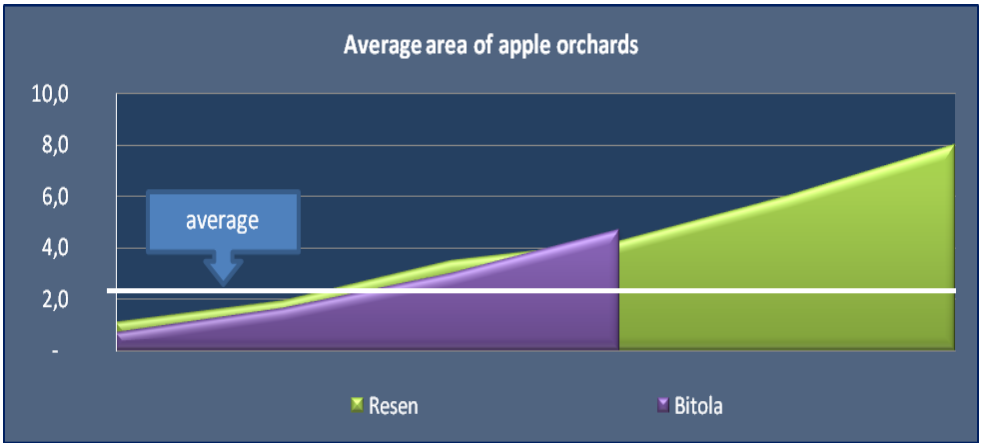

Figure 1. Average area of apple orchards, in ha per municipality

In term of farm assets, the survey showed that apple farms have obsolete machinery (17 years average). Almost all farms have some storage space, which are not always in good shape, and only few farms in the survey had cooling rooms, however, without controlled atmosphere. The average age of the apple orchards is 12 years. The irrigation technology is relatively advances and almost 70% of the sample farms are irrigated with dripping system.

According to the survey and the questions regarding the variety structure, the variety Ajdared is represented on 60% of the area, followed by the Golden Delicious with 13% of the area, and with Red Delicious and Muco taking 8% each. In Bitola municipality, the most common variety is Golden Delicious with 33%, Ajdared with 25%, followed by Granny Smith and Red Delicious varieties with 18% and 11%, respectively. In Bitola municipality only a small portion of the apples sells as industrial, compared with Resen region and therefore has a higher average producer prices

by 40%. Unlike the Bitola, in Resen the most typical variety is Ajdared with 68% of the total surveyed area.

The research revealed that out of the total surveyed farms, there is only one woman farm holder. This indicates a low level of gender equality in terms of ownership, i.e. the holder of the agricultural economy, but the involvement of women in production, especially labor in harvesting as a family, is a highly prevalent and an average of 33% of the total family labor. In terms of farm size in ha which is owned by farmers, farm holders by age 40 possess only 28% of the total area in the survey. By this age, the effects of learning by doing are the highest (Liu and Zhuang, 2000 in Passel and Huylenbroeck, 2007). Most of the total area, with 40%, is owned by farmers aged 48 to 54. According to the research of O'Neill *et al* (2001) in the United Kingdom, the efficiency of the farm lead by managers over the age of 48 years is negatively correlated.

Farm performance indicators

The analysis of the economic results is presented on hectare basis, on order to obtain more comparable averages.

According to the average budgets per unit area, it was determined that the fixed costs range from a minimum of 32,708 MKD/ha to a maximum of 220,213 MKD/ha, with an average of 91,713 MKD/ha. The coefficient of variation as deviation from the mean is 48.8%. The variable cost have expectedly lower coefficient of variation of 37.9%, and the values are in the interval of 42,718 MKD/ha to 322,962 MKD/ha with an average of MKD 155,154/ha. The average total cost to produce 1 ha of apples, on average amounted to MKD 246,867/ha, but if the costs for family labor are added up, the average total costs reach MKD 312,297/ha (see Figure 2). The family annual work unit, required for 1 ha of apple orchards, averages 0.5. The coefficient of variation is very high, amounting to 74.8% due to the different degree of utilization of family labor. In the entire sample, the farm of size of 0.1 ha of apple orchard, that does not use any seasonal labor, utilizes annually 0.2 AWU (around 880 hours) or 2.2 AWU if calculated on a hectare basis, which is indicative of very low productivity of family labor due to the smaller area.

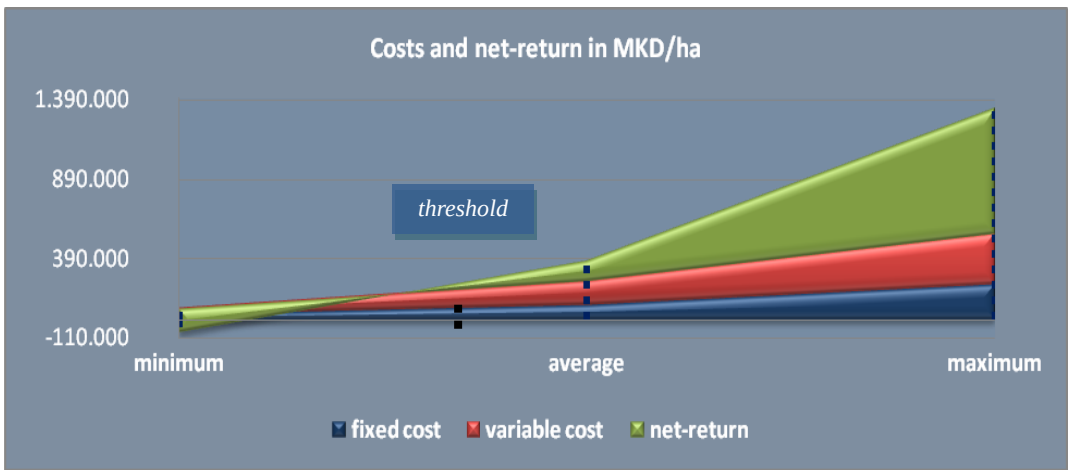

Figure 2. Costs and net return per ha

Yields per unit area range from 10,732 kg/ha to 66,250 kg/ha with an average of 31,715 kg/ha and standard deviation of 11,120 kg/ha (see Figure 4). Average yields are relatively low, when

compared with yields in France, Italy and Chile ranging from 50,000 kg/ha to 60,000 kg/ha. With regard to the farming systems with different tree densities, predictably highest yields are realized at orchards with the highest density of 1500 to 2499 trees/ha i.e. intensive plantations (see Figure 4). The trend is positive and consistent with the increase in the number of trees.

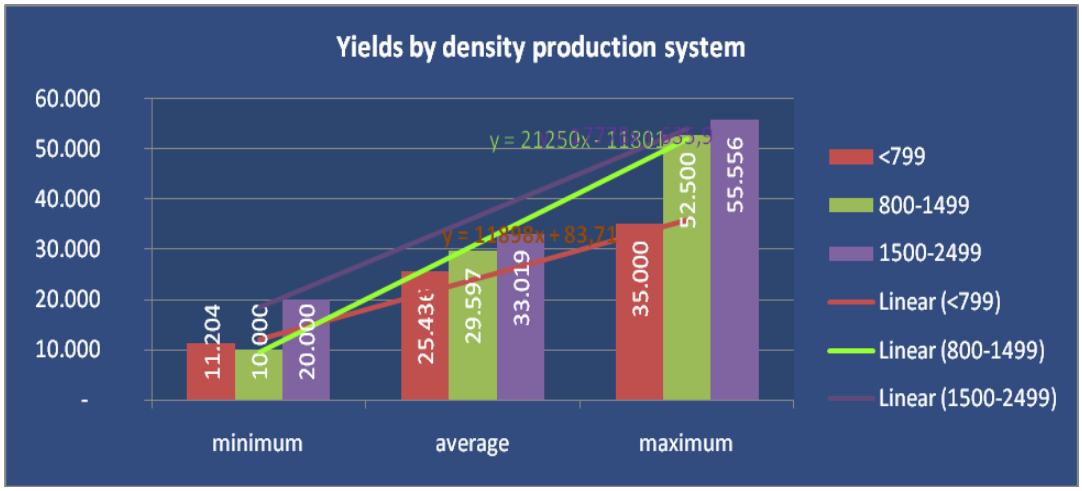

Figure 3. Yields by density production system.

The average value of the gross margin of apple plantations amounts to 291,268 MKD/ha, with a high coefficient of variation of 76.2%, which indicates a large deviation from the mean. In the structure of total revenue, 35% is the share of variable costs and 65% is the share of gross margin (see Figure 4), which is generally a good indicator and indicates the ability of farms to cover fixed costs and to accumulate profits.

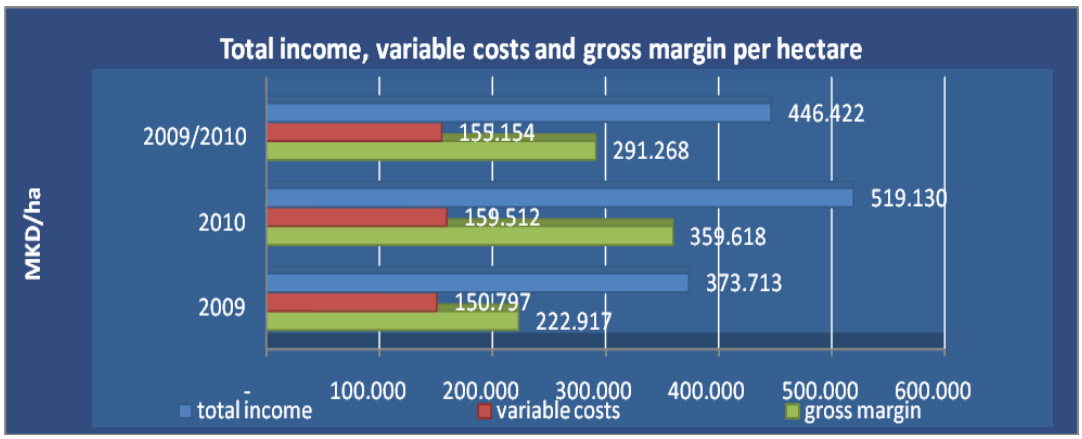

Figure 4. Total income, variable costs and gross margin per hectare

With the inclusion of the fixed costs, we get the financial result as the sum which remains on the farm and has average of 199,555 MKD/ha. The maximum value reaches 907,974 MKD/ha, but there are also a number of farms with very low profitability where the net profit is at a break-even

level i.e. the difference between total costs and total revenues is negligible. These family farms are in most cases dealing with other activities and the production of apples is on a very small area. Family labor, which occurs as the opportunity cost, in practice rarely is calculated as a real cost, but when included as cost in the calculations, it significantly affects the results; in farms with low margin, with the inclusion of family labor as cost, the net margin becomes negative, reaching -148,980 MKD/ha or -139,613 MKD/farm (see Figure 5).

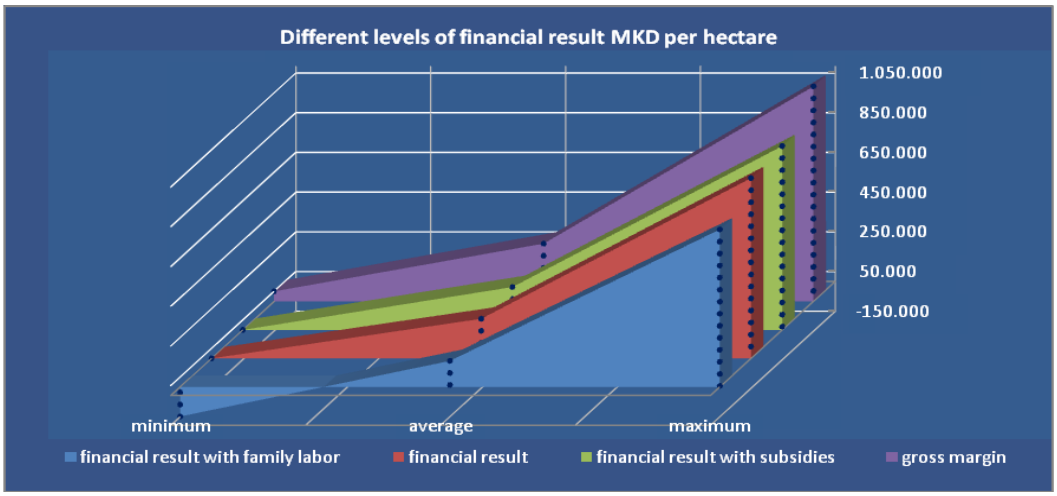

Figure 5. Different levels of financial result per hectare

The average cost of production at variable costs level amounts 5.1 MKD/kg of apple, while the full cost of production including both variable and fixed costs is higher by 36% and it reaches 8.1 MKD/kg. With the addition of family labor, i.e. its valorisation as opportunity cost, the average cost sums up to 10.3 MKD/kg. The weighted average purchase (producer) price is 14.9 MKD/kg, in which the cost of production including the family labor participates with 69%. Figure 6 gives visible representation of the in cost of production at different cost inclusionn levels.

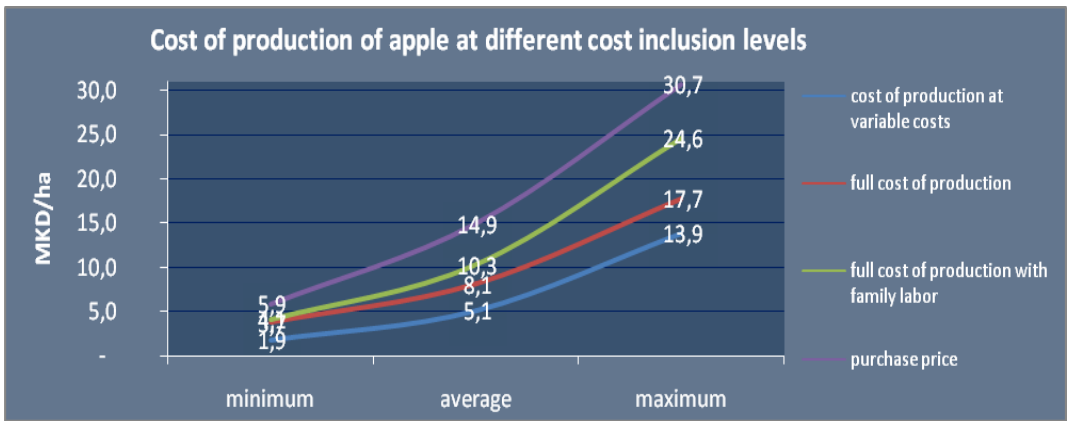

Figure 6. Cost of production of apple at different cost inclusion levels in MKD/ha

The average economic efficiency of production in output - input value terms has a coefficient if 1.9. The lowest value in the sample is 1 representing farms that have a value of production equal to the amount of costs incurred, while the highest coefficient is 4.3. Subsidies do not have a significant impact on increasing the average value of the coefficient, but only cause a slight increase in the maximum.

The level of economic effectiveness, determined by the rate of profitability, is 43.4%. The coefficient of variation is 176%, which indicates huge difference in the degree of profitability among farms.

Table 1. Performance indicators of apple producers

Indicator	Year	No of farms	Area	M_x	Max	Min	SD	CV
Production efficiency (output value/ input value)	2009	39	78.1	1.6	4.1	1.0	0.8	50
	2010	39	78.1	2.1	4.3	1.0	0.9	41
	2009 /2010	39	78.1	1.9	4.3	1.0	0.9	47
Production efficiency, incl. subsidies (output value/ input value)	2009	39	78.1	1.6	4.1	1.0	0.8	50
	2010	39	78.1	2.3	4.5	1.1	0.9	39
	2009 /2010	39	78.1	1.9	4.5	1.0	0.9	47
Profitability rate (%)	2009	39	78.1	36.1	317.4	0.01	67.0	185
	2010	39	78.1	50.7	406.9	0.5	83.9	165
	2009 /2010	39	78.1	43.4	406.9	0.01	76.2	176

Based on the data concerning costs, yields and income (taking into account the area with apple plantations), an average analytical budget was constructed for the two studied regions for years 2009 and 2010. The analytical calculation gives a clear overview of the cost structure. The largest share of the total costs represented by 25.6% is due to plant protection, or 41% of total variable costs, followed by the depreciation of the machinery with 17% of the total cost or 46% of the total fixed costs (both cost items in total occupy 43% of the total costs). It is also important to stress the seasonal labor costs which amounted to 11.2% of the total costs; this is indication of the labor intensiveness of apple production (see Table 2). Accounting for 8.1% of the total cost is for fuel for machinery.

Table 2. Apple enterprise budget, average by location for 2009/2010 per hectare in MKD

	Resen average	Bitola average	Resen/Bitola average	Total
No. of farms (total)	27	12	39	39
Farm area (total)	62.2	15.9	78.1	78.1
Yield/ha	32,423	30,120	31,715	
Purchase (producer) price	12,3	20,5	14,8	
Income/ha	398,959	617,853	470,337	
	Resen average	Bitola average	Resen/Bitola average	Cost Structure
1.Variable costs/ha	153,116	159,741	156,428	62.6%
Manure	1,056	1,504	1,280	0.5%
Fertilizer	12,171	15,066	13,619	5.5%
Plant protection	66,726	60,946	63,836	25.6%
Machinery fuel	13,718	26,678	20,198	8.1%
Irrigation fuel and irrigation fee	6,198	10,830	8,514	3.4%
Packaging	15,034	16,769	15,901	6.4%
Hired labor	31,701	24,361	28,031	11.2%
Storage at third party	925	1,033	979	0.4%
Maintenance and repair	3,971	2,350	3,161	1.3%
Soil analysis	231	205	218	0.1%
Other costs	1,385	0	692	0.3%
2. Fixed costs/ha	89,239	97,280	93,260	37.4%
Depreciation of machinery	32,852	52,043	42,447	17.0%
Depreciation of buildings	22,253	16,803	19,528	7.8%
Depreciation of apple plantation	16,988	7,055	12,021	4.8%
Taxes, gross salaries, fees	16,928	19,688	18,308	7.3%
Other fixed costs	218	1,692	955	0.4%
Total costs (1+2)	242,354	257,022	249,688	100.0%
Total income – total costs	156,605	360,832	220,650	
Cost of production at variable costs per kg	4.7	5.3	4.9	
Cost of production at total costs per kg	7.5	8.5	7.9	

Conclusions

The favorable climatic and soil conditions, as well as a long tradition of growing apples, provide huge potential for the development of this sub-sector in our country. There is still lack of investments; the variety structure needs to be changed in line with the consumer demand, and change is needed in terms of up to date practices and technologies for growing apples.

The low productivity and high cost of production of apples emerge as major constraints to competitiveness in domestic and world markets, mainly because of inadequate and old fashioned cultivation practices, and reduced levels of application of inputs and technologies.

The research aimed to determine the performance operations of individual farms which are engaged in production of apples. The survey was limited to the Pelagonia region, where the apple production is the largest in the country. Overall, the findings reveal that the total income out of apple production on the individual farms can cover the production costs and accumulate profit. Exception is made by the findings when family labor is included as opportunity cost hence causing some farms to have negative financial results. The average yields are still relatively small (around 32 tons/ha) and could be increased. According these findings, the high-intensity way of cultivation is a prerequisite for increasing the competitiveness of the sector, due to higher yields per unit area and lower costs in the regular fruit bearing, as compared with other systems. Of the total area surveyed, the high-intensity farming is represented only by 1%.

Apple producers need to improve the production management and technology through education and information, with special emphasis on reducing costs and improving the quality of product. The plant protection should be well balanced and new methods could lead to decreasing the costs. Also, the cost of labor is high with share of 11.2%, without the involvement of family labor, which can be reduced by using farming systems that require less labor investment, especially in the cutting phase and harvesting, such as the super intensive systems.

From the findings of the performance and the social demographic aspects, younger farmers need to be more involved in managing the farm.

Farmers do not keep regular records, which further complicates the management of the farm. Not being aware of the farm performance does not allow making timely decisions and adjustments in the farm management. Therefore, it is a strong recommendation to farmers that want to operate commercially and successfully to maintain and improve the agricultural holding by keeping records.

References

Kay, D.R., Edwars, M.W., Duffy, A.P. (2008). Farm management. McGraw-Hil Companies, New York.

Kierczycska, S., Wawrzyniak J. (2004). The level of apple production costs and the economic effects in the selected orchard management systems. Department of food management economics of the August Cieszkowski Agricultural Univesity, Poznan.

Krstić, M., Lazar, A. (1968). Veliki agronomski prirucnik. Zadruzna knjiga, Beograd.

Leonore, B., Bruce, B., Marc, D. and Herbert, H. (1995). Economic Analysis of Apple Orchard Management Systems with Three Varieties in Central Washington. Washington State University, Washington.

O'Neill, S., Leavy, A. & Matthews, A. (2001). Measuring productivity change and efficiency on Irish farms, Technical report, Teagasc Rural Economy Centre.

Passel, V.S. and Huylenbroeck V.G. (2007). Factors of Farm Performance: An Empirical Analysis of Structural and Managerial Characteristics. Policy Research for Sustainable Agriculture, Belgium.

SSO. (2001-2012). Field Crops, fruits and grapes 2004-2010, Statistical review: Agriculture. State Statistical Office. Republic of Macedonia, Skopje.

SSO. (2007). Book I: Basic statistical data for the individual agricultural holdings and business entities in the Republic of Macedonia, by regions, Agricultural Census. State Statistical Office.

Republic of Macedonia, Skopje.
Topcu, Y., Uzundumlu, A.S., Celep, S., Hun, S. (2010). Analysis of the factors affecting apple farming: The Case of Isparta province, Turkey. Department of Agricultural Economics, Collage of Agriculture, Ataturk University, Erzurum, Turkey.
Делова, Ј. Е. (2008). Основи на статистика. Економски факултет, Скопје.
ДЗС (2000-2010) Статистички годишници на Република Македонија 2004 – 2011. Државен завод за статистика, Република Македонија, Скопје.
Димитриевски, Д., Мартиновска, С.А., Христовска, А. (2008). Водење сметководствена евиденција на фарма. Забележување на трошоците и приходите на семејните земјоделски стопанства. Факултет за земјоделски науки и храна, Скопје
Ѓошевски, Д., Каракашева, Љ. Складирање, чување и економски ефекти во процесот на производство и чување на јаболката; Група за развој на потсекторот јаболко, Ресен.
Крстевски, В., Ѓошевски, Д. (1997). Организација на лозаро-овоштарското производство. Земјоделски факултет, Скопје.
Миланов, М., Мартиновска, С.А. (2002). Трошоци и калкулации во земјоделството. Земјоделски факултет, Скопје.
Ристевски, С. (1999). Статистика за бизнис и економија. Економски факултет, Скопје.

ЕКОНОМСКА АНАЛИЗА НА ПРОИЗВОДСТВОТО НА ЈАБОЛКА ВО МАКЕДОНИЈА: ПРИМЕР ОД ПЕЛАГОНИСКИ РЕГИОН

Марија Ѓошева Ковачевиќ, Александра Мартиновска Стојческа

Апстракт

Производството на јаболка во Република Македонија, има најголемо значење од сите овошни култури, земајќи ги предвид извозната вредност, производството и површините со јаболкови насади. Поволните климатски услови, како и долгата традиција за одгледување на јаболка, овозможуваат голем потенцијал за развој на оваа овоштарска гранка. Ниското ниво на продуктивност и високите цени на производството, на јаболка, се јавуваат како главни ограничувања за конкурентност на домашниот и светските пазари, главно поради неадекватни и застарени култивациски практики и применети технологии. Истражувањето го адресира економскиот успех на работењето на семејните земјоделски стопанства. За целите на анализата, спроведено е теренско истражување на 39 фарми од Битолскиот и Ресенскиот регион кои се занимаваат со производство на јаболка, за производната 2009 и 2010 година. Покрај стандардните индикатори на успех, како социјални и економски фактори, кои се анализирани како влијаат на успехот на работењето на производителите на јаболка, земени се предвид големината на површините, возраста на фармерот, сортите на јаболка и локацијата на земјоделските стопанства. За обработка на податоците, користени се методите на дескриптивната статистика, како и емпириските методи на анализа на податоците. Наодите од анализите покажуваат дека јаболката се произведуваат на мали површини, со многу високи трошоци на заштита и сезонска работна сила. Економскиот успех на фармите зависи од сортната структура како и применетите технологии за одгледување на јаболковите насади. Возраста на фармерот – менаџер има низок степен на корелација со успехот на работењето на фармите, додека, пак, фармите со поголема економска големина имаат поголема успешност во одгледувањето на јаболковите насади.

Клучни зборови: производители на јаболка, економска анализа, пелагониски регион, показатели за оцена на успехот.

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AGRICULTURAL E-COMMERCE IN TURKEY

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Abstract
Electronic commerce has been growing rapidly in recent years. Definition of trading has renamed and marketing field has changed. Industrial society transform into informational society so that marketing replaced with electronic commerce. Turkey has a big agricultural potential. Agricultural e-commerce in Turkey is observed in this study.
Key words: Agriculture, E-commerce, Turkey.

Introduction

Needs of people are endless. To satisfy these needs, new things are developed in every single day. These developments are not common in the agricultural marketing. In recent years, developments in communication and technologies have created radical changes in marketing. The inception of these changes is the E-Commerce (Electronic Commerce) comes a great deal, as it has recorded significant success in volume of sales at real time. E-Commerce is simply to buy and to sell goods and services using the online platform. At the same time manufacturers are making real online sales cutting off the burden of many intermediaries in the marketing chain. Despite the proliferation, e-commerce in the field of agricultural development is very slow, due to the characteristics of agricultural products and the literacy level of agricultural producers. Agricultural E-commerce has not recorded significant progress as highlighted earlier but it has great potentials for marketing agricultural products in Turkey. It is expected that the importance of the agricultural e-commerce will increase with the help of developed technology and access which is prevalent among Turkish farmers. In this study, understanding that internet is an important indicator for the success of e-commerce in agriculture, and the attendant increase in its usage within Turkish farmers some of whom does high exports and imports the Turkish agriculture is a potential case to study the weaknesses and strengths of e-commerce in agriculture and also as a model to test the validity of such venture.

Material and methods

In this study, literature search was conducted besides thesis and essays, international and national resources, statics (TUIK) and internet resources was used.

Results and discussion

Definition of Electronic Commerce, Elements and Kinds of Electronic Commerce
What is Electronic Commerce (e-commerce)?
Trade is defined as the purchase or sale of goods and services. If this process happens electronically on the Internet, it turns into e-commerce. E-commerce is defined in various ways due to the multi-

faceted concept. OECD defines E-commerce as individuals and institutions related to all commercial transactions over computer networks. Apart from OECD, ECOM defines e-commerce as design of products, manufacture of products, presentation of products and all commercial actions till the customer receive the product. So E-commerce businesses, households, individuals, public or companies, institutions and organizations purchasing a property over computer networks is defined as the E-commerce (ETTK, 1998:5).

Importance of E-commerce

Increase in the supply of goods and services, on a global scale makes it difficult for the competition in the business world. Businessmen change their way of working and organizations for adapting to it, so they remove the barriers between company-customer-supplier by using the internet and e-commerce to (KANAT et all., 2002).

E-commerce provides the opportunity for small and medium-sized enterprises to enter new markets and it increases competitiveness. E–commerce increase selling and buying process, decrease cost of marketing and also it helps to communicate between the buyer and the seller. Because of increasing the exchange of information, it helps to increase the efficiency of business processes (TÜFEKÇİ, 2003).

E-commerce, both in the process of payment and fulfillment of the commitment have its own unique features. Consumers' concerns about security of e-commerce on the internet have decreased. The best indicator of this is the increase in the volume of e-commerce in recent years.

Elements of E-Commerce

Any product or service is sold generally in the web page. In the e-commerce generally the credit card is used because cash isn't accepted. To do this, the credit card number must be provided. There are a lot of payment methods to ensure the safety of this number between the seller and the bank.

In E-commerce, delivery is usually provided with an independent logistics firm. Ordered or purchased the product is delivered to the recipient by shipping companies. To transfer software, text and data from computer to computer, the mechanisms of downloading files are used as a tool.

There are some similarities between classical marketing and electronic marketing. These similarities are accepting the return products, fulfilling the warranty and etc.

Customer Support system which customers pay more attention is an important element in an electronic environment. The questions frequently asked about the product pages, e-mail and electronic forms are part of this system. (KANAT et all., 2002).

Basic Tools of E-Commerce

Telephone, fax, television, electronic payment and money transfer systems, electronic data interchange systems (EDI) and the internet are the basic tools of E-commerce. Among them the internet, the most effective in terms of internet e-commerce, is considered to be the most important tool. Because the production of a service, advertisement, purchase intake, payment and delivery can be made only online. Internet is preferred in the e-commerce sector. Because it has an opportunity to transmit audio, a video and a written text quickly in the same time and these processes are cheap on the internet (ÖZDEMİR, 2012).

Kinds of E-Commerce

According to The Activities of E-Commerce - Electronic commerce is divided into two groups according to activities. Indirect e-commerce and direct e-commerce.

Indirect E-Commerce - Indirect e-commerce, electronic ordering of goods with traditional ways (e.g., mail service and commercial couriers) is in the form of the realization of the physical delivery.

Indirect e-commerce depends on external factors such as transportation system, monetary system, customs system. (KANAT et all., 2002).

Direct E-commerce - Direct e-commerce, non-physical goods and services (computer programs, entertainment and cultural content, audio-visual works, which also provides information on various topics, services, consulting services, etc.) orders, payment and delivery is carried out on-line. Direct e-commerce which can be completed beyond the geographical boundaries is an electronical process (KANAT et all., 2002).

According to Sides of Electronic Commerce

E-commerce From Business to Consumer - Business to business services, e-commerce functionality for the consumer, business and trade relations and transactions between the clients are conducted on the web. The aim is to sell goods and services to target groups. As a result of rapid developments in technology, the "Virtual Store" companies started to sell the product like PC, car, pizza, and book etc. directly to the consumer with applications in electronic form on the Internet. Companies like Dell, Amazon.com, eBay, are examples of these services (KANAT et all., 2002).

E-commerce From Business to Business - It is the form of e-commerce which is the most common. The purpose of e-commerce from business to business is defined as giving orders to supplier firms electronically; paying bills cost of the products (ÖZDEMİR, 2012).

E-Commerce From Business To People - The most important examples of e-commerce from business to people are public tenders which are published online. With the aim of supporting the spread of e-commerce payment of taxes, customs procedures are carried in the virtual world (KANAT et all., 2002).

E-Commerce From Person to Public - The applications like driver's license, passport applications, social security, contributions and tax payments can be formed in the virtual environment with the e-commerce from person to public.

E-commercial in Turkey

The volume of e-commerce, that was mentioned previously, has grown rapidly in recent years. As shown in the volume of e-commerce in Turkey in the graphic 1, according to the previous year, recording a 50% increase in nominal and inflation-adjusted figures are 36% of the volume of real growth in 2011. Although there is not the same rate in 2012, in August the total e-commerce volume increase of 36% according to the previous year it is estimated that it will be around 31 billion Turkish Liras.

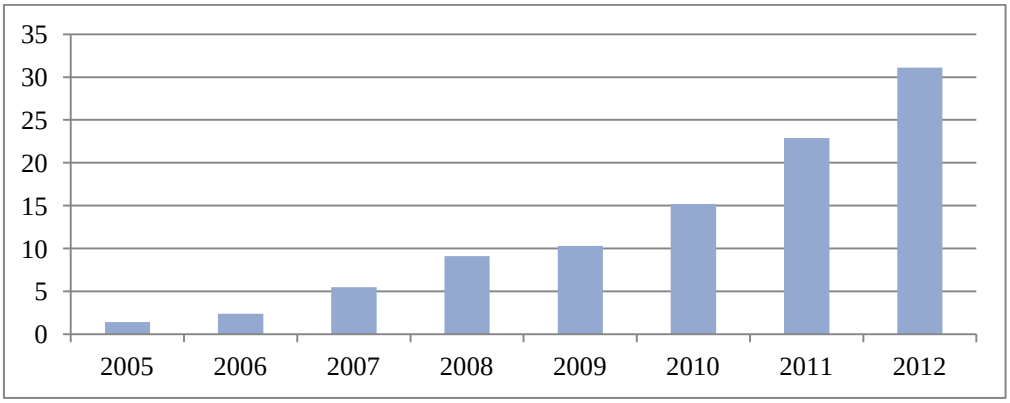

Figure 1. Volume of E-commercial by years

Source: The statistic of The Interbank Card Center in Turkey, 2012

In spite of the annual growth rate of the volume of e-commerce, in the Graphic 2 it is seen that there are some fluctuations, outputs and reductions in some months. Monthly fluctuations have had same trend since 2009. As a result, in case the data containing the same shopping categories continue with the same calculation methods decrease which started in August seems to continue in September, October and November.

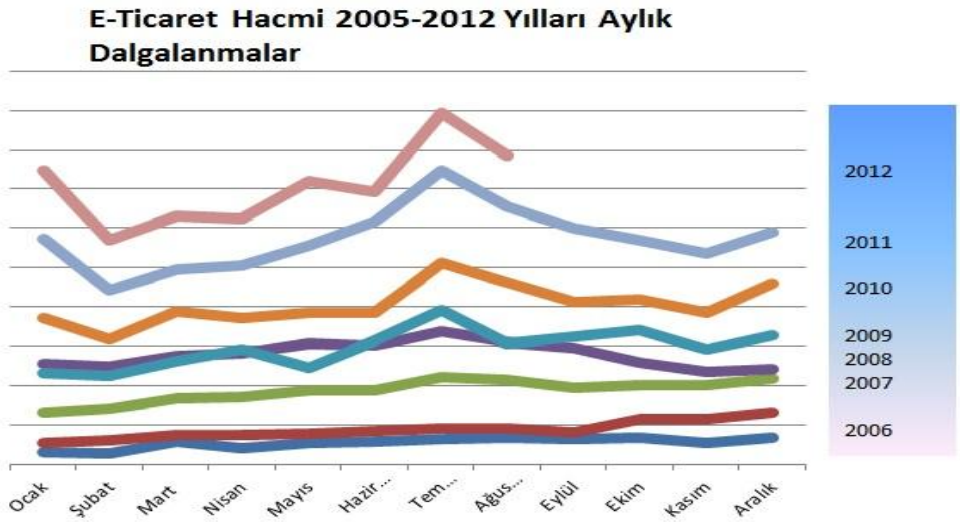

Figure 2. The volume of e-commerce monthly fluctuations in 2005-2012
Source: The statistic of The Interbank Card Center in Turkey, 2012

Potential of Agricultural E-Commerce in Turkey

E-commerce is not only for the production and the service sector, but also for the agricultural sector in terms of knowledge and market position, as well as offering new resources. For Internet can be said that the application both agricultural producers and agro-based companies operating in industries located in the most important of the benefits of e-commerce. Apart from this, of course, a wide variety of internet supply chains for agricultural products, the creation of a new improved agriculture, transport sector, the development and activation of the agricultural information easy, cheap and fast way to access will continue to be the most effective tool.

E-commerce applications in the agricultural sector, especially in European countries and the United States have developed rapidly. According to do 2000's statics, one of every 25 agricultural farms in the United States uses internet to products to market and provide input. Again, in 1999, trade in agricultural products on the internet while 4% in 2004, this rate increased to 12%. Turkish agricultural sector, protect the important position in international markets and trade in agricultural products sourced to adapt to the conditions of competition, information technology must keep up with the rapidly growing information technologies. These harmonies in any area related to agriculture, especially in the marketing of new products in markets that have the potential demand are required to perform.

Numerous manufacturer of agricultural inputs, the main distribution channels, resellers and millions of agro-based industry with a large number of the manufacturer and also quite large, but scattered in the agricultural sector, which has a structure not allow for an efficient supply chain, the others that

weak ties between buyers and sellers, and in which commercial relationship, so buyers often give up the e-commerce vendors. For all this, as well as agricultural production is seasonal, and the decisions of national or international agricultural policies, depending on the fluctuations in the quantity and efficiency of production may lead to instability.

The design of the traditional nor the farmers nor the retailers and wholesalers with input providers as equal parties have not been trading partner. Another problem is in terms of the results from an examination the development process of e-commerce enterprises and enterprises in other sectors in the agricultural sector. Looking at the process of this development is that sales of agricultural enterprises over the internet is limited compared to other businesses, in other words, directly to the final consumers of agricultural producers, retailers and agricultural product processing enterprises than in other sectors, companies have reached a degree of limited. All this, as well as due to the traditional structures of agricultural holdings, capacity (capital, labor, or expert) in designing for the web site to open is not at the same level as other businesses. In short, farmers cannot do the same things when they are offline in contrast to online. In this context, the scope of e-commerce as a customer to identify the farmers would be more realistic. Despite all these disadvantages, the global economic and technological changes in the agricultural sector are inevitable reflections. Without limitation of time and space, with the development of online virtual market can be said that e-commerce will create a revolution in agriculture. Firms in the agricultural sector between the fields of electronic commerce can benefit from input sales, marketing information, the output sales, service support and management tools support (Alüftekin and Gülçubuk, 2012).

Conclusions

With the development of electronic commerce in the world of technology is evolving. Development of electronic commerce not only with the increase of the amount of purchases made in electronic, but also understood that the increase in the diversity of shopping. Especially in countries with a high potential for agricultural production, a number of agricultural products is expected to increase the importance of exchange of e-commerce.

In E-commerce, Small and medium can enter the marketing easily. This situation creates a positive impact on increasing competition. E-commerce between the producer and the consumer in a way they tried lowering effect of decreases.

A rapid increase in the volume of e-commerce in Turkey over the years is shown. Given Turkey's current agricultural production potential of trade in agricultural products is expected that the increase in electronic commerce. Turkey's current agricultural production potential is concerned, however, trade in agricultural products is expected that the increase in e-commerce trade in agricultural products and agricultural enterprises have their own unique features are available because of some problems in the development of e-commerce in agriculture. Despite these issues in the agricultural sector in Turkey between manufacturers and retailers, consumers, intermediaries, which will establish a direct connection to the development of e-commerce applications, will lead to fundamental changes in the agricultural sector. For these reasons, agricultural producers and consumers to adopt e-commerce applications, to work towards the implementation of a fast are recommended.

References
ETTK. (1998). Türkiye İçin Elektronik Ticarete Geçiş Durum Değerlendirmesi ve Pilot Uygulama Projesi, Türkiye Elektronik Ticaret Koordinasyon Kurulu Raporu, Ankara. ıttp://www.biıen.metu.edu.tr/pdf/etsop.pdf (Access date 20.10.2012).
Kanat, B., Başyiğit, M. and Abak, V. (2002). E-Ticaret, http://www.kobinet.org.tr. (Access date 20.10.2012).
Tüfekçi, T. (2003). E-ticaret için yeniden bir değerlendirme, Ankara.
Özdemir, F. (2003). www.e-ticaret.gov.tr (Access date 20.10.2012).
Öğütcen, Y. (2001). İnternet Ortamında E-Ticaret, İGEME'den Bakış Dergisi, pp. 18-52.
Alüftekin, N. and Gülçubuk, B. (2006). Türkiye'de ve avrupa birliği'nde tarim sektöründe e-ticaret uygulamalari: mevcut durum, gelişmeler ve beklentiler, Ankara.
www.bkm.com.tr (Access date 20.10.2012).

ЗЕМЈОДЕЛСКА Е-ТРГОВИЈА ВО ТУРЦИЈА

Илајда Појраз, Бурак Озторнаци

Апстракт
Електронската трговија рапидно расте во последните години. Дефиницијата за трговија е преименувана и областа на маркетинг е променето. Индустриското општество е трансформирано во информациско општество со што маркетингот е заменет со електронска трговија. Турција има голем земјоделски потенцијал. Земјоделската е-трговија во Турција е анализирана во оваа студија.
Клучни зборови: Земјоделство, Е-трговија, Турција.

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Original Scientific Paper

THE HISTORICAL DEVELOPMENT OF SUGAR SECTOR IN TURKEY

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Abstract
Sugar sector is an important sector for all countries in the World. And Turkey is an important export country. But Turkey has started to lose the role of export since 2000. This study analyses the production of sugar sector in Turkey with historical point of view, in order to understand the reasons of this change.
Key words: Sugar Production, Sugar Beet, Turkey Sugar Sector.

Introduction

Sugar is produced by various products but generally by sugarcane and sugar beet. World sugar futures prices are determined by sugarcane which constituted 82% of the sugar produced in the world and is low cost which has a dominant position in trade. Because of the climate, instead of sugar cane which is a cheap raw material, sugar beet which is a strategic product, is produced in Turkey and Europe. Sugar beet hasn't opportunity to compete with sugarcane in the export markets. So sugar beet is produced by intending not trade but also self-sufficiency. Although Turkey is self-sufficient as far as sugar production is concerned, in some years there have been an obligation for importation. Although the Turkish population has increased approximately %1.5 per year, the fluctuations observed in an abroad regarding sugar consumption (Konyali, 2001). Therefore, the agricultural policies applied by state concerning sugar production need to be re-assessed and in the historical process, the sector of the sugar which has changes should be presented. This study tries to observe the development of sugar beet production and sector in Turkey. Especially in Turkey, through the post-1980 neo-liberal economic policies, examination of the radical changes in the sugar industry are useful for countries experiencing similar processes.

Material and methods

The production, the consumption, the import, the export and effective policies of sugar and sugar beet are examined in this study. In these context national and international researches, theses, editions and articles are observed. The effects of policies formed in sugar sector are observed with the macro variables in the period of the historical development. Secondary data is used in the study. This data is obtained from Turkey Statistical Institute, FAO, The Word Bank, institutions and organizations.

Results and discussion

General State of Sugar Sector in the World

Production and Consumption in the World

Sugar cane, sugar beet and starch-based sugar which are obtained from starch- containing plants are three sources for sugar in the world. But sugar is produced by sugar cane around the world.

According to the FAO's data, approximately 80% of sugar is produced by sugar cane and 20% of sugar by beet. Starch-based sugar's production is low the world. Sugar is produced in almost all the countries because it is a strategic product. The source which the countries choose to produce sugar is about these countries' geographical location and climatic conditions. Sugar production by sugar cane is common. Because production by sugar cane is cheaper and sometimes sugar production by sugar beet isn't convenient for all countries.

In the world, sugar is produced by sugar cane in 73 countries and by sugar beet in 43 countries. The sugar cane which can be grown in tropical and sub-tropical regions is used for sugar especially in Brazil, in Mexico, in India, in Thailand and in Austria. Because of the climatic condition, beet is grown in the majority of European countries, in Russia and in Turkey. Besides, both sugar cane and sugar beet are grown in USA, Japan and China (Şeker-İş Sendikası, 2011).

Table 1. World Sugar Balance

World sugar balance october / september (thousand tons, white sugar equivalent)				
Period	Production	Consumption	Import	Export
2003/04	130.871	132.892	40.946	41.478
2004/05	129.537	135.062	44.273	44.328
2005/06	138.151	140.132	44.508	44.322
2006/07	152.917	143.927	44.884	45.075
2007/08	153.747	147.847	44.295	44.393
2008/09	140.283	151.021	46.063	46.064
2009/10	147.663	153.258	48.661	48.639
2010/11	155.439	154.255	46.143	46.632

Source: T.Ş.F.A.Ş 2010 Market Report

In the period between 2003 and 2010, the production is wavy. The reason of the recession between 2008 and 2009 can be climatic condition. When the consumption of the sugar is observed, it can be seen that in some years the consumption of sugar is more than the production of sugar. So it can be explained with stock. In almost all countries, sugar is stocked because it is a strategic product.

Brazil is a country which produces sugar the most. India, China, USA, Germany and France follow Brazil in the production. It has been stated before that the sugar is produced by sugar beet in the countries, the members of the EU and in Turkey. The data about sugar beet production is given in the tableau 3.

Table 2. The Main Sugar Producing Countries in the World (Beet+Cane) (Thousand Tons)

The main sugar producing countries in the world (beet+cane) (thousand tons)							
Period	Usa	Argentina	Australia	Germany	Belgium	Brazil	China
2002/03	7.601	1.733	5.609	4.393	1.107	23.652	11.611
2003/04	7.847	1.920	5.314	3.907	1.118	26.359	10.894
2004/05	7.145	1.857	5.528	4.803	1.078	28.266	9.864
2005/06	6.714	2.217	5.397	4.627	999	27.815	9.581
2006/07	7.661	2.459	4.731	3.606	856	32.495	13.038
2007/08	7.394	2.204	4.635	4.295	1.008	32.984	16.131
2008/09	6.833	2.449	4.601	3.560	787	34.755	13.513
2009/10	7.210	2.256	4.525	4.310	889	35.365	11.672
2010/11	7.560	2.470	4.600	3.625	750	39.950	12.750

Source: Pankobirlik‘s data base, http://www.pankobirlik.com.tr/Dosyalar/Resim/Istatistikler/d4.jpg.

Table 3. World Sugar Beet Planting Area and Production Quantities

In 2010 world sugar beet planting area and production quantities (ha, tones)		
Countries	Planting area	Production
France	383.479	31.874.800
United States of America	467.858	29.060.800
Germany	367.000	23.858.400
Russian Federation	923.800	22.255.900
Turkey	328.651	17.942.100
Ukraine	492.000	13.749.000
China	219.000	9.296.000
United Kingdom	118.000	6.527.000

Source: FAO, 2012

Seen the sugar beet sown area and the production, Turkey is a country which has an important part in the sowing area and the production.

Import and Export in the World

As white sugar equivalent, about 50 million tons of sugar place in the foreign trade. In the period of 2009 /10, the ten countries which have the most export and import and the amounts of export and import are given in the table 4.

Brazil is the leader country in both production and export. It has a big part in the world sugar export. EU, India and USA take the first place in the import.

Table 4. The Ten Countries Which has the Most Export and Import in The World

In the world, the exporting and importing countries, 2009/2010 (Thousand Tons, White sugar equivalent)			
Exporting countries	Amount	Importing countries	Amount
Brazil	24.173	EU	3.422
Thailand	5.083	India	3.404
Australia	3.413	USA	2.277
EU	1.863	Russia	2.259
Guatemala	1.633	Indonesia	2.240
United Arab Emirates	1.569	United Arab Emirates	1.730
Colombia	902	China	1.610
South Africa	754	Algeria	1.440
Switzerland	727	Iran	1.403
Cuba	566	Canada	1.380

Source: The Future of Sugar, Şeker-iş Sendikası, 2011

Sugar Prices in the World

Supply and demand determine the sugar prices in the world. Speculation, oil and commodity prices, energy policy, exchange rate changes, interest rates, trade policies and agreements preference, inflation, political and financial turmoil, countries' economic situations are also important for determining the sugar prices. If the produced sugar's amount is lower than the demand, stocked sugar amount decreases. So this causes higher prices. The opposite of this event causes lower prices (T.Ş.F.A.Ş Market Report, 2011).

Table 5. White Sugar Prices in the World 2002-2010

Years	Fob european ports us $ / ton london stock exchange
2002	228,26
2003	213,75
2004	212,37
2005	275,61
2006	358,50
2007	321,40
2008	394,00
2009	485,46
2010	549,90

Source: http://www.pankobirlik.com.tr/Dosyalar/Resim/Istatistikler/d16.jpg. F.O Licht GmbH-2011

The cause of the permanent higher prices can be the policies which have been applied for 2001. But the policies aren't only factor which effect to prices. In the table 5, in 2009 and in 2010, it is seen that world sugar prices are very high. In these years, negative climatic conditions in Brazil which is the biggest producer in the world cause high sugar prices (Şeker-iş Sendikası, 2011).

Sugar Policies in the World

Food safety of sugar is provided by the government because sugar is an important nutrient and it has a floating price structure. But although sugar is an important nutrient, it isn't a basic nutrient like

rice, corn and grain. The governments apply to the sugar the same policies which they apply to these nutrients. These polices interventions guide the sugar markets. These interventions affect the global and local sugar prices, incomes and investment decisions. Sugar markets are out of the commercial arrangements GATT in Uruguay Negotiation (Bozdağ, 2007). Sugar policies of the development countries affect the developing countries. China, EU and USA's interventions to the world sugar trade effect international prices. A small part of other producer countries can protect the effects of those global markets. From OECD's (Organization for Economic Co-operation and Development) industrialized countries, only Australia opened its tariffs to the world in 1995. The policies and the target of the developing countries are different from these of the development countries. For example, Brazil tries to encourage raw materials' (sugar cane) production of the ethanol by restricting the export of the sugar. In many developing countries, the governments work as a public organization to save their sugar industries. In these countries sugar policies are formed to provide self- sufficient about the sugar. The countries like China and India pay the input subsidies directly from the state budgets (Larson and Borrell, 2001) (Bozdağ, 2007). So each country's sugar policies are observed on the basis of that country.

The Historical Development of Sugar Sector In Turkey

The Emergence of Sugar Sector and Policies Which Organize This Sector

The production of sugar in Turkey started in 19th century but in this study, the sugar sector is observed the sugar sector since the founding of The Republic of Turkey. Because the first sugar factory was set up after the declaration of Republic in 1923. In 1929, in the result of Big Crisis, The Young Turkish Republic did its first attack of industrialization. In this period, the industrialization is run by the state and "the three white" (flour, sugar and cotton) is focused on being produced in the country. The production of the sugar in the four factories since 1950, is enlarged with the development policy according to the agricultural sector and between 1951 and 1956, eleven new sugar factories were opened. This process has continued so far. With the growing population the number of the sugar factories has increased and also the more than thirty factories have been set in the sugar industry. As soon as the number of the factories increases, the production of sugar beet becomes widespread. So Türkşeker which is a state institution is set in 1935. Türkşeker is responsible for the costing of the production, the sales, the foreign trade and the by-product of the sugar which is produced by sugar beet. Each factory, which has just opened, support new cooperatives where farmers grow the sugar beet and sell this product to this new factory, operate. In 1972 Sugar Beet Growers Cooperative Central Union (Pankobirlik) was set by collecting these cooperatives.

Table 6. The number of the Sugar Factories in Turkey by Years

The Number of the Sugar Factories in Turkey by Years	
Years	The Number of the Sugar Factories
1930	4
1940-1960	15
1980-2000	30
2009-2010	33

Source: The Future of Sugar, Şeker-iş Sendikası, 2011

Since the establishment of sugar factories, the most important political change had been in 1980.

Since 1980, privatization has been started in 1980 in Turkey. The first step of the privatization of the sugar factories is taken with IMF's program which was put into effect in 1998. Dated 12.09.1999, for 17th Stand-By Arrangement in the letter of intent which is given to IMF, it is stipulated that sugar factories will be target to work with commercial purposes and treasury support will be withdrawn from Agricultural Sales Cooperatives Unions in which there is Pankobirlik. About one year later, in 18.12.2000 dated of the letter of intent which was given to IMF two months before the crisis in February 2001 privatization was determined as clear target (ÖNAL, 2010). IMF's program ended with the biggest economic crisis of Turkey's history in February, in 2001. But the privatization policies have continued in sugar sector. Privatization of all sugar factories were predicted in the program called "Transition to Strong Economy" which was prepared by the Finance Minister of that period, Kemal Derviş. With this program;

- In the first time in Turkey, the production of the starch-based sugar which is % 10 of the total sugar quota was allowed and the authority was given to the council of minister about 50% increase and decrease of this amount. (act 1),
- Business administrators who operate sugar factories, manufacturers and their representatives connected to an agreement about the purchase prices of sugar beet and the prices of sugar was released (act 5),
- An Institution of Sugar was set to organize the production of sugar and there was a group who were 7 people and some of them were private sector representatives in this institution (act 8),
- This Institution of Sugar has the authority about the total sugar production quota and the determination of the sharing this quota among the factories (act 9).

Nowadays the privatization of sugar factories haven't completed yet, it has continued. Although the privatizations in the sugar sector are postponed in Turkey, the domestic market has been still changing. With the cause of the quota of the sugar beet's production, the production of the sugar beet after 2001 is lower than before 2001. Besides of the quota of sugar beet's production since 2001; the convenience of the starch-based sweeteners was the factor which reduced the productions of sugar beet and sugar (Şeker-İş Sendikası, 2011).

The Production and the Consumption in Turkey

It is stated that both the production of sugar beet and sugar in Turkey has a very important part in the world. But the sugar beet sowing area and sugar production are observed by years, it is seen that the sector is affected by the policies.

When the table 7 is observed, it is seen that Turkey hasn't certain stability about the production and the yield of the sugar beet but the sowing area of the sugar beet has decreased in years because of the negative effects of "The Sugar Law". Although the planting area of the sugar beet has decreased, the yield hasn't decreased in the same rate. Yield tends to increase in spite of the yield fluctuations. These fluctuations affect the amount of the import and export.

Table 7. Sowing Area, Production and Yield of Sugar Beet in Turkey by Years

Sowing Area, Production and Yield of the Sugar Beet in Turkey by Years			
Years	Sowing Area (da)	Production(ton)	Yield (kg/da)
1998	5.044.930	22.282.539	4,448
1999	4.232.340	17.102.326	4.121
2000	4.100.230	18.821.033	4.611
2001	3.587.630	12.632.522	3.542
2002	3.724.680	16.523.166	4.444
2003	3.153.030	12.622.934	4.014
2004	3.153.440	13.517.241	4.290
2005	3.358.120	15.181.247	4.524
2006	3.256.995	14.452.162	4.464
2007	3.002.421	12.414.715	4.154
2008	3.219.806	15.488.332	4.829
2009	3.244.428	17.274.674	5.332
2010	3.291.669	17.942.112	5.459
2011	2.972.648	16.126.489	5.488

Source: TUIK, 2012

Import and Export in Turkey

The policies of the import and export in Turkey are determined with the rules of The World Trade Organization like all products. Besides these policies, the production of sugar and the fluctuations of the foreign exchange markets determine the import or export of sugar. With the policies which are formed through Market Access Commitments, in the export of sugar, the rate of %150 is determined for the import protection. And this rate was reduced by %10 in 2004. The rate of %135 for tariff has been given for the import of sugar since 2004. By years, the export and import of sugar beet is given in the table 8. The most important thing is that the export of the sugar beet has reduced since 2001. The import in the sugar industry doesn't mean that sugar sector is insufficient. The export of sugar in the industry consists of sugar which isn't produced in the sector or is special and is produced with a certain amount. But with the policies which is formed in the sugar sector it can be seen that Turkey has started to lose its characteristic of export in the table 8.

Table 8. The Export and Import of Sugar in Turkey by Years

The Export and Import of Sugar in Turkey By Years		
Years	Export (Thousands Tons)	Import (Thousand Tons)
2000	560.7	2.4
2001	858.8	0.6
2002	123.5	1.2
2003	188.1	0.7
2004	133.4	0.6
2005	8.1	3.9
2006	125.6	7.4
2007	38.5	4.2
2008	5.4	4.3
2009	5.1	4.3
2010	77.1	4.2

Source: The Future of Sugar, Şeker-iş Sendikası, 2011

The Prices of Sugar in Turkey

Turkey is an appropriate country for illegal sugar. Because while the prices of sugar are 370-400 $/ton, the prices of sugar are 950 $/ ton in Turkey. The world sugar prices are determined by the sugar which is produced by sugar cane. The price of this sugar is low because the cost of sugar which is produced by sugar cane is low. In USA and EU like in Turkey, the prices of sugar which is produced by sugar beet, are higher than the prices in the world market (Tuğcu; 2009). In the years, it is seen that sugar prices have increased on a current basis with The Sugar Law since 2001 when the privatization has been increased in the table 9.

Table 9. The Prices of Sugar in Turkey by Years

The Prices of Sugar in Turkey by Years	
Years	Prices(TL/kg)
2002/03	1,26
2003/04	1,43
2004/05	1,56
2005/06	1,45
2006/07	1,51
2007/08	1,62
2008/09	1,72
2009/10	1,78
2010/11	1,79

Source: Annual Report, 2012

Conclusions

The sugar sector is a strategic sector for all countries. Many countries want to product sugar as long as the climatic conditions are appropriate. The sugar is produced by sugarcane and sugar beet in the world. Although the production of sugar beet is more expensive, the countries (EU, Russia etc.) where the climatic conditions are appropriate for sugar beet prefer producing sugar by sugar beet to importing the sugar, because the development countries and the developing countries don't want to be dependent on other countries for sugar. Many countries' sugar polices are generally formed for these countries' self-sufficient. In this context, the public organizations which organize the sugar sector have an important effect.

Turkey has advantages for production of sugar beet due to climatic conditions. And these advantages have been developed with the investments in the sugar sector since the establishment of Turkish Republic. Because of these reasons, Turkey is a country which has been exported sugar so far. But Turkey has started to lose the role of export since 2000 when the effects of neo-liberal policies started to be formed in 1980s. The world sugar prices have intended to increase and The Middle East Countries like Turkeys neighbor Iran have entered in the biggest importing countries in recent years but decreasing the export in Turkey is an important loss.

The advantages of the sugar sector in Turkey are lost in the historical development because of the effects of neo-liberal policies. With this reason, the sugar policies which are specific to Turkey should be formed with the developments in the region and in the world. To evaluate current production potential, the reconstruction of the infrastructure which allows the export is so advantage for Turkey's economy.

References

Konyali, S. (2001). The Agricultural Policies Applied For Sugar In The EU And Turkey, And The Economical Aspects Of The Sugar Beet Agriculture In Thrace Region. Master Thesis. Tekirdag.

Seker-Is Sendikasi. (2011). Şekerin Geleceği, The Future of Sugar, Ankara.

Türkiye Şeker Fabrikalari A.Ş. (2010). World Sugar Sektor. Ankara.

Türkiye Şeker Fabrikalari A.Ş. (2011). World Sugar Sektor. Ankara.

Pankobirlik web site. Www.pankobirlik.com.tr (access date 19.10.2012).

Fao web site. http://faostat3.fao.org (Access date 19.10.2012).

Bozdağ E.G. (2007). Economic Events in Sugar Industry: European Union – Turkey. Ph.D. Thesis. Ankara.

Larson, D.F. ve Borrell, B. (2001). Sugar Policy and Reform, World Bank Research Working Paper, No:2602.

Önal, N. (2010). The 150 Years Story of Anatolia's Agriculture. İstanbul.

Turkish statistical institute web site http://www.turkstat.gov.tr (access date 19.10.2012).

Tuğcu, G. (2009). Evaluation of the Significance of Pankobirlik in the National Sugar Market In Terms Of Sugar Beet Producer within the Framework of 4634 Sugar Act. Master Thesis. Tekirdag.

The turkish sugar authority. (2012). Annual Report of 2011. Ankara.

ИСТОРИСКИ РАЗВОЈ НА СЕКТОРОТ ЗА ПРОИЗВОДСТВО НА ШЕЌЕР ВО ТУРЦИЈА

Бурак Озторнаци, Пурен Везироглу

Апстракт

Секторот за производство на шеќер е важен за сите земји во светот. И Турција е важна земја извозник. Но Турција започна да ја губи улогата на извозник од 2000 година. Оваа студија го анализира производството на секторот за шеќер во Турција од историски аспект, за да се разберат причините за овие промени.

Клучни зборови: производство на шеќер, шеќерна репка, сектор за производство на шеќер во Турција.

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Review Article

FOOD INSECURITY AND OBESITY; TURKEY AT A GLANCE

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Abstract
Obesity is arguably a worldwide threat due to the attention the subject has received in the last decade. Rates of food insecurity have arisen and thus a link made between both food insecurity and obesity. The impact of cheap, accessible high energy food is often strongly argued in explaining these trends.
Keywords: Obesity, Food, insecurity, Turkey.

Introduction

Obesity prevalence has been rising in the world recently. Factors such as age, gender, education level and nutritional habits, characterize obesity as a disease. Diabetes, cardiovascular diseases obesity are generally named non-communicable diseases. Obesity is both resulting and causing these diseases. Prevalence frequency of those kinds of diseases is high in low and middle income countries. The incidence of these diseases is rising significantly in the Eastern Mediterranean Region. It is estimated that the regional burden of disease attributable to non communicable diseases will rise to 60% by 2020. The national income projected to be lost due to non communicable diseases such as heart disease, stroke, obesity diabetes in the Region (WHO, 2010). In China, India both under nutrition and over nutrition are increasing; this is related to growing inequalities in income and access to food (Seidell, 2006).

It seems obvious that obesity rates are related to the higher prices of health foods. This situation requires regulation and revision about the obesity prevention politics. Nutrient dense foods such as meats, fish, vegetables and fruits cost more. We can say that there is an inverse relationship between nutrient dense foods and their costs. Energy dense foods which cost low are tasty. Food additives mostly used by industrial food manufacturers, these additives enhances flavor, blend and balance total perception of other tastes. Efforts have focused on removing the offending foods from the consumers reach. Fear of toxic food environment has led to proposed taxes on fats and sweets to both discourage consumption and promote alternative healthy diets, regulating the sale of competitive foods limiting, access to vending machines (Drewnowski and Darmon, 2005).

Major public health issue related to nutrition. In addition overweight children are much more likely to become obese adults and to suffer adverse consequences associated with excess weight including decreased work productivity increased health care costs disability and premature death.

Previous studies have suggested a link between obesity and food insecurity. Possible explanations include the fact that high-fat, high-calorie food products cost less than healthful food. In addition,

food insecure households may experience disrupted eating patterns (feast or famine) that can have metabolic consequences (Martin, and Ferris, 2007).

Food Insecurity

Food insecurity is a situation that exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life. It may be caused by the unavailability of food, insufficient purchasing power, inappropriate distribution, or inadequate use of food at the household level. Food insecurity, poor conditions of health and sanitation, and inappropriate care and feeding practices are the major causes of poor nutritional status. Food insecurity may be chronic, seasonal or transitory (FIVIMS, 2012).

Food insecurity has been defined as in access by all people, at all times to enough food for an active healthy life. We can define food security accessing healthy and adequate food at needed time. Therefore, the right to food cannot only be regarded as a means to achieve food security, but must be seen as a wider, more encompassing, and distinct objective in itself. Realizing the right to food should; furthermore, be part and parcel of rights-based approaches to development that aim to implement all human rights obligations which States have committed themselves to under human rights law (Mechlem, 2004). It is frequent in both developed and developing countries, affecting from 5% to 25% of the general population (Dastgiri et al., 2011).

A common conceptual framework of food security includes availability, access, and utilization as the 3 main dimensions that describe this condition. Typically, food availability describes the supply of food to a region or community, and food access refers to the ability of an individual or household to acquire food, either through market purchase or own production. Utilization describes the process of converting food to nutrients, which can be affected by gastrointestinal and other infections, common in places where sanitation is compromised. Low-income individuals, who often have difficult access to fresh fruits and vegetables, consume less of these foods and are more likely to be overweight than others. Neighborhood environments may contribute to this problem by providing insufficient availability of low-energy nutritious foods and excess availability of energy-dense snack foods. Shelf space has a promotional effect and large quantities of certain types of foods in neighborhood stores may affect social norms about what is acceptable to eat (Rose, 2010).

However, psychosocial factors, including maternal mental and physical health status, domestic violence, parental cooking and financial skills, parental education level, and familial social networks, also play roles in food insecurity (Bauer et al., 2012). The neighborhood food environment, broadly speaking, is also an underlying determinant of access in the sense that it affects the cost of purchasing an adequate diet. In neighborhoods without supermarkets, residents likely face higher prices for many healthy foods, because small stores typically charge more for items such as fresh produce (Rose,2010).

Obesity

Defining overweight and obesity is done by the two main types: adult obesity and childhood obesity. Diagnosing a person with obesity Body Mass Index is used. Body Mass Index (BMI) is a calculated number from a person's weight and height. BMI is an indicator for overweight and obesity. An adult who has a BMI between 25 and 29.9 is considered overweight, 30 or higher is considered obese (CDC, 2012).

There are various factors affecting obesity prevalence. Genetic factors play a lead role. Nonetheless, intake of unhealthy foods triggers rise of obesity prevalence. Genetic disorders influence may decrease with the help of healthy foods. Evidences suggest that food insecurity contributes obesity.

For this reason various factors may cause obesity but intake of healthy foods can change the path. Some illnesses and environment may lead to obesity or weight gain. Drugs such as steroids and some antidepressants may also cause weight gain (CDC, 2012). Some illnesses causes obesity on the other hand obesity causes illnesses, coronary heart disease, type 2 diabetes, hypertension, cancers etc.

More than 35% of U.S. men and women were obese in 2009–2010. There was no significant difference in prevalence between men and women at any age. In 2009–2010, 16.9% of U.S. children and adolescents were obese. The prevalence of obesity was higher among boys than girls.18.6% of boys and 15.0% of girls were obese (Flegal et al., 2012).

Morland et al. Inagami et al. have suggested that the availability of chain grocers is associated with fruit and vegetable intake and that limited access to chain grocers may be positively correlated with BMI (Chen et al., 2010). A number of these earlier studies documented that easier access to supermarkets, measured in a number of different ways, was associated with food consumption, particularly improved fruit or vegetable intakes or overall diet quality Supermarket access has also been shown to be negatively associated with obesity whereas easy access to convenience stores has been positively associated with obesity (Rose et al., 2010). As a result, disadvantaged residential neighborhoods are left with limited geographical access to food retailers, specifically those retailers that carry healthy and affordable foods.

Prevention

Centers for disease control and prevention organizes various obesity prevention programs. Including increasing physical activity in the community program, increasing the consumption of Fruits and Vegetables, Breastfeeding interventions, guides for local governments for reducing and prevent obesity, early assessment programs and policies to prevent childhood obesity (CDC,2012).

Programs like “Let’s move, family plans raising for health children, healthy meals resource system etc. are helping to prevent obesity and help individuals to be aware of obesity epidemic (USDA, 2012).

Obesity Economics

Obesity affects country economics directly or indirectly. Diagnose and treatment expenses are directly affects countries economy. Loss of work productivity and illnesses that obesity cause increases health expenses significantly. The cost of diagnosis and treatment of diseases named direct costs. Two methods have been used to calculate the direct costs of obesity:

- The fraction of incidence of diseases attributable to obesity multiplied by the costs of these diseases – total direct costs are the sum of these costs.
- The fraction of use of medical care attributable to obesity (e.g. excess consultations with general practitioners and medical specialists, excess hospitalization, excess medication) – total direct costs are the sum of these costs (Seidell, 2006).

Indirect costs are including loss of productivity, premature death and disability. These kinds of costs are complex to analyze economically. These costs are measurable; on the other hand some kind of costs affects individuals socially, mentally and physically.

Turkey at a glance

Every five years "Turkey Demographic and Health Survey (TDHS)" study is performed in Turkey. It can be seen from the results that obesity is increasing among female population. According to the results of the researches, overweight prevalence in15-49 age group women (BMI = 25-29.9 kg/m2) in1998, 2003 and 2008 was found as 33.4%, 34.2%and 34.4% respectively and the obesity

prevalence (BMI 30 kg/ m2) in 1998, 2003 and 2008 was found as 18.8%, 22.7% and 23.9% respectively. According to these results, obesity prevalence among females has been increasing 5.1% during the last ten years.

Diet quality of Turkish people differs according to regions, socio-economical status. Diet quality is a function of social class. We can say income is major determiner of diet quality. Turkish people's main food is bread and other grains. 44% of daily calorie intake is derived from bread only and 58% from bread and other grains. In years, the consumption of bread, milk-yoghurt, meat and meat products, fresh fruits and vegetables have decreased and but the consumption of legumes, egg and sugar increased. Although the amount of fat didn't differ significantly, more vegetable oil is used .In the last years in Turkey it was seen that fast food is the most preferred nutrition style especially among the children and adolescents in the urban areas. Fast food nutrition has high energy, rich unsaturated fatty acids and salt contents but poor in fiber, vitamin A and C and calcium contents so this type of nutrition leads to inadequate and unbalanced nutrition and increases the risk of chronic diseases such as obesity.

Though Turkey is currently on track to meet MDG 1c (halving 1990 rates of child underweight by 2015), it has seen a recent increase in adult obesity. Low-birth weight infants and stunted children may be at greater risk of chronic diseases such as diabetes and heart disease than children who start out well-nourished.To fight with obesity Turkey has established "Obesity Prevention and Control Program (2010 – 2014)". This program also related with food insecurity which is a cause and effect of obesity. Control program targets determining economical precautions within the budget possibilities by giving priority to the regions not developed socio-economically to improve the attainability of finding safe food which forms the basis for adequate and balanced diet in the country as a whole.

Conclusions

Preventing obesity and food insecurity is complex issue. Furthermore, government and individuals need to cooperate fighting with these issues. Multiple sectors including agriculture, education, health need to be involved and nutritious diets should have been accessible to all. First of all there is need to have strong evidence for policy. That can be possible by drawing together existing scientific information on the relationship between diet, physical activity and non communicable diseases and knowledge about interventions. Secondly, informing decision- makers and stakeholders of the problem about determinants, interventions and policy. Stakeholders need to agree on their roles and implementing a global strategy. Tailored policies and interventions for countries needed.

References

Bauer, K. W., Widome, R., Himes, J. H., Smyth, M., Holy Rock, B., Hannan, P. J., & Story, M. (2012). High Food Insecurity and Its Correlates Among Families Living on a Rural American Indian Reservation. American Journal Of Public Health, 102(7), 1346-1352.

CDC (2012). Access Date: 02.10.2012 www.cdc.gov

Chen,S.E. et al., (2010). Zoning for Health: The Obesity Epidemic and Opportunities for Local Policy Intervention. J. Nutr. June 2010 vol. 140 no. 6

Dastgiri, S.,Sharafkhani, R., Asl, R. G., PhD., & Ghavamzadeh, S. (2011). Prevalence, influencing factors and control of food insecurity: A model in the northwest of Iran. Asia Pacific Journal of Clinical Nutrition, 20(4), 613-7.

Drewnowski, A. and Darmon.,N.,(2005). "The economics of obesity: dietary energy density and energy cost". Am J Clin Nutr July 2005 vol. 82 no. 1 265S-273S
FIVIMS, 2012 Access date 01.10.2012 www.fivims.org
Flegal KM, Carroll MD, Kit BK, Ogden CL. Prevalence of Obesity and Trends in the Distribution of Body Mass Index Among US Adults, 1999-2010. The Journal of The Medial Association 2012;307(5):491-497.
Martin, K.S., Ferris, A.M. (2007). "Food Insecurity and Gender are Risk Factors for Obesity" RD Journal of Nutrition Education and Behavior Volume 39, Issue 1, January–February 2007, Pages 31–36
Mechlem, K. (2004),"Food Security and the Right to Food in the Discourse of the United Nations".European Law Journal, 10: 631–648.
Rose,D.,(2010). "Access to Healthy Food: A Key Focus for Research on Domestic Food Insecurity" J. Nutr. June 2010 vol. 140 no. 6 1167-1169
Rose,D.,et al.,(2010). "The Importance of a Multi-Dimensional Approach for Studying the Links between Food Access and Consumption" J. Nutr. June 2010 vol. 140 6 1170-1174
Seidell,J.C.,(2006). "Epidemiology and health economics of obesity" Medicine Volume 34, Issue 12, December 2006, Pages 506–509
USDA (2012). Access Date 02.10.2012
http://www.nal.usda.gov/fnic/pubs/bibs/topics/weight/childhoodobesity.pdf
WHO (2010). Access date 10.10.2012
http://applications.emro.who.int/dsaf/emropub_2010_1273.pdf

НЕСИГУРНОСТ ЗА ХРАНА И ДЕБЕЛИНА: ПОГЛЕД НА ТУРЦИЈА

Пурен Везироглу, Бурак Озторнаци

Апстракт
Дебелината е голем проблем во светски рамки. Тоа се потврдува и со вниманието кое оваа проблематика го добива во текот на декадата што изминува. Како што растеше несигурноста за храна се создаде поврзаност помеѓу несигурност за храна и дебелината. Влијанието на евтината и достапна храна со високи енергетски својства, често се смета за одговорна за овие трендови.
Клучни зборови: Дебелина, храна, несигурност, Турција.

UDC:631.147:711.3(497.11)
Expert paper

ORGANIC FARMING - OPPORTUNITIES AND CHALLENGES FOR SUSTAINABLE RURAL DEVELOPMENT IN SERBIA

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Abstract
The organic production system dominant economic principles were brought into the best possible compliance with environmental requirements. This production is based on the rational use of natural resources, renewable energy, and conservation of the natural diversity of flora and fauna and the environment. It contributes to the biological balance of the soil-plant-animal. Most area under organic production in the world, is located in Australia, 12,1 million hectares, or 33% of the total area under organic production, followed by Europe with 10 million hectares or 27%, Latin America with 8,4 million hectares, or 23%. Much smaller role play Asia with 2,8 million acres, or 7%, North America with 2,8 million hectares or 7% and Africa with only 1,1 million acres, or 3%. In recent years, with the aim of improving organic production, the competent state authorities in Serbia have adopted a series of measures to legally regulate the sector, promote and implement effective control system. Despite numerous advantages for development, it should be noted that this system is suitable for the production of certain areas of our rural areas where the fragmentation of landholdings expressed. It is the main goal of this paper is to assess the potential for organic production incentives and opportunities of development of other economic activities in order to revitalize the village and the sustainability of rural Serbia. Basic economic and environmental determinants are defined using SWOT analysis.
Key words: organic products, rural areas, sustainable development.

Introduction

Relations between agriculture and nature are increasingly directed towards mutual development on an ongoing basis. Systems and methods of agricultural production that are contrary to the usual - traditional or conventional production, known as alternative, ecological, biological or organic farming (Kovacevic et al., 2005). Based on the rational use of natural resources, renewable energy, conzervation of the natural diversity of flora and fauna and the environment. It contributes to the biological balance of the soil-plant-animal. In fact, the organic production system dominant economic principles were brought into the best possible compliance with environmental requirements (Sredojević e*t al.*, 2000, Sredojević 2002). In recent years, with the aim of improving organic production, the competent state authorities in Serbia have adopted a series of measures to legally regulate the sector, promote and implement effective control system. Despite numerous advantages for development, it should be noted that this system is suitable for the production of

certain areas of our rural areas where the fragmentation of landholdings expressed. It is the main goal of this paper is to assess the potential for organic production incentives and opportunities of development of other economic activities in order to revitalize the village and the sustainability of rural Serbia. Basic economic and environmental determinants are defined using SWOT analysis.

Material and methods

For any research in this paper used the data of statistical records in Serbia, and publications evidanije FIBL's, then records of the Ministry of Agriculture, Forestry and Water Management of Serbia, sites of major institutions, manufacturers and distributors of organic food sources of domestic and foreign magazines and other publications, and by anecdotal evidence from the field in practice. In analyzing the dates are utilizing statistical parameters and methods, as well as a SWOT analysis. Results are expressed and value and interpreted through relevant economic indicators.

Results and discussion

Condition and performance development of organic farming in the world and the EU

According to economic indicators, today organic production is becoming increasingly important. Its significance can speak with several aspects: protection of natural resources from pollution, preservation of biodiversity, and increase long-term maintenance of soil fertility, protection of consumers, the possibility of sustainable socio-economic development of rural areas and others. The emergence of new products and services, the purchasing power of consumers, the competitiveness of the market participants and other factors have more influence on the profitability of this production, their effects on the rates and determine the position of the market. That is why more and more talk about: the quality of the final product, the quality of coverage of the entire process of production and environmental quality. Organic agriculture in the last decade was a lot of fast-growing, while the share of land under organic production continues to rise in many countries. Areas under this form of production in the world amount to more than 37 million hectares (http://www.organic-world.net/yearbook-2012). Looking across the continents, according FIBL data from 2012, the bridge area under organic production in the world, is located in Australia, 12.1 million hectares (Australia and over 12 million hectares and New Zealand with 124,463 ha), or 33% of the total area under organic production, followed by Europe with 10 million hectares or 27%, Latin America with 8.4 million hectares, or 23%. Much smaller role play Asia with 2.8 million acres, or 7%, North America with 2.8 million hectares or 7% and Africa with only 1.1 million acres, or 3% (http://www.fibl.org / en.html). With more than 56% of the population living in rural areas (91% of the territory), rural development policy is an area that is vital to the EU. Strengthening of EU rural development policy is, therefore, an important priority for the EU. The policy provides the highest standard of environmental protection in agriculture and forestry as well as other, similar, activities.

The current policy of the EU is based on the following principles: multi-functionality of agriculture, multi-sectoral and integrated approach to the rural economy, diversification of activities, creating new sources of income in rural areas, expansion of employment opportunities, protection of resources in rural areas, decentralization, partnership at local and regional level, transparency in creating and managing development programs. EU Common Agricultural Policy (Common Agricultural Policy, the so-called. CAP) has undergone a series of reforms, which is the role of organic farming in the rural development of agricultural production became increasingly important.

Also, more importance is given to the mechanisms of financial support to organic farming, which are part of the EU rural development policy (Council Regulation 1698/2005). All funding for organic production were made possible through the three priorities of rural development, where organic farming meets all the requirements necessary for this kind of help.

The first priorities are: competitiveness, investment in farms during the conversion, training, investment in processing and marketing.

The second priorities are: payments to agriculture and environment measures (payments per unit area of organic production).

The third priorities are: invest in quality of life and economic diversification (eg, opening stores of organic products in rural areas). The main sources of funding for pre-accession countries in the period 2007-2013, relating to rural development, are the funds from the IPA (Instrument for Pre-Accession Assistance). IPA consists of five components: institutional development, regional and cross-border cooperation, regional development, human resource and Rural Development (IPARD). All the above mentioned components can use the candidate countries, and only the first two components are intended to potential candidates. Development of organic farming can contribute to clusters as "geographically concentrated groups of interconnected companies and institutions of certain activities." The formation of clusters is more, both narrower and broader, goals. Broader goals include: increasing the competitiveness, support to small and medium-sized enterprises, a policy of regional economic development and others. Among the immediate targets of concern include a group of companies, associations, business bodies, education, technology and knowledge transfer, exchange, competition, partnership enterprises and social infrastructure. The success of clusters depends on the ability of its members to develop mutual trust, are functioning together, forge partnerships, collaborate and use the options on offer. Clusters provide insight into vulnerability, as well as the ability to overcome them. Through the process of conducting business, manufacturers should be aware of the importance of continuous improvement, the use of new knowledge and technologies, increasing productivity and quality, the introduction of EU standards, the conquest of new markets. Cluster initiatives promoting innovative activities and enhance the quality of the work is based on a shared partnership.

The European Union has recognized the need for new investments in rural development dynamics in order to improve the efficiency of rural policy. In addition to primary agricultural production, the importance of which in rural areas is increasingly declining, opportunities for new activities, service sector etc. Maybe in the future urban exodus appears to rural areas. The village is offers the possibility of organizing a variety of production and living room permanent and occasionally enjoy the natural beauty and landscapes. These are the main trends in the development of rural Europe in the future. Rural development planning, in essence, is a process, which is based on research, which aims to optimize its potential contribution to economic prosperity and quality of human nature /environment. It performed on several levels in accordance with the character of economic activity with particularly important question of finding a balance between different levels of organization. Rural development has also a number of specific features - creating a balance between supply and demand, or total capacity (physical and other) in order to minimize conflict and the exploitation of natural solid foundation for the development of the economy, without degrading the environment. One of the basic prerequisites for successful planning and management of sustainable rural development is the active involvement of village communities and local people in the process. This

involvement is necessary because the natural environment is an important factor in the overall quality of life in rural areas.

The focus is primarily the relationship between the public and private sectors, and between the government and bodies, on the one hand, enterprises and other organizations that are directly and indirectly involved in rural development, on the other hand. The goals may be different: diversification of production, increasing employment, restoring traditional houses and buildings and others. Creating the necessary conditions to meet the needs, demands and desires of visitors. It is understood that rural development should lead, on the one hand, an increase in employment related to the provision of products and services for tourists and, on the other hand, to provide additional revenue for existing employees based on seasonal employment.

Organic production sector in Serbia

The fact to which attention should be paid is to develop organic production lot viewed from the aspect of European integration that Serbia wishes. Development of the sector of organic production in Serbia began in the 90s of the last century. Terra's Association in Subotica brought together producers, advisors, peoples from science and practice.The primary department at the Open University in Subotica. This association is actively working to promote organic farming in accordance with the standards of IFOAM and already in 1992 became a member of the foundation. Due to difficult economic and political circumstances and only after the political change after 2000 years, the low on Organic Agriculture and established the first certification bodies. It was later amendments and new laws and in accordance with EU standards. This law and regulations in detail, all issues related to organic production methods, control and certification, processing, storage, transportation, marketing and labeling of organic products. Compliance with standards prescribed by law and the conditions of production, processing, storage, transporting and labeling of organic products is under the supervision of the state government.

To steer their farms to organic production methods, farmers are required to indicate in advance the potential risks and opportunities for their avoidance or mitigation. Among a number of risks, in terms of economic viability and incentives for organic production, it is important to be quite realistic estimate: Will the current level of sales prices resulting products will be able to make up for lost benefits resulting from reduced production volume? Will the level of demand for organic products obtained can provide the appropriate level of profit? Whether and to what extent their fast forwarding to the organic production method enabled agricultural policy incentives, additional subsidies and the like? Therefore, it is necessary to draw up before the manufacturing process planning kalkuacija cost per unit of a planned product. In essence, it is necessary to plan the production cost per unit of yield: material - seed, fertilizer, etc.; Work mechanization, labor workers, insurance premiums, interest, contributions, etc. Based on findings of the cost, can provide an answer to the question: What is the lowest selling price of the finished product which is, in terms of producers, organic farming would be economically viable? As long as the cost is lower than the sales price, production is acceptable. What is the difference, the sooner the production is carried out with greater economic success. However, as the selling price of a product will be higher than the cost depends on competitiveness, supply, demand, parity, etc.

Association and the creation of an association of producers are also of great importance for efficient organic production. Benefits are as follows: savings in procurement of raw materials and production; savings in transport; savings in storage of goods; easier placement of goods in the market; favored in obtaining grants and borrowing. In this sector, in this day and age are active in

Serbia following associations: National Association of Serbia Organica, www.serbiaorganica.org; Green Network of Vojvodina, www.zelenamreza.org; Terras, www.terras.org.rs; Assocaition for Biodynamic production, www.biodinamika.org; NGO Natura Balkanika www.balkanika-crd.org; Organic www.organskasrbija.org.rs Serbia; Centers for Organic production in Selenca, Valjevo, Svilajnac and Leskovac, www.organiccentar.rs. Also, today in Serbia has more organization authorized to issue certificates or resertifikata for organic products, "SGS - Beograd" Ltd., "Evrocert" doo, "Bioagricert" doo, "Ecocert Balkans" doo, "Jugoinspekt Belgrade", "e Suolo salute the Balkans "," PANCERT ", Novi Sad;" Organic Control System ", Subotica.

Necessary for Serbia is, guided experience of developing countries, the application of the cluster concept to overcome the problems that led to the decline of the domestic product and national income, and that to successfully cope with international competition.

Specifics of the regions in Serbia and possibilities for organic farming

There are plenty of strong arguments in favor of creating the conditions for greater representation of organic agricultural production in Serbia. The country has natural resources, both in the plains and in mountainous areas, which can meet the requirements for the establishment of long-term organic agriculture. Then, there are social reasons that are reflected in the steadily rising unemployment, increasing poverty, migration to cities, etc.. Introduction of organic farming in Serbia, too, is a long-term requirement for the production of valuable biological products in the function of protecting human health and environmental protection as well. Looking at the specifics, and sorted according to altitude (from the lowlands to the highlands), given the generally characteristics of individual queen of Serbia.

The first region includes Vojvodina and Macva. This region is home to more than 1.5 million people, or about 37% of the total population of rural Serbia. This is a region with a well-developed economy, good infrastructure and povezanan with large centers - Belgrade and Novi Sad. Because of this, appealing to the younger population of the population coming from remote areas, and the age structure is more favorable compared to other rural regions. Although, as a result, employment in the tertiary sector is high, about a third of the employed population still works in agriculture. About one-third of households in Serbia, whose size greater than 10 ha, is located in this region. Organic food production in this region has been present since the early 90's.

The second region includes parts of central Serbia, Sumadija, part Mačve and Stig. About 15% of the total population in Serbia is living in the territory. Despite the fact that the average population density is better than in other rural areas, the problem is the high rate of population aging. Compared with Vojvodina, the region is characterized by a larger number of mixed farms and fewer non-farm households. In this area are more present holdings to 3 hectares and quite a small number of farms of over 10 ha. Representation of primary production is about 33% and was lower compared to other rural areas of central Serbia. The agricultural production is dominated by production of vegetables, fruits and livestock. In addition to agriculture, an important role is chemical and food processing, machinery, and textile industries.

Agricultural land covers 64% of the total territory, and although the relationship between labor and capital less favorable than in Vojvodina, the productivity is higher than in other rural areas of central Serbia. About 60% of arable land is used for the production of corn, which is almost entirely used for livestock feed. About 24% of cattle and as many as 30% of the total production of sheep production in Serbia are take place in this region. Engaged in cattle breeding and dealing with

smaller farms, for which the revenue from the sale of milk, the main or only ordinary income households.

Given that the total area under orchards in Serbia represented the region at 30%, traditionally a significant part of its revenue from the production of fruits and grapes. And the food industry is well developed in the structure is dominated by slaughterhouses, factories for processing fruits and vegetables, mills and dairies. From ukupng number of farms oriented to organic production in Serbia (317), in the region of more than 160, and this number is steadily increasing. This rural area is increasingly gaining in importance.

The third region includes the east, south and west and Serbia with 42% of the total territory of Serbia is the most rural region, and is generally characterized by abandoned land potential, shortages of labor, unorganized market and lack of services for specific regions. This area has 20% of the population of Serbia, but the average population density is the lowest compared to other rural areas. Every third resident adults have not completed primary education, the employment rate of the most disadvantaged in the country, and more than 35% of the employed population working in the primary sector, particularly in agriculture and mining. Realized gross domestic product per capita is only 53% of the national gross domestic product, and given the high share of primary sector, the region formed nearly 19% of GDP primary sector of Serbia. However, the national domestic product of the secondary sector, the region is represented by only 10%. Agricultural areas make up 55% of the territory, but low productivity due to modest investment holdings and equipment.

The specificity of this region has a high percentage of unused land, especially in the southeastern part of, and the reasons are unfavorable age structure of the population, lack of adequate machinery, unavailability of land and poor soil quality. Besides wheat, the major vegetable production and whose are growing raspberries in the forefront Zlatibor District, which deviates from the average in the region and cattle breeding, and the Raška district is the largest sheep growers in the country. Although the region has the greatest potential for tourism in Serbia, where some destinations like Zlatibor, Kopaonik, the Vrnjačke Spa or Guče make up over 60% of the turnover of the national tourism infrastructure problems unsolved, cause continuous depopulation of the region, its economic marginalization and a rural poverty. This is particularly pronounced in southeastern Serbia. Therefore, it is necessary to develop some other activity outside the primary agricultural production in order to execute the revitalization of the village.

Courts of the districts under certain angle, intersected, rivers and streams, with special relief, climate, vegetation, flora and fauna. This contains the largest forest, water and mineral resources. The dominant production in this area is farming. Transport and road networks are poorly developed in addition to the small goods, and limited retail market. A special feature of this area is the depopulation of villages, where almost all the municipalities affected by depopulation. Leaving the mountainous areas is still in progress. Given that within the zone are mostly natural beauty and areas suitable for winter sports, this area is very suitable for tourism development. In addition, we offer rural areas poljorivredno market - food, fruit, wood products, industry and handicrafts, these are the places for vacation, tourism and life.

Production of organic products and rural development has theirs causal relationships. They are, on the one hand demonstrate that the micro scale at the company level. On the other hand they have a general macroeconomic and social dimension.

The results of their relationships are reflected through: increased production of safe products, more appropriate land use and the risk of its excessive overutilization; employment of labor;

rehabilitation, recovery and development of rural tourism, changing traditional concepts and others. Organic production as a factor in the rural economy, making a significant contribution to the development of other related activities and that the details given SWOT analysis in Table 1.

Table 1. SWOT analysis of organic production aimed at the sustainability of rural Serbia

Strength	*Weakneses*	*Opportunities*	*Threaths*
Favorable natural resources for organic production	Under-representation of organic production	Rational use of natural resources and environmental protection	Lack of legal measures for the conservation of natural resources
Favorable conditions for the development of rural tourism	Insufficient infrastructure development	It provides the opportunity for revitalization	Unstable social conditions for the attraction of tourists
The tradition of environmental origin of specific products	Insufficient accumulation of organic agriculture	Development of secondary activities in the country	Unsure organic product placement
High unemployment and relatively cheap labor force in the country	Indifference to work in agriculture	Reducing social tensions	Labour shortages in the countryside
A large number of experts	Lack of employment in the profession	Better linking local communities	Lack of marketing education
Increasing organic products asortmana	The decline in purchasing power in the country	Exports of organic products and new markets	Further decline in the purchasing power of consumers in the country
The interest of foreign investor	Failure to comply with legal regulations	Compliance with the standards of developed countries	Investment risk and uncertainty of return
Made the National Action plan	Insufficient investment in ancillary activities-tourism, sports and others	Promote local and regional infrastructure	Gaps in control of funding priorities
Solving the existential problem of young people	Lack of financial support fo the development of organic farming	Making plans for development in certain regions of Serbia	The adverse sex structure in the countryside-the devaluation of the family
Organization of training for the production, processing and distribution of orga products	Unfavorable strategies of local communities to financ priority activities	Raising environmental awareness in the population diet	Depopularizacija villages and distrust of the political agenda

Serbia has the natural potential for producing organic food. Stages of production and sales of organic products require specific handling - detection of needs, ideas (new knowledge, development production plans, technical implementation, and product launches). How much will be a manufacturer, local communities or the entire state to deal with organic production is a question that is hard to answer. At the level of the narrower or wider region, it is a matter of strategy development, and at the producer level - individual or association of manufacturers, it is a matter of business decisions.

Support measures for organic production in Serbia

According to the Ministry of Agriculture, in Serbia there are 153 registered farms that hold organic production and 164 farms that are in conversion or total of 317 oriented to organic production. Support policies are implemented through several types of incentives: direct, structural and market. Direct incentives include: bonuses, incentives for production, regression and support non-commercial farms. Market incentives are: incentives for export, storage and loans. Structural incentives are a form of incentive that includes measures of rural development, improvement and protection of agricultural land quality and extent of institutional support. All the above forms of incentives could be determined under different conditions and in different degrees, depending on whether you are the regions with difficult working conditions in agriculture.

The right to use the incentives under the conditions defined herein have farms that are registered farms, local governments, local communities and other forms of local governments, and other persons and organizations in accordance with the law. Family farms are the main form of organization of agricultural production. Depending on its economic strength may be commercial or non-commercial. The local governments in Serbia are mainly active assistance of the Office for the village and / or the Office of the aid to farmers in different organizational forms. In most cases, the local government there is an office that helps the development of agriculture and rural areas, and it is usually employed by one person. The offices are mainly employed professionals with a university degree (agricultural engineers, veterinarians, etc.). Fundamental observation is that the one employed in the field of rural development / agriculture is not possible to make significant progress in rural development or agriculture. Following the adoption of the Law on Agriculture and Rural Development, local governments have begun with the establishment of local funds for the development of agriculture, which generally have some measure of support to rural development. Most local governments in Serbia have strategic development plans in which agriculture is recognized or rural development as a priority. However, the main problem of existing strategic plans that are not fully developed and do not have plans of action and are therefore unenforceable. In most cases there is no monitoring and evaluation of existing plans.

At the proposal of the Ministry of Agriculture, Trade, Forestry and Water Management, the Serbian government adopted a decree on the use of financial incentives to support the development of organic farming in 2012 current year

http://www.mpt.gov.rs/?lang=lat&menu_id=7). The right to use the stimulus fund has individuals-the registered holders of domestic commercial agricultural farms, companies, cooperatives, contract manufacturers (persons with whom the producers involved in organic production have concluded a cooperation agreement) and educational - educational institutions. Requests for use of stimulus funds submitted to the Ministry of Agriculture, Trade, Forestry and Water Management - Directorate for Agrarian Payments. In the case of delivery or confirmation of inaccurate information, the beneficiary loses the status of active and passive status acquired the farm in accordance with the law, the obligation to repay the amount received stimulus funds that are accounted for, legal interest.

This decree stipulates the conditions and manner of use of financial incentives to support the development of organic production. Incentive funds are used to support the development of organic farming systems, including: agricultural, vegetable and fruit and wine, which is done indoors (in greenhouses), regardless of the surface of the interior space, as well as open space for farming and vegetable production area must be at least 0.2 hectares, and for fruit and grape production area of at

least 0.3 hectares, as well as support the development of organic livestock production. The right to use stimulus funds, under the conditions laid down in this Regulation, has: a physical person - holder of the domestic commercial agricultural holdings; company, agricultural cooperatives, contract manufacturers, educational institutions of learning. Under contract manufacturers in terms of these regulations, shall be a person with whom the manufacturer, which is engaged in organic production for the needs of organic, concluded a cooperation agreement, which performs a similar type of organic production, and the production units, the area of collector are in the same geographic area. A person who is registered in the Register of Agricultural Holdings in accordance with the Regulations on the manner and conditions of registration and management of a Farm, has the right to the use of financial incentives, if the reported data on agricultural crops on agricultural land that relate to the current year, the type of and number of animals and farms where animals are kept or bred in accordance with the Rules of the authorized control organization concluded an agreement on control and certification of organic production, which is valid in the current year, that is not the same size raises funds for reimbursement of materials for agricultural and vegetable production on the basis of the Regulation on the conditions and manner of use of funds for reimbursement of materials for crop and vegetable production in the same year, was settled due to its obligations under the regulations governing the development of measures to boost agricultural production in the case of a lease of agricultural land has contract with a natural or legal person, the land owned by the state with the ministry responsible for agriculture until at least three years over the next three years on the cadastral parcels where organic farming is done for you to exercise the right incentives, applied organic production methods in accordance with the law governing organic production.

Applicants who have a manufacturing plant located in conversion eligible for incentives to support the development of organic farming in the amount of: 36,000 RSD/ha for crop production (cereals, industrial crops, medicinal and aromatic plants); 50,400 RSD/ha for vegetable production; 64,800 RSD/ha for fruit and grape production. The total amount of incentives by the applicant can not be more than 1,200,000 RSD. Applicants who are certified to produce organic plant or a plant production which was completed conversion period and are in the process of issuing certificates eligible for incentives to support the development of organic farming in the amount of: 30,000 RSD/ha for crop production (cereals, industrial crops, medicinal and aromatic plants); 42,000 RSD/ha for vegetable production; 54,000 RSD/ha for fruit and grape production. The total amount of incentives per applicant of such requests can not be more than 1,000,000 RSD.

Applicants who have livestock production, which is in the conversion eligible for incentives to support the development of organic farming in the amount of 21,600 RSD per head of cattle (for at least 4 animals); 7,200 RSD per head of sheep (at least 10 animals); 720 RSD per head of poultry (at least 100 individuals); 2,800 RSD per hive (for at least 30 hives). The total amount of incentives per applicant of such requests can not be more than 1,200,000 RSD. Applicants who are certified for organic livestock products and livestock production have been completed by the conversion period and are in the process of issuing certificates eligible for incentives to support the development of organic farming in the amount of: 18.000 RSD per head of cattle (at least 4 animals); 6,000 RSD per head of sheep (for at least 10 animals); 600 RSD per head of poultry (at least 100 individuals); 2,400 RSD per hive (for at least 30 hives). The total amount of incentives per applicant of such requests cannot be more than 1,000,000 RSD.

The possibility of directing our agriculture to sustainable development systems must be viewed as

part of the transition to a market economy in relation to technical, technological and economic power of the state. In this sense, the construction of such systems need to set priorities, primarily at the state, but also at the regional level, with the difference in quality and greater variety of agricultural products. The expansions of organic farming contribute to the modern understanding of ecology and its importance in our lives. To achieve this, we need to be working on developing environmental awareness through education of staff whose will be in future work on improving agricultural production.

Conclusions

Organic production in Serbia is more popular and economically significant, and thanks potentials that are primarily reflected in the fragmented and owned land that is not contaminated with harmful material this type of agriculture can contribute significantly to the development of rural areas, and thus agriculture in general. This is why organic farming, as one of the priorities of agricultural development and an integral part of the strategy for rural and agricultural development in the Republic of Serbia. The unfavorable general picture of agricultural production in our country is influenced by many factors, the most significant being a small farm area, high production costs, "svaštarenje" lack of information about the market, and therefore inconsistency choice of plant species for cultivation and demand, lack of quality standards disorganization and manufacturers. In addition, our manufacturers procure our raw materials at unfavorable prices, which could affect the final price of the product and their lack of competitiveness in the market. Since few of them organized in associations, self-producer who comes out on the market can not have a continuity of supply of goods, their quantity, and sometimes quality that requires large retailers and processors. Accepted criteria for assessing the effects of organic products are: originality, value added, return on investment, fit with existing activities, creativity and innovation, increased market share, projected cash flow and profitability. Organic food production in all developed countries is booming. In our country it will develop in the future, regardless of whether and how much the state support. Development of organic pproizvodnje should contribute to the optimal use of natural resources, increase local production and improve the overall status of the population in rural areas. Long-term, organic farming could contribute to closing the gap between rich and poor regions, as well as in achieving stability in production.

Note: The paper is part of the research projects number: 46009 - Promotion and development of hygienic and technological processes in the production of foods of animal origin in order to obtain high-quality and safe products competitive on the world market and the 179028 - Rural labor markets and rural economy of Serbia - the diversification of income and poverty reduction;46006: "Sustainable agriculture and rural development accomplishing the strategic objectives of the Republic of Serbia within the Danube region, "an integral and Interdisciplinary Research funded by the Ministry of Education and Science of the Republic of Serbia, in period 2011-2014.

References

Kovačević D., at el. (2005). Organska poljoprivredna proizvodnja. Monografija, Poljoprivredni fakultet, Beograd – Zemun.

Sredojević, Z., Milić, D., Živković, D. (2000). Regional aspects of agricultural production in the FR of Yugoslavia in the function of sustainable development. International agriekonomic scientific days, Győngyős, Vol. 47, pp. 106–110.

Sredojević, Z. (2002). Ekonomski problemi ekološke poljoprivrede – monografija. Poljoprivredni fakultet, Beograd.
The World of Organic Agriculture. (2012). Statistics and Emerging Trends 2012. http://www.organic-world.net/yearbook-2012, Accessed on: 12/10/2012.
http://www.mpt.gov.rs/?lang=lat&menu_id=7, Accessed on: 10/10/2012.
http://www.fibl.org/en.html, Accessed on: 8/10/2012.

ОРГАНСКО ПРОИЗВОДСТВО - МОЖНОСТИ И ПРЕДИЗВИЦИ ЗА ОДРЖЛИВ РУРАЛЕН РАЗВОЈ ВО СРБИЈА

Зорица Средојевиќ, Наташа Кљајиќ, Небојша Новковиќ

Апстракт
Доминантните економски принципи на органскиот производствен систем беа донесени во најдобра можна согласност со еколошките барања. Ова производство се базира на рационална употреба на природни ресурси, обновлива енергија и зачувување на природната разновидност на флора и фауна во животната средина. Тоа придонесува за биолошки баланс на почва-растенија-животни. Најголемата област под органско производство во светот е лоцирана во Австралија, 12,1 милиони хектари или 33% од вкупната област под органско производство, следена од Европа со 10 милиони хектари или 27%, Јужна Америка со 8,4 милиони хектари или 23%. Доста помала улога има Азија со 2,8 милиони хектари или 7%, Северна Америка со 2,8 милиони хектари или 7% и Африка со околу 1,1 милиони хектари или 3%. Во последните години, со цел да се подобри органското производство, надлежните државни ргани во Србија имаат усвоено серија мерки за легално да го регулираат секторот и да промовираат и имплементираат ефикасен систем на контрола. И покрај бројните предности за развој, треба да се напомене дека овој систем е соодветен за производство во одредени области во нашите рурални области кадешто има изразена раситнетост на земјиштето на фармите. Тоа е и главната цел на овој труд да го процени потенцијалот на иницијативите за органско производство и можностите за развој на други економски активности за да се ревитализираат селата и одржливоста на рурална Србија. Основните економски и еколошки детерминанти се дефинирани со употреба на SWOT анализа.
Клучни зборови: органско производство, рурални области, одржлив развој.

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PERFORMANCE INDICATORS OF MACEDONIAN AGRICULTURE

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Abstract
The aim of this paper is to analyze the state and performances of Macedonian farms, through relevant indicators from available sources. A combination of available sources was used in order to assess the development of the Macedonian agriculture set at medium-run time span, from 2005 to 2011. The agricultural sector is important in the Macedonian economy, both in terms of value and employment of the rural workforce. The utilized agricultural area follows the decreasing trend, from 546 thousand hectares in 2005 to 511 thousand hectares in 2011, but this decline was somewhat amortized by the generally increasing trend in yields. The farm stucture is composed of a large number of mostly small family farms and small number of agricultural companies. Most of the value of agricultural production is created at family farms; sector value of agricultural production reached 76 billion denars in 2010. The net entrepreneurial income in real terms kept a slow, but steady upward trend. The number of farms with a farm gross margin of less than 100 thousand denars has decreased in the FMS farm sample, an annual survey, from 33% in 2005 to 23% in 2011, whereas the number of farms with farm gross margin over million denars increased over time, to about 10% of the sample. The output versus specific inputs ratio is positive on average farm level in the FMS sample in all regions, farm types and economic size groups; the gross margin coverage ratio in the average farm situation in 2011 indicates that 47% of the income is used to cover the specific costs.
Key words: Macedonian farms, indicators, economic performance, development.

Introduction

Agriculture is the third largest sector in the Macedonian economy in terms of participation in the national Gross Domestic Product (GDP), with around 10% share, or 15% share if the processing industry is added. Additionally, this sector is important as major employer of the workforce, and also provides social cushion for majority of the rural population; the agricultural sector (including hunting, forestry and fisheries) employed 121 thousand persons or 18.43% of the employed population in 2011 (SSO, 2012).

The Macedonian farm structure is composed of family farms and agricultural enterprises; the Agricultural Census in 2007 (SSO, Ag. Census, 2012) recorded a total of 192,675 farms, out of which 192,378 family farms and 297 are registered as agricultural enterprises. Family farms use 55.8% of the total agricultural area (or 91.5% of the utilized area), while agricultural enterprises and cooperatives use 44.2 % of agricultural land (or 8.5% of the utilized area) (SSO, 2011). Pastures account for about half of the agricultural land with around 600 thousand hectares; pastures are

mostly owned by the state and agricultural enterprises are the biggest users. The average size of family farms is approximately 1.47 hectares; Macedonian farms are highly fragmented and the largest group cultivates less than 0.5 hectares. This structure contributes to the ineffective use of agricultural land (MAFWE, 2012).

The objective of this paper is to analyze the state and performances of Macedonian agriculture, in the medium-run period through available indicators. Following the introduction, the applied method is described. The results are presented and discussed subsequently, and the conclusions are drawn in the end.

Material and methods

A combination of available sources was used in order to assess the development of the Macedonian agriculture in the short-run, both in physical and economic terms. The major source of data was the State Statistical Office that provided annual data regarding production and technical figures; the Economic Accounts in Agriculture – EAA were used as a major source indicating the value of agricultural production; the structure and typology of farms was drawn from the Farm Structure Survey - FSS; and finally the economic performance of farms was assessed through the data from the Farm Monitoring System – FMS, Farm Monitoring System, an annual survey conducted in line with FADN methodology, carried out by the National Extension Agency.

The period subjected to analyses was set at medium-run time span, depending on the data availability (2006-2010 EAA, 2011 FSS, 2005-2011 FMS).

Standard analytical methods are applied, with index numbers theory and descriptive statistics where applicable. For micro-economic data i.e. determination of the gross income of Macedonian farms the gross margin method was applied, calculated as the difference between the farm output and specific costs. The concentration of farms in terms of land and gross margin was estimated using the Gini and Herfindahl coefficient.

Results and discussion

Physical and technical indicators of agricultural production

Out of the total country area of 2,571 thousand hectares, the share of agricultural land has noted a fall from 1,229 thousand hectares (or 47.8%) in 2005, down to 1,014 thousand hectares (or 39.4%) in 2009, hence recuperating slowly to 1,120 thousand hectares (or 43.6%) in 2011. The utilized agricultural area follows the decreasing trend, from 546 thousand hectares in 2005 to 511 thousand hectares in 2011 (SSO, 2011). Similar pattern is followed by the arable area, which takes up to 80% of the agricultural area, decreasing from 448 thousand hectares in 2005 to 415 thousand hectares in 2011 (*ibid*). The area under pastures shows significant variability in size over the years; the largest noted area under pastures in the referential period was in 2006 with 687 thousand hectares, while in 2009 only 500 thousand hectares were recorded by SSO (Table 1).

The fall in utilized agricultural area is most evident in the case of cereals; over the years from 2005 to 2011, the area under cereals has decreased by 20% (Table 2). For some cereal crops, such as wheat, the fall is even more drastic, up to 30% (Figure 2, left). Wheat, however, is still by far the most significant crop in the country, covering 78.9 thousand hectares in 2011, followed by barley with 42.5 and maize with 29.4 thousand hectares in 2011. The area under vineyard also had a sharp decline, by 20% from 2005 to 2011; though many old plantations have been renewed. The situation with vegetable crops is relatively stable; areas under cabbage increased most significantly in the past period (Figure 1).

Table 1. Structure of agricultural area (in thousand hectares)

Indicator	2005	2006	2007	2008	2009	2010	2011
Agricultural area	1,229	1,225	1,077	1,064	1,014	1,121	1,120
% of total area (2,571 th. ha)	47.8	47.6	41.9	41.4	39.4	43.6	43.6
Utilized agricultural area	546	537	526	521	513	509	511
Arable area (annual crops)	448	439	431	424	420	415	415
Orchards	13	13	13	14	14	14	14
Vineyards	26	25	23	22	21	21	21
Meadows	59	60	59	61	58	59	61
Pastures	682	687	550	542	500	611	608
Wet lands and fish ponds	1	1	1	1	1	1	1

Source: SSO, 2006-2012

Table 2. Area under the most important crops (in thousand hectares)

Crops	2005	2006	2007	2008	2009	2010	2011	Index 2011 (2005=100)
Wheat	108.9	99.1	92.0	86.9	88.3	79.9	78.6	72.2
Barley	50.7	48.3	48.4	48.8	48.8	43.0	42.5	83.9
Maize	33.6	31.9	31.1	31.6	32.7	28.6	29.4	87.5
Vineyards	25.0	24.3	21.3	21.8	20.0	20.0	20.2	80.5
Tobacco	18.5	17.5	17.2	17.1	17.8	20.3	19.7	106.5
Alfalfa	17.8	18.2	19.4	18.8	19.6	19.4	19.1	107.1
Potato	13.5	13.6	14.0	13.8	13.9	13.4	13.7	101.5
Pepper	8.1	8.3	8.3	8.2	8.4	8.5	8.5	104.0
Watermelon	6.5	6.5	6.2	6.2	6.0	5.7	5.8	89.2
Tomato	5.7	5.6	5.4	5.3	5.7	5.7	5.6	98.3
Cabbage	3.5	3.6	4.0	4.1	4.5	4.7	4.6	130.8

Source: SSO, 2006-2012

The decline in agricultural area was somewhat amortized by the generally increasing trend in land productivity; the yields of most crops per unit of area increased over the period 2005 to 2011. This increase is particularly notable in the vegetable sub-sector (Figure 1, left) and grapes, which all followed an upward trend. The yields of cereals increased at a slower pace since 2005, following a sharp fall in 2007, while tobacco and alfalfa generally had lower yield levels (Figure 1, right).

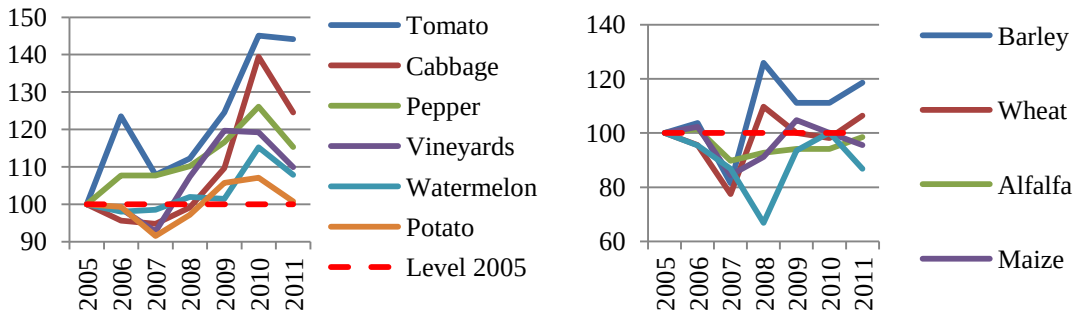

Figure 1. Base index (2005=100) of crop yields; vegetable and grapes (left), cereals, industrial and fodder crops (right)

The per head yields of milk per dairy cows noted an upward trend, from 2,254 liters in 2005 to 2,866 liters in 2011, with peak in 2009 with 3,004 liters. The trend is opposite in sheep milk production; since most of the sheep are of domestic or mixed breed, the milk productivity is low, and reached the minimum 51,2 liters per ewe in 2011 (Table 3); sheep are bred extensively and lamb meat production is most important. The highest milk production was noted in 2008, with around 438 million liters; cow milk production is dominant, encompassing around 86% of the total production, followed by sheep and goat milk.

Table 3. Milk yields (in liter per head)

Milk yield	2005	2006	2007	2008	2009	2010	2011	Index 2011 (2005=100)
Per milking cow (l)	2,254	2,497	2,880	2,835	3,004	2,787	2,866	127.2
Per ewe (l)	58.5	64.0	66.2	68.0	68.9	59.9	51.2	87.5

Source: SSO, 2006-2012

The number of animal heads has sharply decreased according to the official statistics when it comes to sheep and poultry, from 1.2 million heads of sheep in 2005 to 766 thousand heads in 2011 i.e. almost a 40% drop (Figure 2, right) ; cattle numbers remained relatively stable with around 265 thousand heads, while the biggest increase was in pig heads, from 169 thousand heads in 2005 to 197 thousand heads in 2011.

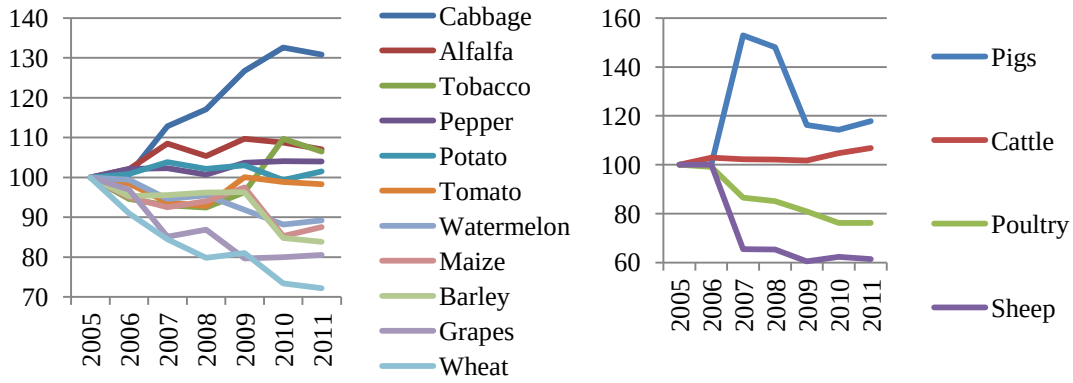

Figure 2. Base index (2005=100) of area under crops (left) and number of livestock heads (right)

Farm structure

The farm structure in the country is notably dual, composed of family farms or indivudial agricultural holdings, on one side, and agricultural companies, on the other side. The family farms take up to 86.9% of the value of agricultural production (SSO, FSS, 2011). Most of the farms in the country or 58.2% are classified in the class of very small farms, with less than 2000 euro standard output (Figure 3, right), according to the Farm Structure Survey based on Agricultural Census data (SSO, 2011).

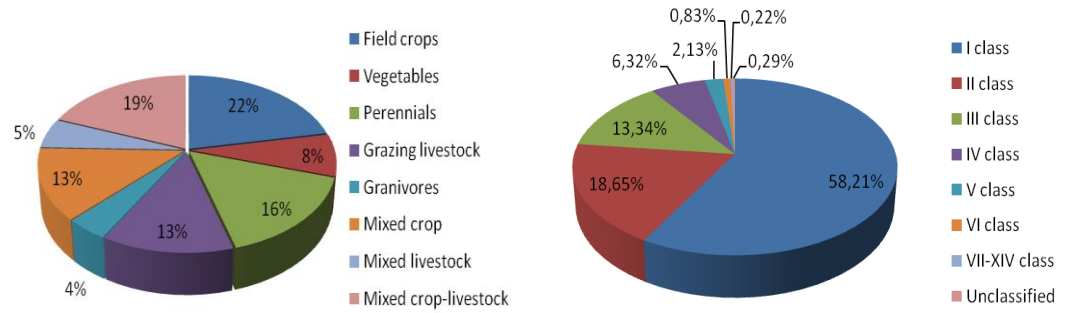

Figure 3. Structure of farms accroding to their type (left) and economic size (right), Farm Structure Survey (SSO, 2011)

Mixed farming (crop, livestock or both) is important in the country, being a distinctive feature of more than one-third of Macedonian farms (Figure 3, left). Farms with dominating field crops production (producing cereals, industrial crops such as tobacco, fodder crops etc) take up 22% of the total number of farms, followed with 16% of farms with perennial crops (vineyards and orchards), 13% of farms with grazing livestock, 8% of vegetable farms etc. However, in terms of standard production value, Mixed farms create 40% of the standard output in agriculture, followed by the grazing livestock farms (21%) and vegetable farms 14%. Cereals farms, although accounting for one-fifth of the farms, create only 7% of the value.

Value of agricultural production

The value of agricultural production has slowly increased in terms of currents prices in the period 2006 to 2010 reaching 76 billion denars in 2010 (SSO, 2012). Crop production is traditionally occupying from 70 to 80 percent of the total value. Vegetables have the most significant share, with a significant increase of 30.9% in 2009 to 36.4% in 2010. Other important crop enterprises are fruits, industrial crops, cereals and fodder crops, as important base for the animal husbandry. Milk takes up to a half of the livestock sector value, followed by cattle, pigs, poultry and eggs, sheep and goat.

The value of agricultural production in 2010 increased by 10% compared to the previous 2009 and the average value of production in the period from 2006 to 2008, when analyzed in at current prices (Table 4). The highest increase in relative terms occurs in agricultural services (+48%) and subsidies on production (+30% for production subsides, and +37% for total subsidies). Generally, the value of crop production has increased by 10% compared to the previous year. Reduction observed in funds employed (-16%) and paid wages (-22%). Subsidies take a share of 12.8% in the entrepreneurial income in 2010, which is the highest share so far. In terms of value, the subsidies amounted 4.5 billion denars in 2010, a 46.1% increase as compared to the previous 2009; the subsidies accounted only for 0.3% in the period from 2006 to 2008 and practically were insignificant in the preceding period.

Table 4. Agricultural production value, in current prices

Mllion denars	Average (2006 – 2008)	2009	2010	2010 (2009=100)
Production value	69,869	69,543	76,447	110
Crop production	49,645	47,077	52,412	111
Livestock production	18,595	17,943	17,927	100
Subsidies on products	1,246	3,349	4,367	130
Services and other	1,628	1,173	1,741	148
Total intermediary consumption	35,617	32,259	35,146	109
Gross value added	34,251	37,283	41,300	111
Depreciation	2,888	3,194	3,550	111
Net value added	31,363	34,089	37,750	111
Taxes on production	65	56	59	105
Other subsidies	88	101	138	137
Income from production factors	31,386	34,134	37,829	111
Employee compensation	1,930	2,531	2,137	84
Rents	/	124	97	78
Interest balance	/	-264	-327	124
Entrepreneurial income	29,352	31,216	35,269	113
Subsidies/entrepreneurial income (%)	0.3	11.1	12.8	116

Source: SSO (EAA), 2012; Eurostat, www; own calculations

However, when analyzed at previous year prices, taking into consideration the real changes, increase is noted in 2008 and 2009, though the value of agricultural production, as well as gross and net added value, is at same level in 2010 as compared to the prices of 2009 (Figure 4).
The total labour factor income showed increase in 2009 and 2010, after the fall in the previous two years. The average engaged labor in the sector for the period 2006 to 2010 was 119 thousand annual work units (AWU), being highest in 2008 with 130 thousand annual work units. Paid labor force participation accounts for about half of the engaged population and increases over the last years (from 44% in 2006 to 52% in 2010).

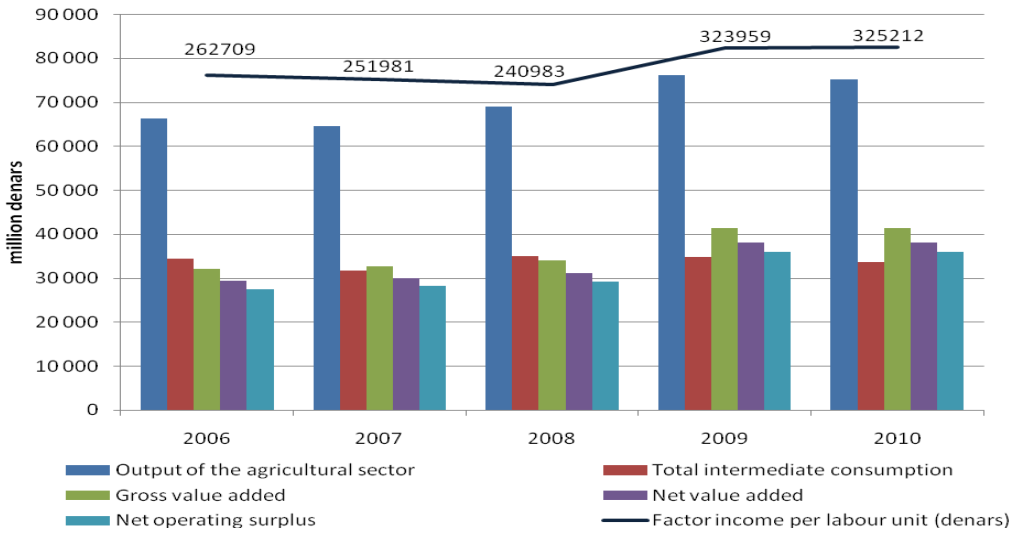

Figure 4. Agricultural production value, previous year prices
Source: SSO (EAA), 2012

The indicator of income of the production factors per annual working unit in real terms has increased in the period from 2005 to 2010 by 16%, or more notably by 50% in the case of unpaid family labor (Figure 5). The net entrepreneurial income kept a slow, but steady upward trend.

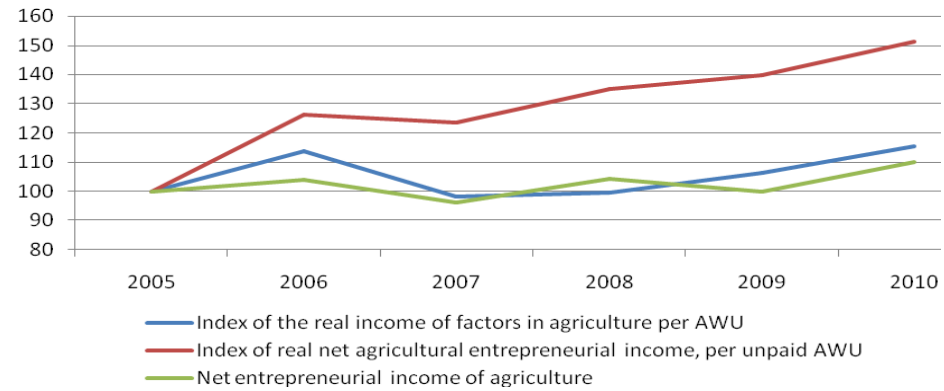

Figure 5. Indicators of real agricultural income, 2005=100
Source: Eurostat, www, 2012

Gross margins at family farms: The case of FMS sample farms

The Farm Monitoring System at NEA collects data from a sample of 400-600 farms concerning the farm output and inputs. Due to data availability constraint, it was possible to calculate the farm return on the level of the farm gross margin.

The number of farms with a farm gross margin of less than 100 thousand denars has decreased in the farm sample, from 33% in 2005 to 23% in 2011 (Figure 6). The values are taken in nominal terms. Cumulatively, around 50% of the farms had a farm gross margin lower than 200 thousand denars, though this figure has lowered to 42% in 2011. The number of farms with farm gross margin over million denars increases over time, to about 10% of the sample.

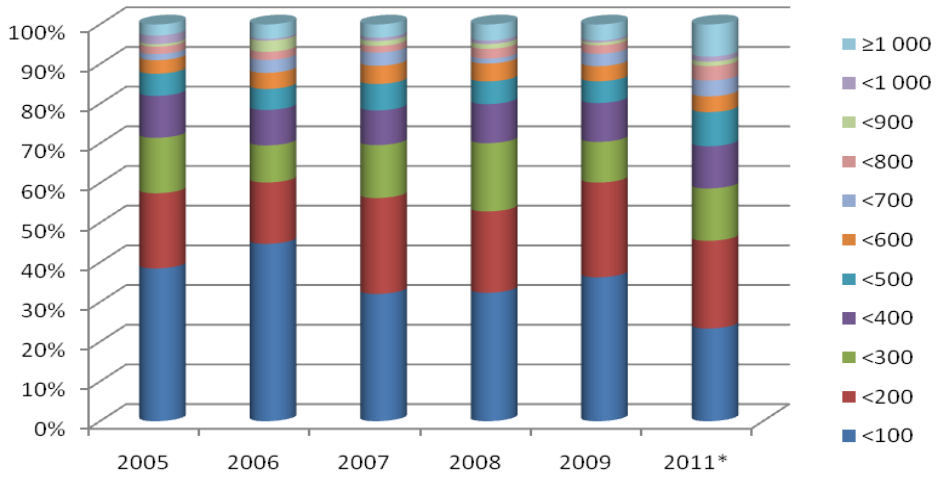

Figure 6. Number of FMS farms in terms of GM per farm in thousand denars
* Preliminary FMS processed results, FASF, 2012

In terms of concentration of the land among the farms in the FMS sample, it showed an unequal distribution, especially on the upper right corner of the distribution plot. In 2005, 70% of the farms used 30% of the land, i.e. 90% of the farms used 55-56% of the land with a Gini coefficient of 0.56. The situation is almost identical in 2011. The gross margin was medium concentrated; 70% of the farms produced 30% of the GM in 2005, or 33% of the GM in 2011, while 90% of the farms produced 58% in 2005, or 63% in 2011, with a Gini decreasing from 0.56 to 0.51 in 2011. The Herfindahl index indicates highly competitive environment. According to the analyzed FMS data, the average farm gross margin in the sample in the period 2005 to 2009 was 264 thousand denars, whereas it has increased to 366 thousand denars in the survey of 2011. Highest per farm gross margins occurred in Bitola and Skopje regions, and lowest in Strumica and Tetovo farms (Figure 7, left). However, when analysed on per hectare basis, Strumica farms have the highest value, due to the high concentration of vegetable cash crops. The gross margins are ranging from around 80 thousand denars at the farms in the class of less than 1 ESU, to about 1.7 million denars at the farms with over 16 ESU (Figure7, right). Analyzed on per hectare basis, the farms had average 85 thousand denars GM/ha in the period 2005 to 2009, and 137 thousand denars GM/ha in 2011.

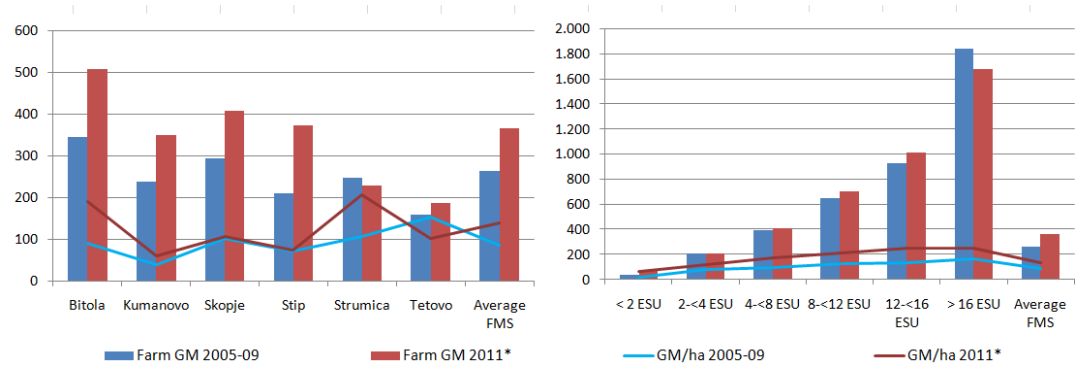

Figure 7. Farm Gross Margins at FMS farms, per region (left) and per economic class (right) in thousand denars

* Preliminary FMS processed results, FASF, 2012

** Note: ESU stands for European size unit, equivalent of 1200 euro GM

Production efficiency and gross margin coverage ratio

The income/cost ratio as production efficiency indicates whether the farm can cover the incurred, specific costs (in this case without the fixed costs, due to data completeness constraint) by the income from the production, and values over 1 are required. These ratios are positive on average level in the FMS sample in all regions, farm types and economic size groups (Table 5 and 6). The gross margin coverage ratio in the average farm situation in 2011 indicates that 47% of the income is used to cover the specific costs, meaning that the remainder is to cover the fixed costs and to compensate the family labor through the net family income.

Table 5. Output/specific input and GM ratios per average farm by region and economic size, 2011

Region	O/I ratio	GM ratio	Econ.size*	O/I ratio	GM ratio
Bitola	2,32	43%	VSF1	1,55	64%
Skopje	1,98	51%	VSF2	2,00	50%
Stip	1,89	53%	SF	2,42	41%
Kumanovo	2,22	45%	MLF1	2,13	47%
Tetovo	2,02	49%	MLF2	2,12	47%
Strumica	2,71	37%	MHF	2,43	41%
Average	2,13	47%	Average	2,13	47%

*Economic size classification: VSF (very small farm), SF (small farm), MLF (medium-low farm), MHF (medium-high farm)

Table 6. Output/specific input and GM ratios per average farm by farm type, 2011

Type	O/I ratio	GM ratio	Type	O/I ratio	GM ratio
Mixed cropping	2,65	38%	Specialist granivores	1,27	79%
Mixed crops — livestock	2,16	46%	Specialist grazing livestock	1,85	54%
Mixed livestock holdings	1,99	50%	Specialist permanent crops	2,99	33%
Specialist field crops	2,95	34%	Specialist horticulture	2,58	39%

Conclusions

The agricultural sector is important in the Macedonian economy, both in terms of value and employment of the rural workforce. In the period 2005 to 2011, the utilized agricultural area followed a decreasing trend, but at the same time the yields of most farm enterprises were generally improved, although they are still far from the EU levels. The sector, in general, noted a slow but steady growth overall and in farm performance terms. Conducting sector analysis must be based on relevant sources that provide coherent and continuous time series. Recently, there is an increasing availability of agriculture related surveys and data, which can be used for analysis of the agricultural sector. Most of these reports are prepared in accordance to the Eurostat methodology, which makes them suitable for comparative researches. Using appropriate information and analytical tools enables measuring the performance of the sector. Moreover, it provides ground for creation and evaluation of future policies.

References

Dimitrievski D. and Ericson T. (eds.) (2010) Sector study – Macedonian agriculture in the period 1995-2007, Skopje: University Ss Cyril and Methodius – Skopje (UKIM) and Uppsala: Swedish University of Agricultural Sciences (SLU).

MAFWE (2012) Annual Agricultural Report for 2011. (2011). Ministry of Agriculture, Forestry and Water Economy of the Republic of Macedonia, Skopje.

Martinovska-Stojceska A., Dimitrievski D., Surry Y., Sergo L., Andersson H. Economic and technical analysis of Macedonian farms based on farm accountancy data. Unicoop, University Ss Cyril and Methodius, Skopje and Swedish University of Agricultural Sciences, Uppsala, pp 51.

SSO, State Statistical Office (2006 to 2012) Statistical Yearbooks 2005 to 2011. SSO RM

SSO, State Statistical Office (2008) Census of Agriculture 2007 Book I. Basic statistical data of individual agricultural holdings and business subjects in the Republic of Macedonia, by regions. SSO of the Republic of Macedonia, Skopje.

SSO, State Statistical Office (2007 to 2012) Economic Accounts in Agriculture 2005 to 2010. SSO of the Republic of Macedonia, Skopje.

SSO, State Statistical Office (2011) Farm Structure Survey. SSO of the RM.

ПОКАЗАТЕЛИ ЗА ОЦЕНА НА УСПЕХОТ НА МАКЕДОНСКОТО ЗЕМЈОДЕЛСТВО

Александра Мартиновска Стојческа, Драги Димитриевски, Ивана Јанеска Стаменковска

Апстракт

Целта на овој труд е анализа на состојбата и перформансите на македонските фарми, преку пресметување на релевантни индикатори од соодветни извори. Со цел да се процени развојот на македонското земјоделство, анализирано на среден рок од 2005 до 2011 година, беше користена комбинација од различни извори. Земјоделскиот сектор е особено значаен за македонската економија, како од аспект на вредноста така и од аспект на вработеноста на руралната работна сила. Искористената земјоделска површина следи еден опаѓачки тренд, од 546 илјади хектари во 2005 година на 511 илјади хектари во 2011 година, но овој пад беше на некој начин амортизиран со генерално растечкиот тренд на приноси. Структурата на фармите главно е составена од голем број на мали семејни фарми и мал број на земјоделски претпријатија. Најголем дел од вредноста на земјоделското производство е креиран од семејните фарми; вредноста на земјоделското производство во 2010 година достигна 76 милијарди денари. Нето претприемачкиот доход во реални бројки бележеше бавен но скромен нагорен трнд. Бројот на фарми со бруто маржа по фарма помала од 100 илјади денари, беше намален во примерокот на ФМС,што претставува годишна анкета, од 33% во 2005 година на 23% во 2011 година, додека пак бројот на фарми, опфатени во примерокот, со бруто маржа поголема од милион денари се зголеми за 10% во анализираниот период. Односот помеѓу аутпуот и специфичните инпути е позитивен, анализиран на просечно ниво на фарма во рамките на примерокот на ФМС, и тоа во сите региони, сите типови на фарма и групи на економски големина; показателот за покритие со бруто маржа, пресметан на ниво на просечна фарма, во 2011 година индицира дека 47 % од приходот е искористен за покривање на специфичните трошоци.

Клучни зборови: Македонски фарми, показатели, економски перформанси, развој.

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Review Article

THE USE OF GEOGRAPHICAL INDICATIONS – OPPORTUNITY FOR GAINING COMPETITIVE ADVANTAGE OF AGRI-FOOD PRODUCTS

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Abstract
The aim of this paper is (a) to provide an overview of the use of geographical indications (GIs) in the Republic of Macedonia and some countries in the world and (b) to emphasize the possibility of increasing the competitiveness of the agri-food products by protection of GIs. The paper is based on qualitative and quantitative aproach. With the qualitative, we present domestic and international system of protection. The approach also includes description of GIs as a tool for increasing competitiveness of agri-food products. Quantitative approach includes review of the competitiveness of the wine sub-sector of the three countries of the European Union (EU) and the Republic of Macedonia, calculated by Balassa index. The results show that the legal framework of the system for protection of GIs varies in different countries, which is actually considered as weaknesses of the system. In some countries this system is well developed and reaches high market value of the products protected with GIs. In other countries the system of protection is relatively new. In Republic of Macedonia, the laws and regulations that cover this topic are generally harmonized with EU legislations. So far, four agricultural products are internationally protected with GIs, in accordance with Lisbon Agreement. There is also an ongoing activity for nationwide protection of few agri-food products, through the system of protection enforced by the Ministry of Agriculture, Forestry and Water Economy. Besides these, the Republic of Macedonia has traditional agri-food products that have potential and should be protected with GIs. Here, the use and protection of GIs will put emphasis on the competitive advantages that products possess and their opportunity to create competitive position and enter on niche markets.
Key words: geographical indications, agri-food products, competitiveness.

Introduction

Macedonia is a small country with many challenges in the agricultural sector in terms of low level of industrialization, low income, small farms, low educational level of the farmers, *etc*. At the same time, Macedonian export of agri-food products is mainly directed on regional markets, where their competitiveness is endangered as a result of lack of quality standards and increased competition from other countries. In fact, this seriosly concern the future development of the sector and targeting of other non-traditional markets, which have stricter standards in regards to the requirements related to food standards and consumer safety (Dimovski *et al.*,2012).

Macedonian fruits and vegetables are traditionally exported in Ex Yugoslavian countries. Unfortunately, their competitive position is changing. These markets are opening for products from other countries and in the last few years, there is also a trend of change in the consumers' habits (Dimovski *et al.*, 2012). Increased domestic production on these markets and increased number of competitors will have serious impact on the Macedonian domestic primary production. Dimovski *et al.*, (2012), consider this as big challenge, since Macedonian production is not fully ready for EU markets especially regarding the post-harvest handling and packaging practices. Processed fruit and vegetable products are mainly exported in EU and neighboring markets.

In this sector, the constructive trading regime between Macedonia and the EU, and further liberalization especially as a result of CEFTA agreement should even more enhance the competitive position of the processed fruit and vegetable products (Risteski, 2008). In more recent studies, one of the key strategies to increase the competitiveness of agri-food products is the quality and presented information about the quality. Agri-food products labeled with geographical indications (GIs) are good example of this. Menapace and Moschini (2011) explain that GIs present information about the origin of the product and indirectly the quality, by constraining the moral hazard behavior of the producers, reducing the costs of building reputation and leading to lower equilibrium prices and welfare gains. In the past period there is an increased trend of consumers' interest for the origin of the product, especially if it is associated with specific characteristics and local "know-how" in a certain area. GIs are part of the industrial property system of protection, which also includes patents, trademark and industrial design. In 1992, the European Union approved two categories (Protected designation of origin - PDO and Protected Geographical Indication - PGI) of GIs, in order to promote the food quality and rural development. In Macedonian agricultural sector, PDO and PGI are regulated with the Law on quality of agricultural products. The Law defines "designation of origin" as a name of a region, a specific place or, in exceptional cases, a country, used to indicate the agricultural or food products whose quality or characteristics are produced under specific natural or human factors in specified geographical area. "Geographical indication" is the name of the region, a specific place or, in exceptional cases, a country used to indicate the agricultural or food products whose production and / or processing and / or preparation take place in this geographical area. The main difference between GIs and other industrial property rights is that GIs are collective right that could be used by many producers in particular region, if they fulfill the legal requirements or the "code of practice". These collective rights can be used as a tool for producers to maintain their competitiveness, in a way that guarantees certain standards of the products. Here, quality, reputation or other characteristics are attributed to their particular geographic origin. There are different types of GIs, regulated with different international agreements and laws, where only few enable GIs protection. For instance, Paris convention of 1883 is one of the earlier historic treaties to mention the international protection of GIs as "indications of source or appellations of origin". However, it does not really define indications of source or appellations of origin and is not explicit about the form of protection (Giovannucci *et al.*, 2009). Madrid Agreement of 1891 concerns the repression of false and deceptive indications of source and Madrid Protocol of 1989 concerns the international registration of trademarks, collective marks and certification marks. Lisbon Agreement of 1958 facilitates the international protection of appellations of origin (AOs) through a single notification and registration procedure.

TRIPS agreement of 1994 protects GIs (PDO and PGI) and enables higher protection for wines and spirits and lower for all other goods. As a result of the minimum protection of non-alcohol products,

other bilateral or regional agreements will be important and could serve to make possible more specific protection of broader categories of products (Sylvander and Allaire, 2007). Nowadays, World Intellectual Property Organization (WIPO) is the international governmental body that is most involved with the issues of GIs. It offers information and training on several aspects of GIs that have to do with law and trade. Considering GIs and the theoretical framework, frequently used theories are theory of competitiveness and model of reputation. With regard to the competitiveness, Giovannucci *et al*., (2009) state that GIs are a potentially unique form of competitive advantage, even for smallholders, build on unique tradition and special agro-ecological endowments. This means that they protect the products in a way that the quality, reputation or other characteristics are attributed to their geographic origin, thus providing information on the potential consumer that the product has specific attributes (Polenak *et al*, 2004). Moreover, GIs could directly influence the increased competitiveness and reputation of the products, originated from the region (Idris, 2004). As a competitive tool, GIs could lead to higher differentiation of the products and positioning on niche markets. Bagal and Vittori (2011) indicate that GIs enable producers of commodities to export *i.e.* high-quality agricultural products. Many authors researched this topic, but unfortunately in Macedonia, GIs are less researched than other IP rights and consequently there is a lack of comparable research in the field of economics of GIs.

Material and methods

Material

The material for the research is based on primary and secondary data collection and semi-structured interviews with relevant persons. Data regarding GIs was gathered from the Ministry of agriculture, forestry and water economy, State office of industrial property, European Commission and WIPO database. In general, the period of research is 2004-2012, but in the calculation of Balassa index, due to the lack of data availability, the period is up to 2008. Information regarding wine export and import value was gathered from State Statistical Office of Republic of Macedonia and FAO.

Method

The paper includes qualitative and quantitative approach. The qualitative approach is based on flexible research method, where GIs were related to the competitiveness of agri-food products and the national and international system of protection was presented. The quantitative method includes preview of the competitiveness, calculated with Balassa index. Revealed comparative advantage RCA (Balassa index) is defined as export share of a product of the total exports of a country, divided by the world's export share of this product. In this paper, Balassa index measures the intensity of wine trade specialization of a country within the world. If it takes a value less than 1, this implies that the country is not specialized in exporting the product.

$$RCA = \frac{\frac{x_{c,p}}{NX_c}}{\frac{wx_p}{WX}}$$

, $x_{c,p}$ - wine export value of a county, NX_c - total export value of agricultural production wx_p - total world export of wine, WX - total world export value of agricultural production

Results and discussion

When GIs are legally registered they take different forms such as Appellation of origin, Denomination of origin, PDO, PGI, and marks (Giovannucci *et al*., 2009).These distinctive signs for collective use are protected with different international agreements: Collective marks – Madrid System; Certification marks - Madrid System; Geographical indications – TRIPS, Appellations of origin – Lisbon Agreements, Indications of source – Paris Convention and Madrid Agreement (Not GIs).The system of GIs protection varies in different counties. For some countries this system is relatively new, while for other is quite developed. There are 110 countries, including the 27 Member States of the European Union (EU), with specific GI laws in place. Outside the EU, only 22 of the other 83 countries have established registers and officially listed Geographical Indications. This is where Macedonia belongs which legislation is in compliance with EU. Australia, Canada, Japan, United States, parts of Africa and a number of Arab countries, do not have specific GI protection laws, but they protect GIs through certification marks, collective marks or trademarks.

The differences in the countries' legislation are considered as weaknesses of the system. For instance, some PGIs in EU are actually collective marks in US, protected with the trademark law.

Generally, there are more than 10,000 legally protected GIs, which generate an estimated sales value of over 50 billion dollars (Giovannucci *et al*., 2009). About 90% of GIs come from the OECD countries while in more than 160 other countries very few GIs have been developed.

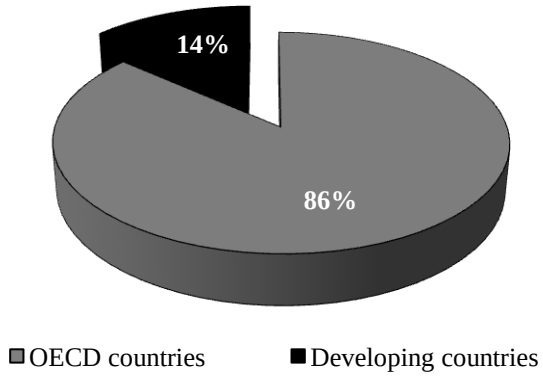

Figure 1. Participation of GIs protection among countries
Source: Giovannucci *et al*., (2009)

There are 905 registrations and 800 in force for protection of Gis in compliance with Lisbon Agreement. Table 1 present number of GIs protected in many countries according this agreement.

Most of the protected products in EU refer to wines and spirits, and the number of registered agricultural and food products have an increasing trend. As a result of the EU enlargement, the number of applications for the protection of agricultural and food products has increased. According to the European Commission, the number of protected designations of origin which are entered in the register is 505. The number of protected geographical indications is 465, and the number of products with traditional specialty guaranteed is 30. There are only 11 non-EU products with protected status.

The main countries in terms of value of PDO/PGI production are Italy (33% of the total), Germany (25%), France (17%) and the United Kingdom (8%). Next come Spain with 833 million euro (6%), Greece with 606 million euro (4%) and Austria with 123 million euro (1%) (European Commision, 2010). In Republic of Macedonia, in 2002 GIs were regulated as industrial property right. In the past two years, an institutional change has been made. Until 2010, GIs were protected by the Macedonian State Office of Industrial Property. In 2010, the State Office of Industrial Property of Republic of Macedonia internationally protected four agri-food products with geographical indications, in compliance with Lisbon Agreement for the Protection of Appellations of Origin: "Kochani rice" (under number 897), "Krivopalanecki honey" (under number 895), "Macedonian ajvar" (under number 894) and "Disan" (under number 896). From 2011, Ministry of agriculture, forestry and water economy (MAFWE) took the responsibility for protection of PDO and PGI of agri-food products. According to the suggestions from the European Commission, and in regards to the Law on quality of agricultural products, MAFWE adopted a number of by-laws and rulebooks that define the overall procedure in compliance with EU Commission Regulations.

Table 1. Number of protected GIs according Lisbon Agreement

Country	Number
France	508
Czech Rep.	76
Bulgaria	51
Italy	31
Hungary	28
Georgia	20
Cuba	19
Mexico	14
Peru	8
Algeria	7
Portugal	7
Tunisia	7
DPR of Korea	6
Slovakia	6
Macedonia	4
Serbia	3
Montenegro	2
Costa Rica	1
Israel	1
Moldova	1

Source: WIPO, 2012

These legal and institutional changes require restarting the process from its beginning, but now taking into consideration the PDO and PGI protection on national level. In December 2011, MAFWE carried out a procedure for selection of national symbols for agricultural farm products and foodstuffs with protected designation of origin and protected geographical indication. The

symbols were legalized and published in 2012 (Picture 1&2). By adopting all by-laws in 2012, the national system of PDO and PGI protection was established.

Figure 2 Macedonian logo for PDO
Source: MAFWE, 2012

Figure 3 Macedonian logo for PGI

Moreover, MAFWE initiated a national protection of PDO or PGI for eleven potential products. Unfortunately, only two of the proposed products, fulfill the basic requirements and could be further protected with PDO and PGI (IQS, 2012).

Wines and spirits protection

Wines and spirits are protected separately from other agri-food products with different GIs laws and regulations. In Macedonia, these products are protected under the Law of wine. MAFWE initiate a protection of "Stanusina" wine, made from local indigenous grape variety. Even though the procedure has not been started yet, producers expressed high interest for PDO/PGI registration (IQS, 2012).In a meantime, FAO and European Bank for Reconstruction and Development also initiated a support of Macedonian wine producers in developing GIs for the Vardar River Valley, further used as a name for the PGI (Wines of Macedonia, 2012). This protection shall include 8 wine districts. As other agricultural and food products, wines can also be protected with different forms of GIs. Table 2 shows the number of protected wines in different countries, including some of the neighboring countries of Republic of Macedonia. Unfortunately, our country still has no protection register in the European Commission E-Bacchus database. It confirms the fact that we need to act as soon as possible and it is obvious that the neighboring countries pay more attention to this issue. This is necessary in order to maintain the competitive position of domestic wine, because the main export markets for bottled wines are our neighboring and Balkan countries. In addition, we have presented the competitiveness of the wine sub-sector in Macedonia, France, Bulgaria and Slovenia, calculated with Balassa index.

Table 2. Wines protected with GIs

Wines protected with PDO	
European Union	1310
USA	1
Brazil	1
Wines protected with PGI	
European Union	570
Wines with Geographical Indications	
South Africa	153
Australia	78
Chile	61
Switzerland	37
Albania	36
Republic of Serbia	29
Georgia	18
Montenegro	9
Bosnia and Herzegovina	7
Canada	7
Wines protected with a name of origin	
USA	696

Source: European Commission, 2012

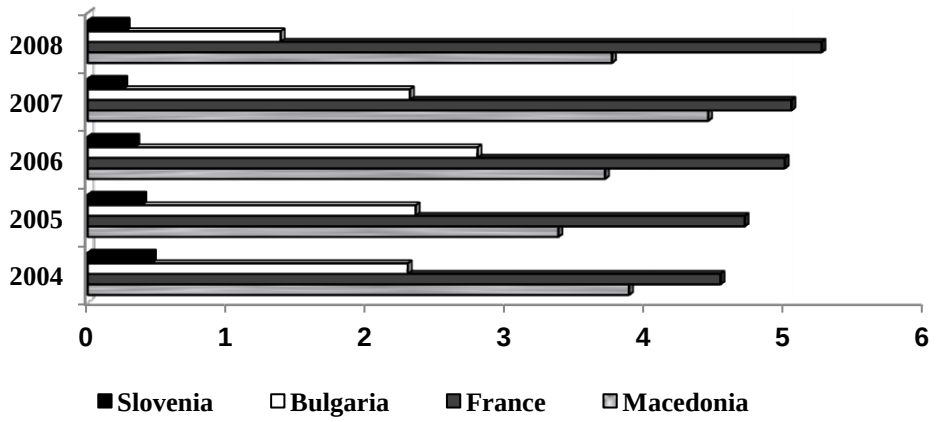

Figure 4.Balassa index
Source: Nacka M.,2011

The high value of the index of Macedonia, arise from the high export value of wine. However, if we consider that bottled wine participates with small percentage of total exports (around 13%), it can be said that high value is a result of export of bulk wine. It is difficult to discuss about competitive GIs protected wine of Macedonia, with major export of bulk wine. In this regard, significantly important is the use of GIs, trademarks or industrial design. As Polenak *et al*., (2004) stated, they protect the products in a way that the quality, reputation or other characteristics are attributed to their

geographic origin, thus providing information on the potential consumer that the product has specific attributes. GIs, particularly PDO and PGI could be a strong marketing strategy and quality assurance sign, if are labeled on the final package of the product. Even though, there is an opportunity for bottling wine in another country, producers should consider the possibility of performing this activity domestically. Here, GIs protection should be perceived as a long term investment with sustainable results, where the traceability of the process and quality control would be easily monitored.

Conclusions

Maintenance of the competitiveness of agri-food products on the traditional markets and improving the reputation is currently most important part regarding Macedonian exported agri-food products. Their competitiveness is endangered as a result of lack of quality standards and value added production of the competition.

In this regard, GIs could enable a unique form of competitive advantage build on tradition and special agro-ecological endowments. Consequently, it confirms the permanent quality and could be used as a quality certification tool. Even though the process of protection is lengthy, it shall effect in long-term and sustainable results.

GIs protection present a powerful tool for promotion, that send a clear message to the consumer, but it must be supported by strong marketing strategy. As export-oriented, Macedonian wine producers must follow recognized international system of quality assurance in order to create a competitive position and enter on niche markets. Based on GIs protection and territory, a collective marketing which will include well-defined promotional strategy (visual identity, wine tourism, and international recognition), is necessary for successful export of Macedonian wines and re-positioning in higher price segments.

References

Bagal N. M., Vittori M. (2011). Practical Manual on Geographical Indications for ACP Countries, CTA/Origin.

Dabovic-Anastasovska, J.,*et al.*, (2011). Intellectual Property in Economy, State Office of Industrial Property, Skopje.

DimovskiLj.,*et al.*, (2012). Table Grapes Value Chain Baseline Screening, EPI Centar International, USAID, AgBiz Programme.

DimovskiLj.,*et al.*, (2012). Fresh Vegetables Value Chain Baseline Screening, EPI Centar International, USAID, AgBiz Programme.

Giovannucci D., *et al*., (2009). Guide to Geographical Indications, Linking Products and their Origin, International Trade Centre, Geneva.

Idris K. (2004): *Intellectual property, a powerful Tool for Economic Development*, WIPO

IQS (2012). Assessment of the potential products and entities applying for PDO/PGI registration for specific Macedonian agriculture products, USAID, AgBiz Programme.

Law of quality of agri-food products, Official Gazette of Republic of Macedonia, no.140/2010

Lindner A. (2005). International Indicators of Trade and Economic Linkages, 6th OECD International Trade Statistics Expert Meeting (ITS)&OECD-Eurostat Meeting of Experts in Trade-In-Services statistics (TIS), OECD, Tour Europe.

Menapace L., Moschini G. C. (2011). Quality certification by geographical indications, trademarks and firm reputation, European Review of Agricultural Economics, Volume 39 (4), Oxford University Press, 2012

Nacka M. (2011). Marketing and competitiveness of wine of Republic of Macedonia from aspect of industrial property rights, MSc thesis, Faculty of agricultural sciences and food, Skopje, UDC 330: 658.8: 663.2 (497.7) (043.2).

Polenak A. M., *et al*. (2009). Intellectual Property I, Industrial Property, Faculty of Law "Justinianus Primus"- Skopje, Skopje.

Risteski S. (2008). Survey on the Performance of the Fruit and Vegetable Processing Industry 2007, MAASP 2, USAID's AgBiz Program, MAP.

Sylvander B., Allaire G. (2007). WP3 Report: Conceptual Synthesis – Task 1. Strengthening International Research on Geographical Indications (SINER-GI) project.

Wines of Macedonia (2012). Developing GIs in Macedonia's Wine Sector, Summary Report, EBRD/FAO Cooperation.

УПОТРЕБА НА ГЕОГРАФСКИТЕ ОЗНАКИ - МОЖНОСТ ЗА СТЕКНУВАЊЕ НА КОНКУРЕНТСКА ПРЕДНОСТ НА ЗЕМЈОДЕЛСКО-ПРЕХРАНБЕНИТЕ ПРОИЗВОДИ

Марина Нацка, Ненад Георгиев, Васко Хаџиевски

Апстракт

Целта на ова истражување е (а) да се даде преглед наупотребата на географските ознаки (ГО) во Република Македонија и одредени земји во светот и (б) да се нагласи можноста за зголемување на конкурентноста на земјоделско-прехранбените производи преку заштита на ГО. Трудот се базира на квалитативен и квантитативенметод. Квалитативниот метод опфаќа приказ на домашниот и меѓународниот систем на заштита. Пристапот опфаќа и опис на ГО како алатка за зголемување на конкурентоста на земјоделско-прехранбени производи. Квантитативниот метод вклучува преглед на конкурентноста на винскиот под-сектор на три земји членки на Европската Унија (ЕУ) и Република Македонија, пресметана преку Баласа индекс. Резултатите покажуваат дека правната рамка на систем на заштита на ГО се разликува во одделни земји, што претставува недостаток на системот. Во некои земји е овој систем е многу развиен и овозможува постигнување на висока пазарната вредност на производите заштитени со ГО. Во останати земји овој систем на заштита е релативно нов или недоволно развиен. Во Република Македонија, законите и подзаконските акти кои ја опфаќаат оваа тематика се генерално хармонизирани со легислативите на ЕУ. Досега меѓународно се заштитени четири земјоделски производи со ГО, според Лисабонскиот договор. Во тек е заштита на неколку земјоделско-прехранбени производи на национално ниво преку системот на заштита спроведен од Министертвото за земјиделство, шумарство и водостопанство. Покрај овие, Република Македонија поседува традиционални земјоделско-прехранбени производи кои имаат потенцијал и треба да бидат заштитени со ГО, со што ќе се овозможи потенцирање на предности што ги поседуваат производите и можност за конкурентен настап на диференцирани пазарите.

Клучни зборови: географски ознаки, земјоделско-прехранбени производи, конкурентност.

UDC: 332.1(497.7)
Original scientific paper

ANALYSIS OF THE ORGANIZATIONAL POTENTIAL IN THE REPUBLIC OF MACEDONIA FOR ESTABLISHMENT OF RURAL DEVELOPMENT NETWORK

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Abstract
The Republic of Macedonia is strategically oriented to establish sustainable development of rural areas, to make optimal use of national resources in terms of protection of nature and environment, to increase the quality and competitiveness of agricultural products and to strengthen the rural economy. In that way, rural development policy aims to improve the existing living and working conditions of the population that lives in rural areas by establishment of different forms of associations that will act to achieve changes and common interests. Therefore, the aim of the survey is to analyse the capacity and structure of organizations in the Republic of Macedonia that work in the field of rural development and to evaluate the possibility of their networking and further cooperation. The data are obtained by previously developed questionnaire, submitted to different organisations that work in the field of rural development. Deductive research approach which includes qualitative method of descriptive analysis is used to relate the capacity of existing organisations with the possibility for establishment of rural development network. The analysis of variance (ANOVA) is used to estimate the significance of the organisational potential for establishment of National rural development network. The results show that networking of organisations in the country can start on the voluntary basis by the initiative of the civil associations that work and have many years of experience in the field of rural development. This follow the "bottom-up" approach established in many European countries, and emphasise the need for participation of private sector and public institutions in rural development network.
Key words: networking, organisations in the Republic of Macedonia, rural development.

Introduction

The Republic of Macedonia has 84 municipalities from which 49 are located in the rural areas while 10 are located in the capital city of Skopje. According to the Official Gazette in the Republic of Macedonia (134/07) rural areas are geographical areas with relatively small number of residents and specific socio-economic characteristics. More than 73% of the total areas in the country are poorly populated (with less than 50 residents/km^2) while the remaining areas are overpopulated with more than 100 residents/km^2. The crisis and modern trends that mark the beginning of the 21st century creates serious challenges for the rural areas and its population. They are consequence of many factors: exponential growth of rural population, the increase in world consumption, excessive growth of carbon dioxide and other greenhouse gas emission, and the alarm enlarge of the dead species.

The rural population with 43% represent a large part of the total population in the country which is characterised with significantly high age structure, educational problems, unemployment, trend of poverty and migration in the big cities (MAFWE, 2007). 99% of the rural population work in the private family holdings with an average size of 1.62ha. 58% of the holdings have annual revenues to 2000€ while more than a half of the agricultural workers which are members of the holdings are unpaid (MAFWE 2012).

To avoid and solve the existing problems in the rural areas, the Republic of Macedonia developed a strategy by which it is oriented to establish sustainable development by optimal use of national resources in terms of protection of nature and environment, to increase the quality and competitiveness of agricultural products and to strengthen the rural economy. By this the country adjusts to the Brundtland Report where in 1987 EU countries defined the sustainability concept as development that satisfy the present generations needs without destroying the opportunities and needs of the future generations. Their analysis confirms that the basis for rural development is the concept of sustainability. It highlights the three basic sustainability components: the environment, economy and society, by which increase the life quality and promote different economic activities. In that way, rural development policy aims to improve the existing living and working conditions of the population that lives in rural areas by establishment of different forms of associations that will act to achieve changes and common interests (MAFWE, 2007). Here, very important is to form networks between organisations and rural population that will act in the field of rural development. This leads to the aim of this study, which is to analyse the capacity and structure of organizations in the Republic of Macedonia that work in the field of rural development and to evaluate the possibility for their networking and further cooperation. In that way, the purpose of this paper is to give an overview of the current situation of organisations that are working in the field of rural development.

Material and methods

Networking theory

The need for formulation of rural development networks is expressed at the European movements meeting held in the Swedish Rural Parliament in 2004. In this meeting the rural development network is defined as cooperation between people who work together to achieve some changes in the rural areas. In that way, the concept of rural network developed on a national level represents a system of tools and services intended for three local groups: Non-Governmental Organisations (NGOs), business associations and Governmental institutions. Their cooperation is a cycle where they exchange the knowledge and information in order to establish economic development of rural areas. From here, networking allows achievement of: sustainable rural areas, appropriate management with the environment and natural resources, innovative approaches for development of rural infrastructure, and participation of the residents and institution in the decision making processes (ECOVAST, 2006).

According to the theory, networking is a “bottom-up” approach developed on a voluntary basis. The explanation is that networking represents a triangle where the activities start at the bottom level and end at the top of the triangle. From here, the networking process starts as cooperation between associations that work in the field of rural development. Then, cooperation between the business sector and Governmental institutions is established. This allows easier exchange of information between public and private institutions and civil associations. At the end, institutionalised networks

previously formed on a voluntary basis become Governmental obligation to bring positive results for rural development from social and economic aspect (MARD, 2010; RDSU, 2009).

Following EU principals, the Republic of Macedonia is supposed to established National rural development network as cooperation between the Government and civil associations. Furthermore, the Government should take a leading position to establish the network as Institution for rural development. According to the legislatives and rural development strategy (MAFWE, 2007), the country should also provide a financial support for continuing with the networking activities. However, the good practises show that the best for civil associations is to provide managerial activities since they are the most familiar with problems of the rural population and situation in the rural areas.

Research method

To analyse the present situation in the Republic of Macedonia and the capacities of organisations, the paper is based on deductive research approach. The research starts by making interviews with managers of different organisations that work in the field of rural development and collecting the data by previously prepared questionnaire to get the required information. The information received by the questionnaire should give clear picture of the capacity of organisations that work on regional and local level, but also their willingness and need to participate in such national rural development network. To meet the requirements of the survey, the questions are separated in two groups. The first part of questions is regarding the organisations by itself (their capacity and structure) and the second group of questions gives information regarding the organisational activities and their willingness to participate in the networking. The method consists of two approaches. In the first one, the collected data are analysed by using qualitative approach in order to make descriptive analysis of the organisational capacity in the relation with the possibility for their networking. According to the "bottom-up" theory, the organisational capacities are qualitatively introduced by emphasis the need for establishment of rural development network in the country.

The second approach is performed to estimate the significance of the organisational potential for establishment of National rural development network by the analysis of variance (ANOVA). In that way, a statistical regression analysis is chosen to determinate the correlation between one dependent and six independent variables. The approach consists of multiple linear regressions and correlation model analysed in SPSS computer programme. Moreover, dependent variable describes organisational willingness and potential to participate in the rural development network, while for the independent variables are chosen: the budget of the projects, number of employees and volunteers who work in the surveyed organisations, organisational activities, their working field and organisational type. The regression model is estimated by using the following formula:

$$Y_i = \beta_0 + \beta_1 TYP + \beta_2 ACT + \beta_3 FIEL + \beta_4 EMP + \beta_5 VOL + \beta_6 BUD + \varepsilon_i$$

Here, Y_i is the dependent variable, β_0, β_1 ... β_6 are coefficients, TYE, ACT, FIEL, EMP, VOL and BUD are the independent variables, while ε_i is the stochastic part or standard error that represent the effects of other factors which are not included in the analysis (Risteski and Tevdovski, 2010).

Results and discussion

Descriptive analysis

The questionnaire was answered by 100 organisations that operate in the field of rural development.

Their profile explains different organisation structure. From all contacted organisations, only 5 are Governmental institutions including agencies, ministries and academic institutions. Also, 69% are registered as Non-Governmental organisations and civil associations, 7% are advisory and training organisations and the remaining 7% represent all other types of organisations. Organisational structure is given in Figure 1.

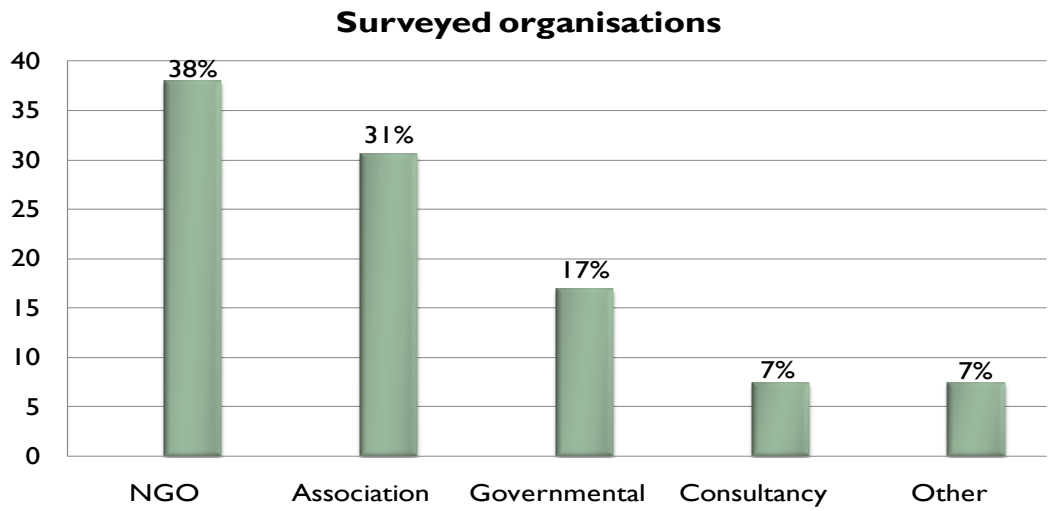

Figure 1. Structure of the surveyed organisations (n=100)

According to the results, 89% of the contacted organisations are located in four regions: in the East region works 30% of the organisations, 22% in both regions of Skopje and Pelagonija and 16% of organisations are located in the South-East region.

Furthermore, the information obtained by the fulfilled questionnaires explains the capacity of the existing organisations, their working field and their preparedness, but also need and willingness actively to participate in the network for rural development.

Considering the organisational working field, 44% work in the field of environment and ecology, 15% in the field of rural and alternative tourism and 13% in the field of sustainable development. The other organisations work in the field of agriculture, cultural heritage and healthy food. The organisational expertise is 85% for protection of the environment, 81% for rural development and 62% for training and consultancy services. According to the analysis, organisational capacities regarding employees, organisational members and volunteers depend on the organisational activities and size. Indeed, there are big organisations with many employees that include volunteers in their activities. Smaller organisations have fewer employees, and some of them do not provide volunteer activities. The descriptive statistic of the important variables analysed in the survey is given in Tab.1.

Even all organisations provide different projects, 76% of them have more than 3 realised and ongoing projects in the last three years. Unfortunately, only 24% of the projects last more than one year, while all other projects are provided in a maximum period of 24 mounts. Here, the important is that 64% of the projects are financed with the amount of more than 5000 €.

Table 1. Descriptive statistic of the surveyed variables (n=100)

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Type	100	1	5	2	2.83
Activity	100	1	6	3	3.53
Field	100	1	3	2	0.60
Employees	100	2	1,800	130	324
Volunteers	100	1	40	9	10
Budget	100	10,500	76,437,000	8,473,541	18,541,094

The analysis show that 96% of the organizations are positive for establishment of rural development network and 91% wants actively to participate in it. The remaining organisations are not decided whether the establishment of national rural development network is important for further rural development and agricultural sustainability.

Analysis of variance

In this study the sample is represented by the surveyed organisations. The results explain which variables are statistically significant for organisational willingness and potential to participate in the national rural development network. With a purpose to estimate the nature of the regression model and correlation between factors all six variables that influence on the dependent variable are analysed by the multiple linear regression and correlation model. The results show 65% variations of the dependent variable caused by the independent variables common influence which indicates that the regression is satisfactory. Hence, the influence of other factors that are not included in the regression is 35%. The estimates of standard error shows 40% unexplained variability. The summery of the regression analysis is given in Table 2.

Table 2. Summary of the regression analysis (n=100)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.442	.653	.543	.40081

The analysis of variance tests the significance between differences of the variability of randomly selected samples. According to the results presented in Table 3, the residual part presents random variability and influence of other factors which are not included in the analysis. Due to its relativity, the residual approach is better measure than standards error, which explains that almost 15% of other factors influence on the regression. However, the estimates show strong statistical significance of 0.002 on the organisational positive assessment for establishment of rural development network.

Table 3. Analysis of variance (ANOVA)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.620	6	.603	3.756	.002
Residual	14.940	93	.161		
Total	18.560	99			

The value of the regression parameters is presented in Table 4. Hence, the number of employees and volunteers is of great significance for increasing the organisational potential for establishment of rural development network. The level of significance is 0.05 which indicate 5% allowed error due to the other influencing factors.

Correlation analysis is used to estimate significance between each variable included in the model. The results considered different significant levels of correlation. In that way, they present a correlation with significance at the 0.01 and 0.05 levels. Indeed, there are three correlations with the 0.01 level of significance established between the type of organisation and its provided activities, the activities and the available budget for successfully providing all organisational obligations, and the number of employees and the output that describes the organisational potential for establishment of rural development network. On the other side, correlation with significance at the 0.05 level is considered between the type of organisation and its operational field, and between the output and the number of volunteers. The correlation analysis is shown below in Table 5.

Table 4. Value of the regression parameters

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	2.684	.144		18.699	.000	2.399	2.969
Type	-.031	.044	-.080	-.698	.487	-.119	.057
Activity	.120	.067	.286	1.791	.077	-.013	.254
Field	.114	.070	.160	1.630	.106	-.025	.252
Employees	-.005	.002	-.314	-3.327	.001	-.008	-.002
Volunteers	.000	.000	-.226	-2.397	.019	.000	.000
Budget	-1.430E-9	.000	-.160	-1.100	.274	.000	.000

Table 5 Correlation between the selected variables

		Type	Activity	Field	Emplo.	Volunt.	Budget	Output
Type	Pearson Correlation	1	.469**	.218*	-.105	.028	.153	.091
	Sig. (2-tailed)		.000	.029	.300	.780	.130	.366
	N	100	100	100	100	100	100	100
Activity	Pearson Correlation	.469**	1	.121	-.014	.014	.719**	.154
	Sig. (2-tailed)	.000		.231	.893	.890	.000	.126
	N	100	100	100	100	100	100	100
Field	Pearson Correlation	.218*	.121	1	.082	-.039	.186	.130
	Sig. (2-tailed)	.029	.231		.417	.702	.064	.197
	N	100	100	100	100	100	100	100
Emplo.	Pearson Correlation	-.105	-.014	.082	1	.023	.060	-.311**
	Sig. (2-tailed)	.300	.893	.417		.823	.552	.002
	N	100	100	100	100	100	100	100
Volunt.	Pearson Correlation	.028	.014	-.039	.023	1	-.092	-.223*
	Sig. (2-tailed)	.780	.890	.702	.823		.364	.026
	N	100	100	100	100	100	100	100
Budget	Pearson Correlation	.153	.719**	.186	.060	-.092	1	.065
	Sig. (2-tailed)	.130	.000	.064	.552	.364		.519
	N	100	100	100	100	100	100	100
Output	Pearson Correlation	.091	.154	.130	-.311**	-.223*	.065	1
	Sig. (2-tailed)	.366	.126	.197	.002	.026	.519	
	N	100	100	100	100	100	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Conclusions

In the results and discussion part the analysis of variance and correlation show that the organisational potential for establishment of rural development network strongly depends on several influencing factors. Moreover, the correlation between some factors is highly significant for increasing the organisational potential. Due to the significance of the current variables, the results show that the analysed organisations have a potential to work in the field of rural development and they can actively participate in the national rural development network. The biggest influences on organisational potentials have the number of employees and volunteers that are working in the analysed organisations. According to the results, the biggest part of the organisations has appropriate capacities and many years of experience in realisation of the ongoing project activities in the field of rural development. They share the need for establishment of National rural

development network and show willingness to participate in its activities. Hence, networking of organisations in the country can start on the voluntary basis by the initiative of the civil associations that work and have many years of experience in the field of rural development. This follow the "bottom-up" approach established in many European countries, and emphasise the need for participation of private sector and public institutions in rural development network.

Actualisation of the rural development approach and increased obligations leads for establishment of National rural development network in the Republic of Macedonia to represent a need and obligation at the same time. It will allow easier cooperation of all participants for realisation of the activities planned in the National Agricultural and Rural Development Strategy. Even if there are already set up conditions for establishment of rural development network, some parts of this process can still be improved. In that way, there are few possible useful practices:

- Building local partnerships and increasing their capacities by knowledge development and mobilising local potentials can bring significant positive results.
- The promotion of private-public partnership including strategy development can focus on innovative approaches in the rural development sector.
- The initiatives for development of rural areas can lead to connecting new people and organisations by applying innovative research, practices and entrepreneurship.
- On-line communication can increase the knowledge and experience for good agricultural practices and innovations for rural development.
- A strategy for better management in the rural areas can increase their economic and social behaviour.

The general conclusion is that the organisations in the Republic of Macedonia fulfil the necessary requirement for successful realisation of the activities in the field of rural development and recognise the need for network establishment. In that way, the basis for establishment of National rural development network exists, nut additional plans for the form and way of establishment should be developed by the Governmental organisations since they are more influencing legislative bodies in the country.

References

Brundtland Report. (1987). Our Common Future. Oxford University Press, Oxford.

CeProSARD. (2009). Study for assessment of the capacity of existing organizations in Macedonia for establishment of rural development network. Center for Promotion of Sustainable Agricultural Practices and Rural Development, Skopje.

ENRD. (2012). ENRD Overview. European Commission

ECOVAST. (2006). Strategy for the rural regions of Europe. European Council for the Village and Small Town, Croatia.

MAFWE. (2007). National agricultural and rural development strategy for the period 2007-2013. Ministry of Agriculture, Forestry and Water Economy, Skopje.

MAFWE. (2007). National rural networking strategy. Ministry of Agriculture, Forestry and Water Economy, Skopje.

MAFWE. (2012). National Programme for Agriculture and Rural Development for 2013-2017. Ministry of Agriculture, Forestry and Water Economy, Skopje.

MARD. (2010). The National Rural Development Network (Plan of Action). Ministry of Agriculture and Rural Development, Romania.
Official Gazette of the Republic of Macedonia. (134/07). Low of agriculture and rural development.
Risteski, S. and Tevdovski, D. (2010). Statistics for business and economics. Faculty of economics, University "Ss. Cyril and Methodius", Skopje.
RDSU. (2009). The National Rural Network. Rural Development Support Unit, Ireland.
Venessa Halhead. (2005). The rural movements of Europe. PREPARE Network, Brussels.

АНАЛИЗА НА ПОТЕНЦИЈАЛОТ НА ОРГАНИЗАЦИИТЕ ВО РЕПУБЛИКА МАКЕДОНИЈА ЗА ВОСПОСТАВУВАЊЕ НА МРЕЖА ЗА РУРАЛЕН РАЗВОЈ

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Апстракт

Република Македонија е стратешки ориентирана да воспостави одржлив развој во руралните области, да овозможи оптимално користење на природните ресурси во поглед на заштита на природата и животната средина, да го зголеми квалитетот и конкурентноста на земјоделските производи и да ја зајакне руралната економија. На тој начин, политиката за рурален развој има за цел да ги подобри постоечките услови за живот и работа на населението кое живее во руралните области преку воспоставување на различни форми на здруженија кои ќе дејствуваат за да се постигнат промени и заеднички интерес. Затоа, целта на студијата е да направи анализа на капацитетот и структурата на организациите во Република Македонија кои работат во областа на рурален развој и да ја оцени можноста за нивно здружување и понатамошна соработка. Податоците се добиени од предходно изработен прашалник, доставен до различни организации кои работат во областа на рурален развој. Употребен е дедуктивен истражувачки пристап кој вклучува квантитативен метод на описна анализа за да го спореди капацитетот на постоечките организации со можноста за воспоставување на мрежа за рурален развој. За да се пресмета значајноста на потенцијалот на организациите за воспоставување на Национална мрежа за рурален развој направена е анализа на варијанса (АНОВА). Резултатите покажаа дека вмрежувањето на организациите во земјата може да започне на волонтерска база преку иницијатива на граѓанските здруженија кои работат и имаат многу години искуство во областа на рурален развој. Ова го следи пристапот „оддолу-нагоре“ (“bottom-up“) воспоставен во многу европски земји и ја истакнува потребата за учество на приватниот сектор и државните институции во мрежата за рурален развој.

Клучни зборови: вмрежување, организации во Република Македонија, рурален развој.

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THE PERFORMANCE OF THE MACEDONIAN FRUIT AND VEGETABLE PROCESSING INDUSTRY

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Abstract
The aim of this paper is to determine the performance of the Macedonian fruit and vegetable processing industry during the period 2007-2011. Furthermore, this research has several specific aims: (1) prepare an up-to-date data base of the fruit and vegetable processors in Macedonia (2) research and analyze the production figures and export performances of the fruit and vegetables processing industry; (3) draw adequate conclusions and recommendations in regards to performances of the industry. The majority of the processing companies are classified as micro or small sized companies (86% in 2010 and 88% in 2011). There are no large scale enterprises in the F&V processing industry, due to the seasonal character of the production, which in return only provides an opportunity for seasonal employment. The predominant business activity of the processing industry is vegetable processing, canning in particular, while fruit processing accounts for only 10% of the processing activities. From the production figures it can be concluded that the industry in its development phase. The increased demand for the Macedonian processed goods by the foreign buyers, and domestic market growth are the main factors for improved performances of the industry. Pepper based products (roasted peppers, ajvar, lutenica, frozen pepper stripes) are dominant in the industry product portfolio. The companies are still facing capacity underutilization, mainly due to difficult access to finance (lack of working capita), and still disorganized demand and supply of the raw materials. EU and regional markets are the main export destination for Macedonian processed products. Germany (17%), Serbia (15%) and Croatia (9.5%) are the top 3 export destinations, encompassing in total 42% of the total value of exported processed products in 2011. Bosnia and Herzegovina, Slovenia, Montenegro and Kosovo additionally contributed with 22.5% in the total export value of processed products in 2011. Production under private labels dominates over own brand production and sales, particularly for EU countries. Currently, the industry is building its export strategy primarily on competitive prices, rather than supply of value added products.
Key words: processing of fruits and vegetables, exporting, export markets, product portfolio, competitive prices.

Introduction

The food processing industry is an important sector for the Macedonian economy. This sector contributed with about 3% in the national gross production in 2010 (SSO, 2011). In the beginning of 2012, the food processing industry had about 18,190 employees (excluding the employees in the

beverages and tobacco production and processing), which represents about 3% of all employments in the country (648,200 at the beginning of 2012). The food processing industry is in the group of processing industries, which provides the largest number of employments in the country (130,025 at the beginning of 2012). Within the processing industries, the food processing industry is on the second place according to the number of employments in this sector, right after the sector for production and processing of textiles.

Table 1: GDP and participation of Food and Beverages industry in the GDP (in million denars)

Production of Food Products and Beverages	2006	2007	2008	2009	2010
Gross Output	27,026	30,001	38,392	34,897	41,516
Intermediate Consumption	19,275	20,756	25,982	22,017	28,713
Gross Value Added	7,750	9,245	12,410	12,881	12,803
Taxes and customs duties	9	6	6	6	6
Compensation of employees	4,974	3,729	4,075	4,777	6,262
Gross Operating Surplus	2,768	5,510	8,328	8,098	6,535
Depreciation	1,782	2,076	2,101	2,207	2,573
Net Operating Surplus	986	3,434	6,227	5,892	3,962
Number of employees and self-employed	13,748	13,812	14,973	15,504	17,739
GDP	2006	2007	2008	2009	2010
Total Gross Value Added	276,324	313,478	357,450	358,945	381,148
Taxes on Products	44,741	52,426	56,723	54,935	57,331
- Subsidies on products	-1,006	-915	-2,445	-3,146	-4,367
GDP	320,059	364,989	411,728	410,734	434,112
% Production of Food Products and Beverages in Total Value Added	2.4%	2.5%	3.0%	3.1%	2.9%

Source: Own Analysis, SSO, MAKSTAT Database

The Fruit and Vegetables (F&V) processing sector consists of about 50 processing companies, that employ about 1,200 permanent employees and between 3 and 4,000 seasonal workers. On average, the industry buys about 60,000 tons of fresh fruits and vegetables, annually, for further processing (MAFWE, 2012).

Material and methods

The empirical approach consisted of surveying the fruit and vegetable processing companies in Macedonia during the period May - June 2012. All registered processing capacities were included in the survey (census method), and direct face-to face interviewing technique was utilized (Leader & Kyritsis, 1990). For the purpose of this research a semi-structured questionnaire was developed, tested on 3 companies, fine tuned and deployed. Data related to export performances of the industry was obtained from the state statistical office and additionally specific product groups were extracted and analyzed. The survey encompassed 49 fruit and vegetable (F&V) processing capacities in the

country, out of which only two companies (small scale processors) declined to participate and to provide the requested details. Another 6 companies could not complete the questionnaire due to the fact that they did not perform any processing activity in 2011 (due to various reasons, but mainly because of renovation of processing facilities, installation of new equipment etc.). Hence, the results and the analysis elaborated in this document are based on the answers obtained from 41 active F&V processing companies (unless otherwise stated). Due to the very high response rate of, all the details stated in the report are relevant and statistically correct. The period analyzed in this paper is 2007 – 2011 and analytical models applied are standard, including index numbers where applicable.

The results of the survey were analyzed by using descriptive statistics, while key findings were presented in tabular and graph forms. The research was channelled through MAP, and was financially supported by USAID's AgBiz Program.

Results and discussion

Raw materials supply

The F&V processing industry is highly dependent on domestic production and supply of agricultural products. High import tariffs and complicated procedures for imports of fresh produce for processing purposes leaves the industry to rely almost exclusively on arrangements with private farmers, enterprises and cooperatives involved in primary production and intermediaries – traders that supply the industry. Contract farming is still not applied efficiently as mechanism that regulates the production and supply of raw materials to the industry. Hence, around 40 % of the raw materials needed by the industry are contracted and delivered by the producers/traders (the same as in 2010), while the bulk of the raw materials are obtained on ad hoc basis typically just before or during high processing season.

According to the survey, the industry purchased more raw materials in 2011 in comparison to 2010. In 2011, the industry purchased 70.1 thousand tons of raw materials in total or 1.0% more than in 2010. In comparison to 2007, 22% more fruits and vegetables were acquired by the industry in 2011 (Table 1).

Red pepper is the most important raw material for the processing industry. The quantities of red pepper purchased by the processing capacities in 2011 represented nearly 54% of the overall raw material volume, and increased by 31% compared to 2007. The buyout of industrial tomatoes, beet root, eggplant and plums also increased in 2011 compared to 2007, while quantities of industrial apples and carrots decreased by 67% and 73% compared to 2007.

Overall, the industry purchased 65.3 thousand tons of vegetables (or 93%) and 4.7 thousand tons of fruits (or 7%) for processing purposes in 2011, out of which 27 thousand tons of fresh produce directly from the individual farmers (or 38.5%), while 30.7 thousand tons were supplied by the traders/consolidators (or 43.8%). Agricultural cooperatives supplied the industry with only 0.4 thousand tons or 0.6%, while the remaining 12 thousand tons of fresh F&V (or 17.1%) were provided by agricultural enterprises. This means that more than 80% of the raw materials are supplied by small scale farmers directly or through the traders and hence, processors are faced with product uniformity issues, varietal differences, production practices applied, traceability of the raw materials etc., which ultimately affects their productivity and overall performance.

Table 2. Purchase of raw materials by the industry 2007 – 2011 (in thousand tons)

Raw materials	2007	2008	2009	2010	2011	Index 2011/ 2007 =100
Red pepper	28.6	34.5	29.7	32.9	37.6	131
White pepper	1.2	1.0	1.0	1.2	1.1	92
Gamba	1.7	1.1	0.7	1.6	1.6	94
Chili peppers	2.1	1.7	2.0	2.1	1.5	71
Gherkins	3.6	3.8	2.7	3.5	4.3	119
Beetroot	1.8	2.6	2.7	1.5	2.4	133
Eggplant	2.6	3.2	3.2	3.0	3.2	123
Cabbage	2.3	5.9	2.9	2.5	2.1	91
Carrots	1.1	1.2	0.9	0.3	0.3	27
Industrial tomatoes	1.2	5.0	4.9	8.4	6.2	517
Onions	1.0	2.0	1.4	1.3	0.6	60
Sour cherries	3.6	4.8	3.2	2.4	3.3	92
Plums	0.3	0.8	0.9	1.6	0.7	233
Industrial apples	0.9	0.9	1.7	1.5	0.3	33
Others	5.5	6.30	9.2	5.6	4.9	89
Total	57.5	74.8	67.1	69.4	70.1	122

Production of processed F&V products

The industry in 2007 and 2008 showed a continuous increase in production, mainly due to the increased demand for the Macedonian processed goods by the foreign buyers, and domestic market growth resulting from strong penetration of the retail chains and changes in the lifestyle of the population (buying processed products rather than preparing homemade preserves). However, in 2009 the output was reduced due to the effects of the global financial crisis while in 2010 industry again showed an increase in production. This trend continued in 2011 - the industry's output increased by 5.2 thousand tons or by 10.9% in comparison to 2010 mainly as a result of improved marketing and sales practices of the producers, increased demand by international markets and additional governmental support to the farmers that cooperate with the industry.

The processing industry is involved in production of canned, frozen and dried F&V. The canning component dominates in production structure and increased in volume by 24% in 2011 compared to 2007. The production of frozen F&V products in 2011 was similar to the one from 2007 - +2% in 2011 while dried products showed negative trend and contributed with only 0.1% in total output of the industry in 2011 compared to 0.5% in 2007 (Table 3).

Table 3. Production of processed F&V products by the industry 2007 – 2011 (in thousand tons)

Category	2007	2008	2009	2010	2011	Index 2011/ 2007 =100
Canning	32.7	39.8	39.6	38.2	40.4	124
Freezing	12.2	14.0	6.2	9.3	12.4	102
Drying	0.2	0.4	0.2	0.2	0.1	41
Total	45.1	54.2	46.0	47.7	52.9	117

According to the individual product analysis, industrial ajvar was mostly produced by the industry, (individually contributing with 18% to the overall 2011), followed by processed gherkins, roasted pepper, homemade ajvar, beetroot, frozen pepper, etc. The quantities of homemade ajvar produced in 2011 outrun the volume of the same product produced in 2007 by 72%. Frozen peppers in terms of quantity faced sharp increase in production (8.9 thousand tons produced in 2011 compared to 5.3 thousand tons in 2010). Overall speaking, pepper based products were the most dominant and contributed with 55% in the overall production of processed products in 2011. Also, the production of ketchup significantly increased from 1.4 thousand tons in 2007 to 2.9 thousand tons in 2011due to the increased production of industrial tomatoes in the country. In regards to the processed fruit products, frozen sour cherries remain the most important item for the industry and the overall production is stabile over the analyzed period. Other products, such as lutenica, bleached peppers and chili peppers faced small decrease in 2011 compared to 2007. The highest production of processed products was registered in 2008 with 54.2 thousand tons of finished goods (table 4).

Table 4. Production of individual processed products 2007 – 2011 (in thousand tons)

Product name	2007	2008	2009	2010	2011	Index 2011/ 2007 =100
Industrial ajvar	7.6	10.1	10.4	10.4	9.5	125
Homemade ajvar	1.8	2.6	2.2	2.1	3.1	172
Lutenica	1.0	0.9	0.9	0.9	0.8	80
Roasted pepper	2.7	2.2	3.2	3.1	3.9	144
Bleached pepper	1.4	2	1.9	1.2	1.3	93
Chilli peppers	2.3	1.9	1.9	2.4	1.6	70
Gherkins	5.0	5	3.9	4.8	5.4	108
Beetroot	1.9	2.5	3.3	2	2.8	147
Ketchup	1.4	1.8	2.3	2.1	2.9	207
Mixed salads	1.1	1.8	1.3	1.1	0.8	73
Frozen sour cherries	1.6	2.3	1.3	1.4	1.6	100
Frozen pepper	7.6	8	2.8	5.3	8.9	117
Other	9.7	13.1	10.6	10.9	10.3	106
Total	45.1	54.2	46	47.7	52.9	117

Trade with processed F&V products

The processing industry of the RM has strong export orientation. Macedonian processed products, according to industry members, currently enjoy positive reputation among the food importers from the region and EU, as well. As a result, there is a positive trend for increase of exported quantities. Very favorable trading regime between Macedonia and the EU, and further liberalization especially as a result of CEFTA agreement should even more enhance the competitive position of the processed fruit and vegetable products. In 2007 the total volume of exported good was 29.5 thousand tons, while in 2011 the volume increased by 33% and amounted to 39.2 thousand tons. Domestic sale of processed products is also increasing, contributing to the overall performance of the industry. For example, a domestic sale in 2007 was 7.9 thousand tons in 2007 and 9.0 thousand tons in 2011 or + 14% (table 5).

Table 5. Export and domestic sales of processed products 2007 – 2011 (in thousand tons)

Year	Export	Domestic sales	Total sales	Index 2011/ 2007 =100
2007	29.5	7.9	37.4	100
2008	32.0	8.5	40.5	108
2009	32.2	8.6	40.8	109
2010	39.0	8.2	47.2	126
2011	39.2	9.0	48.2	129

Macedonian processing companies predominately export processed vegetable products. In 2011 processed vegetables contributed with 81.5% in volume and 79.3% in value of the overall exports of processed products. The EU and neighboring markets are the main export destinations for domestically produced processed products. Exports to the EU market contributed with 54.8% in volume (compared to 52.5% in 2010) and 49.9% in value (compared to 46.1% in 2010) of the overall export of processed products from Macedonia. In total, exports to the EU in 2011 increased by 2.3% in volume and 3.8% in value compared to 2010. Serbian market was the second biggest (14.1% in volume and 15.1% in value from the total exports in 2011). Exports to Montenegro considerably increased in 2011 in comparison to 2010. Overall regional exports of processed products in 2011 (to Serbia, Croatia, Bosnia and Herzegovina, Montenegro and Kosovo) contributed with 38.6% in volume and 41.4% in value of the overall exports of Macedonian processed F&V. Overseas markets (particularly Australia and USA) due to large communities of immigrants from Macedonia but also from other Balkan countries are also very important export destinations (Figure 1).

The Macedonian processed products have relatively low export value. The average value of exported processed vegetables in 2007 was 0.90 Euro/kg, while in 2011 the average value was 1.05 Euro/kg, or + 17%. For processed fruit products the average value of exported goods in 2011 was 1.20 Euro/kg and the value increased by 34.8% compared to average value from 2007 (table 6). This categorizes the processed goods as “commodity” rather than products with added value.

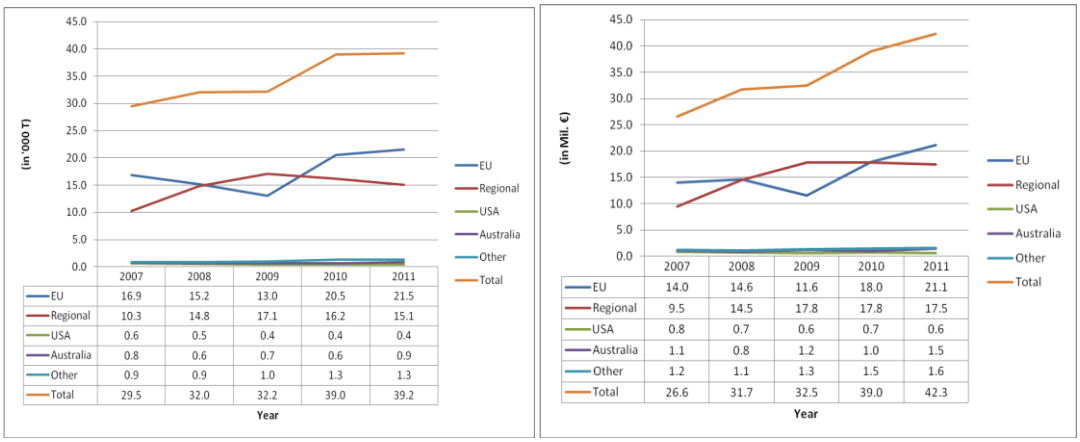

Figure 1. Export volume (left) and export value (right) of processed products 2007 - 2011

Table 6. Export and domestic sales of processed products 2007 – 2011 (in thousand tons)

Exports 2007 – 2011	2007	2008	2009	2010	2011	Index 2011/ 2007 =100
Export of processed vegetables (in '000 tons)	23.37	25.20	27.17	30.12	31.95	136.7
Export of Processed Vegetables (in Mil.Euro)	21.08	24.82	27.54	29.91	33.55	159.2
Average value of exported processed vegetables (Euro/kg.)	0.90	0.98	1.01	1.00	1.05	116.7
Export of processed fruits (in '000 tons)	6.22	6.84	5.13	8.96	7.28	117.1
Export of processed fruits (in Mil.Euro)	5.55	6.92	5.04	9.15	8.78	158.2
Average value of exported processed fruits (Euro/kg.)	0.89	1.01	0.98	1.02	1.20	134.8

Conclusions

The fruit and vegetable processing industry consists of predominantly macro and small enterprises. The predominant business activity of the processing industry is vegetable processing, canning in particular, while fruit processing accounts for only 10% of the processing activities.

The industry showed an increase in 2007 and 2008, but due to the global economic crisis, the industry slowed down in 2009 but quickly recovered in 2010 and 2011. From the production figures it can be concluded that the industry in its development phase. The increased demand for the Macedonian processed goods by the foreign buyers, and domestic market growth are the main factors for improved performances of the industry.

Pepper based products (roasted peppers, ajvar, lutenica, frozen pepper stripes) are dominant in the industry product portfolio. The companies are still facing capacity underutilization, mainly due to

difficult access to finance (lack of working capital), and still disorganized demand and supply of the raw materials. The supply chain structure shows that traders are still the dominant suppliers of fresh raw materials for the industry, while the number of direct purchases from the individual suppliers is also on the rise, mainly due to considerable efforts for deployment of contract farming model, and additional subsides directed to farmers that deliver their produce to the industry. The domestic processing industry is export oriented. The export in 2011, compared to 2007 increased by almost 60%. Very favorable trading regime between Macedonia and the EU, and further liberalization especially as a result of CEFTA agreement should even more enhance the competitive position of the processed fruit and vegetable products.

Due to its continuation, this model can be applied to other agribusiness related industries (or sub-sectors). The analysis and key findings could also serve as starting point in preparation of a longer term development strategy and Sector Export Marketing Plan for the F&V processing industry. This analysis could be expanded by adding financial analysis of the industry in order more relevant data to be gathered and analyzed.

References

Leader, W.G. & Kyritsis, N. 1990. Marketing in Practice. Stanley Thornes (Publishers) Ltd., Leckhampton, the UK

MAFWE (2012) Annual Agricultural Report for 2011. Ministry of Agriculture, Forestry and Water Economy of the Republic of Macedonia, Skopje.

SSO, MAK STAT Database (available at http://makstat.stat.gov.mk)

ОЦЕНА НА УСПЕХОТ НА МАКЕДОНСКАТА ПРЕРАБОТУВАЧКА ИНДУСТРИЈА НА ОВОШЈЕ И ЗЕЛЕНЧУК

Сашо Ристески

Апстракт

Целта на овој труд е да се утврди ефикасноста на македонското преработувачката индустрија за овошје и зеленчук во периодот 2007-2011 година. Ова истражување има неколку специфични цели: (1) да се подготви обновена база на податоци за овошје и зеленчук во Македонија (2) да се истражува и анализира производството и извозот на преработувачката индустрија на овошје и зеленчук; (3) да се подготват соодветни заклучоци и препораки во однос на перформансите на оваа индустрија. Мнозинството на преработувачки компании се класифицирани како микро или мали компании (86% во 2010 и 88% во 2011 година). Нема големи претпријатија во преработувачката индустрија на овошје и зеленчук, што се должи на сезонскиот карактер на производството, и што за возврат дава можност само за сезонското вработување. Доминантна дејност на преработувачката индустрија е преработката на зеленчук, особено конзервирање, додека на преработка на овошје отпаѓа само 10% од преработувачките активности. Од производството низ бројки може да се заклучи дека оваа индустрија е во својата развојна фаза. Зголемената побарувачка за македонските преработки од страна на странските купувачи, и порастот на домашниот пазар се главните фактори за подобрување на перформансите на оваа индустрија. производите од пиперка (печени пиперки, ајвар, лутеница, замрзната пиперка ленти) се доминантни во портфолио на производи во индустријата. Компаниите се уште се соочуваат со нецелосно искористе капацитет, што главно се должи на тежок пристап до финансии (недостаток на работни глава на жител), а сепак неорганизирана побарувачката и понудата на суровини. ЕУ и регионалните пазари се главните извозни дестинации за македонските преработени производи. Германија (17%), Србија (15%) и Хрватска (9,5%) се првите 3 извозни дестинации, опфаќајќи вкупно 42% од вкупната вредност на извезени преработени производи во 2011 година. Босна и Херцеговина, Словенија, Црна Гора и Косово дополнително придонесоа со 22,5% во вкупната вредност на извозот на преработени производи во 2011 година. Производството под приватни марки доминира над производството и продажбата на сопствен бренд, особено за земјите на ЕУ. Во моментов, индустријата е во изградба на својата извозна стратегија главно врз конкурентни цени, наместо врз понуда на производи со додадена вредност.

Клучни зборови: преработка, овошје и зеленчук, извоз, извозни пазари, портфолио на производи, конкурентни цени.

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TRENDS DEVELOPMENT IN THE PRODUCTION OF PLUMS IN THE REPUBLIC OF SERBIA

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Abstract
Plum is fruit is a widespread fruit species throughout the world and Europe, but also in Serbia. Plum is a fruit species moderate continental climate, which is on the territory of Serbia adapt to different conditions. Leading the fruit species in Serbia as well managed and well born in the mountainous area, relatively easy to reproduce and quite rapidly enters the cropping. It is very adaptable and succeeding even at over 1000 m above sea level (grown on the slopes of Javor and Kopaonik at a height over 1250 m). Because of the importance of plum in fruit production in Serbia, the main goal of the research is to analysis the state and basic trends in plum production in the world, Europe and the Republic of Serbia in the period 2002-2011. Analyzed are area, number of trees, yields per hectare and production of plum.
Key words: plum, trends development, Republic of Serbia.

Introduction

Pomiculture as a field in the plant growing production is characterized with a line of comparative advantages in terms of the remaining branches of agriculture. The edible parts, i.e. the juicy parts of the annual and perennial plants which are used fresh or processed are considered to be fruit. The biological –dietetic value of the fruit is determined with the presence of a larger quantity of vitamins, mineral maters and dietary minerals, enzymes, organic acids, natural antioxidants, phytochemical compounds, fibers, essential oils and other ingredients (Mihajlović Dragana, 2007). The production of fruit and fruit products can come from very profitable activities, especially when the export of fruit and fruit products are in question. The purpose of the fruit production is not just to produce, but to produce the specific product which can be placed on the market under the favorable conditions.

Pomiculture is of great significance for our country, and also there are excellent natural conditions for growing almost all kinds of fruit. Fruit grows well on relatively steep ground in favorable climate conditions. Well grown fruits give great yields per surface unit (Šoškić, 2008).

The economic development of the plum is determined by its utilization value, the representation in the pomiculture and the total agricultural production, the participation in the foreign trade, the necessary work force in the production, processing and the trade of plums, as well as the yield of this type of fruit of the sustainable development and the protection of the environment (Milić and Radojević, 2003).

The plum is a leading type of fruit in the structure of the fruit production in Serbia, as well as in the number of fruit giving trees (share 56,98%), and in the realized production as well (share 45,53%). The second and third place in the structure of the fruit production belongs to the apples and sour cherries, respectively (Lukać, Bulatović, 2004). However, although the plum is a prevailing type of fruit in Serbia and has a great economic significance, one type is grown the most – damson plum (Požegača).

Serbia which was a leader in the production of the "blue queen", the popular name of the plum with decades, can no longer hold this title. The European countries, such as Germany, France and Romania, are winning the game and so from the first place, Serbia has come down to number four, which is also uncertain since the Turkish plum producers are seriously competing for that place (Stojić, 2008). This author points out that the plum had a similar fate on the world market were, production wise, in its better days it was a match even for America.

The fruit of the plum is rich in potassium and reduces the blood pressure. The vitamins, enzymes and growth hormones have a significant, dietetic and therapeutic value. The anthocyanins can provide the human body with the appropriate protection from radioactive radiation and are significant antioxidants (Mišić, 2006).

Material and methods

For the analysis of the condition and the movements of the more significant characteristics of the plum production in the world, Europe and Serbia, the published data (web-sites) of the FAO organization and the Statistical Office of the Republic of Serbia (www.fao.org and www.stat.gov.sr) were used. At the same time, data from other sources were used which are listed in the part of the Bibliography.

For the processing of the statistical data, a table and graphic analysis and descriptive statistics was used for: the relative indicators of the occurrences, the average value, the change rate, the coefficient of variations.

The method of operation is adjusted to the purpose of the research, so that the surfaces, the number of the fruit trees and the production of the plum are arranged by years in tables, in order to visually understand the dynamics of the observed occurrences in the production with greater clarity.

Results and discussion

Characteristics of the capacities for the production of plums in the world

With the long term evolution in the various eco-environments, the plum has acquired a high degree of adjustment and a wide range of distribution, especially in the northern hemisphere (between 40º and 60º northern latitude). The leading place of the plum in the fruit production of Serbia can be explained with its wide range of distribution and the moderate demands from the land, the relatively moderate demands in terms of the applied agro techniques and the opportunities to grow on higher altitudes. However, in spite of the great economic significance in the production of plums of Serbia, there are still low yields and unsatisfactory economic results (Milić et al, 2009).

According to the average for the period of 2002-2006 there were total of 56.120.000 plum trees in Serbia, of which 52.230.000 were fruit giving trees. The average production was 448.960 tons a year, with an average yield of 8 kg per tree (Šoškić, 2008).

In the period 2008-2010, the world areas planted with plums were amounting to 2,5 million ha in average (table 1). Asia with its average area of 1,8 million hectares and Europe with its average area

of 5,5 million hectares have a share of 71,99%, or 22,23% in the total areas planted with plums in the world. According to this, the above-mentioned continents have a share of 94, 92% in the total areas under plums in the world. The share of the other continents extends within the interval of 0,15% (Oceania) to 1,85% (Africa).

Table 1. Areas under plums in the world, for the period 2008-2010

Region	Areas (ha) Year			Average 2008-2010	Structure (world =100%)
	2008	2009	2010		
World	2480995	2501982	2488374	2490450	100,00
Africa	43359	45065	49819	46081	1,85
North America	3967	38361	37684	26671	1,07
South America	36214	42233	42511	40319	1,62
Asia	1767489	1779521	1831946	1792985	71,99
Europe	574713	578648	507814	553725	22,23
Oceania	4401	3543	3430	3791	0,15

Source: www.fao.org

The average yield of plums in the world within the examined period (2008-2010) was amounting to 4.321 kg/ha (table 2). North America is the region with the highest average yield per unit area (13.376 kg/ha), followed by South America with its average yield of 11.373 kg/ha. The average yield of plums per unit area in Europe is amounting to 5.025 kg/ha.

Table 2. Yields of plums in the world for the period 2008-2010

Region	Yield (kg/ha) Year			Average
	2008	2009	2010	
World	4.167	4.375	4.420	4.321
Africa	6.316	6.611	6.291	6.406
North America	12.502	14.886	12.740	13.376
South America	11.108	11.566	11.444	11.373
Asia	3.646	3.698	3.744	3.696
Europe	4.572	5.047	5.456	5.025
Oceania	5.476	5.112	5.102	5.230

Source: www.fao.org

The average production of plums in the world in the period 2008-2010 was amounting to 10,8 million tons (table 3). Having known that the largest areas under plums are located in Asia and Europe, the largest production should be expected from these two continents. Asia with its average production of 6,6 million tons holds the first place, with share of 61,59% in the total world production of plums. The second place belongs to Europe with realized average production of 1,9 million tons, or a share of 17,71% in the total world production of plums. These are followed by North America (4,79%), South America (4,26%), Africa (2,74%) and Oceania (0,18%).

Table 3. Production of plums in the world for the period 2008-2010

Region	Production (t)			Average 2008-2010	Structure world=100%
	2008	2009	2010		
Worlds	10338754	10945579	10998227	10760853	100,00
Africa	273855	297943	313432	295076	2,74
North America	495525	571051	480094	515556	4,79
South America	402282	488448	486474	459068	4,26
Asia	6444479	6580565	6859259	6628101	61,59
Europe	27854	2920227	2770496	1906192	17,71
Oceania	24100	18113	17500	19904	0,18

Source: www.fao.org

China is leading plum-producing country in the world with a production of 3,2 million tons, representing a share of 30,06% in the total world production of plums (table 4). Serbia is the largest European producer of plums, with average production of 337.421 tons and share of 3,14 % in the total world production of plums. USA, Iran, Romania, Turkey, Spain, Italy, India, Russia and Chile are also important producers.

Table 4. Largest producers of plums in the world for the period 2008-2010

Countries	Production (t)			Average 2008-2010	Structure world=100%
	2008	2009	2010		
China	3116919	3206374	3380169	3234487	30,06
Serbia	362099	395436	254728	337421	3,14
USA	294239	339228	285090	306185	2,85
Romania	192802	191753	192257	192270	1,79
Iran	160613	160613	160613	160613	1,49
Turkey	148108	146674	143705	146162	1,36
Chile	139643	176643	177836	164707	1,53
Spain	118699	135943	114579	123073	1,14
India	113368	117503	140896	123922	1,15
Italy	109778	112969	123827	115525	1,07

Source: www.fao.org

Plum- producing tendencies in the world

The average areas under plums in the world in the examined period (2001-2010) were amounting to 2,3 million hectares, with variations throughout the analyzed years of 2 million hectares in 2007 up to 2,5 million hectares in 2002 (table 5). Europe with its average area of 489.258 hectares, has a share of 23,17%, in the total areas under plums in the world. Global increase of the areas under plums has been noticed in the world (change rate of 2,1%), as well as in Europe (change rate of 15,1% per year).

Table 5. Trends at the areas planted with plums in the world, in the period 2001-2010

Indicators	Area (ha)	
	World	Europe
Average	2.310.559	489.258
min.	2.053.685	431.593
max.	2.501.982	607.977
Change rate (%)	2,1	15,1
Variation coefficient (%)	6,7	33,28

Source: www.fao.org

In the examined period (2001-2010) the average yield per unit area in the world was amounting to 4.279 kg/ha (table 6). Variation coefficient is 4,44%. The average yield of plums in the world has been increased with a change rate of 0,45% per year, while the average change rate in Europe reaches even 8,5%.

Table 6. Trends at the yields of plums in the world, in the period 2001-2010

Indicator	Yield (kg/ha)	
	World	Europe
Average	4.279	4.897
min.	3.982	4.271
max.	4.513	5.698
Change rate (%)	0,45	8,5
Variation coefficient (%)	4,44	9,44

Source: www.fao.org

For the 2001-2010 period, the realized world plum production amounted to 9,8 million tons on average, with variation according to analyzed years from 8,5 million tons in 2002 to approximately 11 million tons in 2009 (table 7). The world plum production increases according to a 2,6% change rate, while in Europe there is a 2,1% change rate. The growing trend of the world plum production increase is the result of the increase of surface areas and yields per unit capacity.

Table 7.Variation of the world plum production in the 2001-2010 period

Indicators	Production (t)	
	World	Europe
Average	9.897.218	2.632.443
min.	8.473.770	1.856.892
max.	10.998.227	3.049.759
Change rate (%)	2,6	2,1
Variation coefficient (%)	8,70	12,42

Source: www.fao.org

Characteristics of plum capacities in Serbia

The number of fruit giving plum trees in Serbia amounted to 41,9 million for the observed period (2001-2010) on average, with variation according to analyzed years from 42,3 million in 2002 to 40,8 million in 2011 (table 8). With its 2,6 million fruit giving plum trees, Vojvodina has a share of 6,23% in the total number of fruit giving plum trees in Serbia. There is a decrease of the number of fruit giving plum trees in Serbia with an average change rate of – 0,43% annually. There is a decrease of the number of fruit giving plum trees in Serbia as a whole (change rate – 1,42%) as well as according to observed regions.

Table 8. Variation of fruit giving plum trees in Serbia in the 2002-2011 period

Period	Indicators	Serbia	Central Serbia	Vojvodina
2002-2011	Average (000)	41909	39295	2614
	min.	40822	38192	2545
	max.	42582	39950	2648
	Change rate (%)	-0,43	-0,48	0,32
	Variation coefficient (%)	1,42	1,55	1,19

Source: www.stat.gov.rs

For the 2002-2011 period, the yield per tree in Serbia amounted to 12 kg/st (table 9). The average yield of plums shows a tendency of growth per 8,04% change rate.

Table 9. Variation of the plum yields in Serbia in the 2002-2011 period

Period	Indicators	Serbia	Central Serbia	Vojvodina
2002-2011	Average (000)	12,0	11,6	17,1
	min.	4,0	4,0	6,0
	max.	16,0	16,0	22,0
	Change rate (%)	8,04	8,48	8,15
	Variation coefficient (%)	32,39	33,56	25,03

Source: www.stat.gov.rs

There was average plum production in Serbia in the amount of 514.886 t for the 2002-2011 period (table 10). With the production of 40.678,5 t Vojvodina has a share of 7,9% in the total plum production in Serbia. There is an increase of the average plum production in Serbia as a whole (change rate 6,76%), as well as according to observed regions (Central Serbia 6,70% and Vojvodina 7,55%).

Table 10. Variation of the plum production in Serbia in the 2002-2011 period

Period	Indicators	Serbia	Central Serbia	Vojvodina
2002-2011	Average (000)	514886	469667,5	40678,5
	min.	197486	180726	16760
	max.	680566	635872	56856
	Change rate (%)	6,76	6,70	7,55
	Variation coefficient (%)	30,5	31,55	24,26

Source: www.stat.gov.rs

The plum production situation is a consequence of the general situation in agriculture and promiculture production in Serbia. Due to its exposure to great influence of the instable market (domestic and foreign) and the variation of the climate conditions, this production went through its rises and falls (Tomić and associates, 2006).

According to Milošević and Petrović (200), the Kolubar and Nish County are characterized with extensive production of plums, while the area around Valjevo and parts of Šumadija are characterized with intensive production. Noted authors also indicate parameters that characterize the production in hill and mountain areas:

- Inappropriate varieties and soils,
- Low and variable yield followed by low quality of the plum fruits,
- Old, tired and biologically worn out plum plantations and
- Irrational use of plum fruits.

Milić and associates (2001) stress that only the intensive plum production is economically justified. Therefore the production should be intensified in the following period and the producers should be "persuaded" that with high investments per unit surface optimum financial results and high profitability may be achieved.

Many authors proposed measures for revival and promotion of the plum production in Serbia (Milošević and Petrović 2000), (Petrović and Milošević 1995), (Vlahović and associates 2001) etc. Some of the proposed measures by the mentioned authors are the following:

- planting new intensive plantations with varieties which according to the realized yields, size and quality of the fruits may provide lucrativeness of the investment, on one hand, and satisfaction of the requests of the foreign market on the other,
- promotion of the plum growing technology, above all, by improvement of the protection level against diseases and pests,
- more efficient efforts in the elimination of the negative consequences provoked by the sharka,
- preparation of long- term national programme for plum production and processing which implies division of the Republic into zones and micro- zones appropriate for growing of certain plum varieties. Financial support by the state community for planting of new intensive plantations with varieties of high quality which have high potential of fertility and sharka resilience is necessary, as well as crediting of the current production,
- introduction of the marketing concept,

- on a macroeconomic level it is necessary to undertake several vital measures in the agricultural policy, in order to provide long- term stabilization of the production and a high level offer and to provide economic security of the producers.

Conclusions

The plum is a widely spread fruit variety in the world and Europe, but in Serbia as well. The plum is a fruit variety which grows in a humid continental climate that in Serbia has adjusted to different conditions. It is highly adaptable and can grow even on 1000 m above the sea level (it is grown on the meadows of Javor and Kopaonik on a height of over 1250 m above the sea level). The terrains between 200 and 750 m above the sea level are most suitable for the mostly spread plum varieties in our country (damson plum (Požegača), Stanley and Čačanska Rodna).

On average for the period 2008-2010 the plum plantations in the world occupied 2, 5 mil ha. Asia, with average surface of 1, 8 mil.ha and Europe with average surface of 553.725 ha participate with 71, 99%, i.e. 22, 23% in the total plum plantations in the world. In the researched period the average plum yield was 4.321 kg/ha. North America is the region with the biggest average yield per unit surface with 13.376 kg/ha, and second is South America with average yield of 11.373 kg/ha. The average plum yield per unit surface in Europe is 5.025 kg/ha. Having in regard that Europe and Asia have the biggest plum plantations it should be expected that these two continents will provide the biggest production. Asia, with average production of 6, 6 million tons is on the first place participating with 61, 59 % in the total world plum production. Europe is second with realized average production of 1, 9 million tons i.e. participating with 17, 71% in the total world plum production.

On average for the research period (2001-2010) the plum plantations grow in the world in general (change rate 2, 1%), and in Europe (change rate 15, 1% annually). The realized world plum production was 9, 8 million tons and it tends to grow with an average change rate of 2, 6%. The growing trend of the plum production increase in the world is a result of the growth of the surfaces and the yields per unit capacity.

On average for the researched period (2001-2010) the number of Plum trees in Serbia was 41, 9 million. Vojvodina, with 2, 6 million of the total number of plum fruit giving trees participates with 6, 23% of the total number of fruit giving trees in Serbia. The number of plum fruit giving trees is decreasing, in Serbia in general (change rate -043%) and according to analyzed periods. The average plum yield in Serbia was 12.00 kg/st (table 9). The average plum yield tends to grow per change rate of 8, 04 %. In Vojvodina the average yield was 17, 1 kg/st and it tends towards increase per average annual change rate (8, 15%). The average plum production in Serbia was 514.886 t, with expressive increase trend (change rate 6, 76 %).

References

Lukač, Bulatović Mirjana (2004). Proizvodni i ekonomski efekti u proizvodnji I preradi voća, Masters thesis, Faculty of Agriculture, Novi Sad.

Milić. D., Prenkić, R., Vlahović, B. (2001): Ekonomski efekti proizvodnje šljive, Tematski zbornik, Koshtunići (s. 191-197).

Milić,D., Radojević, B. (2003). Proizvodno- ekonomska vrednost voća I grožđa, the Faculty of Agriculture, Novi Sad.

Milošević, T., Petrović, S. (2000).Stanje, problemi i perspektiva proizvoda, Milošević, T., Petrović, S. (2000): Stanje, problemi i perspektiva proizvodnje šljive u brdsko- planinskom području Centralne Srbije, Tematski zbornik, Koštuniči (s. 143-154).
Mihajlović Dragana (2007). Voće i proizvodi od voća (www.sljiva.co.yu)
Mišić, P. (2006). Šljiva, Partenon, Novi Sad.
Stojić, J.: (2008).Plava carica bez krune (www.biljnocarstvo.com)
Tomić, D., Milić, D., Radojević, V. (2006). Perspektive u proizvodnji šljive u Republici Srbiji, Ekonomika poljoprivrede Vol. LIII, number 3, Belgrade. (s.737-746).
Vlahović, B., Milić, D., Lukač, Mirjana (2001). Proizvodnja i prerada šljive u Republici Srbiji, Tematski zbornik Koshtunići. (s. 183-191).
Šoškić, M. (2008). Savremeno voćarstvo, Partenon, Novi Sad.

ТЕНДЕНЦИЈА НА ДВИЖЕЊЕ НА ПРОИЗВОДСТВОТО НА СЛИВИ ВО РЕПУБЛИКА СРБИЈА

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Апстракт
Сливата е многу распространет вид на овошје во светот и во Европа, но и во Србија. Сливата е вид на овошје на умерено континенталната клима која на просторите на Србија се прилагодила на различни услови. Таа е водечки вид на овошје во Србија бидејќи одлично успева и добро раѓа во ридско-планинскиот простор, релативно лесно се размножува и доста брзо започнува да раѓа. Многу е адаптивна и успева дури и на преку 1000 m надморска висина (се одгледува на падините на Јавор и Копаоник, на висина од преку 1250 m). Поради значењето на сливата во производството на овошје во Србија, основната цел на истражувањето е согледување на состојбата и на основните трендови на движењето на производството на сливите во светот, Европа и Република Србија во периодот 2002-2011 година. Анализирани се површините, бројот на родните стебла, пронисите по хектар и остварено производство на сливите.
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STRATEGIC APPROACH TO THE STUDY OF INTERDEPENDENCE OF PRICE AND QUALITY OF WINE – CROATIAN EXPERIENCE

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Abstract
One of the main strategic points within wine marketing is the establishment of interdependence of quality and price, especially for new products. The paper will start with theoretical approach to wine quality and wine price separately and will discuss the interdependence of quality and price of wine which represents the assumption for strategic approach to this problem for wine producers and wine dealers. Results of indicative research conducted in The Republic of Croatia which were gained by probing of individual questioning with the aim of defining the importance of quality and price when buying wine are shown within the scientific research. In the end, managerial implications based on experience of Croatian wine producers and wine dealers are shown.
Keywords: wine price, wine quality, wine marketing, interdependence of quality and price of wine.

Introduction

Quality is considered to be one of the significant elements of non-price competition in the markets of developed market economies. It presents established level of characteristics of a product which effectiveness and/or usefulness is described. When quality is concerned, regardless of the fact whether it is discussed about production operation, commercial or any other business, it is necessary to define the following:

a) approximately maximal, average and minimal level of quality of the product;
b) the amount in which price and quality of the product are synchronized;
c) the amount of customers' sensitivity to the change of level of quality of the products and the amount of changes of product demand.

First, this paper will try to give answer to the second question. However, strategies concerning wine quality can be established based on the preceding paper. Particular quality and price position in relation to the competition wine products can be presupposed highlighting the identification of customers needs, i.e. wine consumers needs, then (positive and negative) changes in customers needs and quality of level of the direct competition. This process needs to be studied dynamically, hence in longer period of time as well.

Wine quality

Recent quality definitions are getting significantly closer to the fundamental marketing settings. For example, quality is defined as a measure that shows the amount in which a product is synchronized

with customers' needs, wishes and expectations (Bovée, C. L. and Thill, 1992); optimal quality is defined as the level of quality in which best brings into balance customers' satisfaction and manufacturers' cost. Unfortunately, Croatian wine manufacturers pay more attention to quantity, in the production and market segment, and not to quality in any of its aspects. Generally, it is possible to discuss quality and quantity increase of the particular wine manufacturer. It is possible to measure quantity increase by looking at production, sale, number of employees increase indicators and certain financial increase indicators as well. It is possible to introduce quality increase in two ways: by introducing new wine brands and/or increase of wine quality in general terms; it can be the result of the overall increase in the quality of wine manufacturer's business on all organizational levels. Wine manufacturer's quality increase is based on the quality increase programme elaborate. It must be based on manufacturer's attitude to carry out the quality policy which is based on the following:

1. proportional high quality of wine
2. the necessity of constant level of wine quality
3. constant pursuit of increasing wine quality.

It is important to know that the introduction of wine manufacturers' quality elaborate will have a long term effect. Unfortunately, it is usually the case that wine manufacturers understand the role of quality only in case when they try to capture new and especially foreign market by selling wine they made, i.e. with the existing level of (low-) quality. Moreover one must be aware that medium-size wine manufacturers (producing 100 to 250 thousand bottles of wine a year) are a synonym for Croatian wine of high quality (Ladašić, 2006), which isn't necessarily true. The quality of wine cannot be based on the quantity. Apart from the characteristics of the quality, the quality can be recognised by all the other elements of marketing mix. It is common that high quality is followed by high wine product price, selective or exclusive distribution and highly professional but not so usual promotion. These characteristics are within manufacturer's scope of work. Apart from the characteristics mentioned, there are two promotional activities that are not within manufacturer's scope of work but which are equally present in a positive way- publicity and "word-of-mouth" advertising.

Moreover, objective and subjective quality elements should be differentiated. On the one hand, it is about technical-technological and other similar quality standards, while, on the other hand, it is about immeasurable quality standards which are judged by customers (wine consumers); these standards are different for every consumer and are, for example, wine taste. Generally, wine consumers' satisfaction should be the result of both elements, even though there is real possibility that subjective quality will overcome objective (low-) quality. This is the case with notorious wine brands which objective quality is not wholly or at least sufficiently overdrawn.

Wine quality is undoubtedly the result of the place where grapes for the wine production are grown. Place of growth is with the process of production, grape species and elements of physical environment (climate, insolation, soil, vegetation, water supply, micro flora and fauna and the like) of extremely important. All these elements together are called *terroir* and it is easiest to define it as taste of locality. According to the mentioned *terroir* should presuppose its uniqueness, particularity, origin, durability and personality. It is obvious that *terroir* understanding moves from objective to subjective category and should definitely be used for marketing. What is more, geographical wine origin and thus *terroir* is sometimes legally protected (example of Champaign and Rizling) (Hall, 2008).

Quality is an essential part of material and immaterial elements of wine which is an integral product. Quality of each particular element should be equally on the same level because wine consumer's dissatisfaction can be influenced by only one low-quality product. This can automatically lead to consumers' dissatisfaction of the whole product because the product is seen as whole. It can be shown in the following way:

$$KPP_1 \approx KPP_2 \approx KPP_3 \approx KPP_4 \approx KPP_5 \approx KPP_6 \approx KPP_{n.}$$

KPP stand for partial product quality regardless of its material or immaterial nature. Hence, the quality of wine as an integral product has to be understood as the function of quality of its partial elements where the quality of each partial element has to be at least equal and the level should be proportionally high. Only in this case it is possible to talk about integral quality of such product. When wine is concerned, cork, for instance, can be of low quality; while opening a bottle with such cork, the cork will break into peaces, crumble and contaminate wine which is being poured into a glass. The situation described will make a negative impression of the whole wine.

To maintain and improve his image which is related to quality, it is of great importance for wine manufacturer to put a lot of effort into realizing one of the following variants:

a) minimalistic variant: to maintain constantly achieved level of quality under condition that the quality is seen as relatively satisfactory; middle variant: to have the tendency of constant improvement of general level of quality; maximalist variant: to have the tendency of constant wine production with the highest possible level of quality (top-quality), i.e. to become and keep the position of market leader when wine quality is concerned.

When products are being repeatedly used, and it is the case with wine, the quality has to fulfil certain additional conditions which mostly affect usage and create consumers loyalty to certain products in the end. It can be concluded that quality is presupposed to be in close relation to wine origin, i.e. its tenderer. Wine style and character are presupposed by its quality and both of them define further consumers' segmentation and (non-)existence of loyalty in the same quality group. In other words, wine consumers who have experienced certain wine quality will continue with the purchase of that particular wine regardless of the higher price. At the same time, wine promotion cost should be in inverse proportion to the quality improvement cost. Hence, high quality wine should be sold with no or minimal promotion. On the other hand, bigger promotions are required for wine of low quality, especially in marketing and personal sale field. In the process one should be aware that according to Wine law (NN 96/2003) wine with controlled geographical origin and fruit wine are allowed to be advertised.

ISO 9000 norms were introduced in order to establish quality standards and for wine manufacturers to obey. These norms present simple and logical demands, elements and guidelines. Above all, these norms apply to the standardization of offer, purchase and testing of all actions included in the process of wine production, its sales activities and wine serving. ISO 9001 managing system is even more demanding than ISO 9000 system because it consists of developmental component as well. Croatian wine producers obey ISO 9001 system norms and HACCP (integrated food control system concerning all process fazes of its production and distribution). Some of the producers obey ISO 14001 (environment managing system) and ISO 18001 (health and safety at work managing system) norms. On the whole, wine producers who obey quality managing standards have top product in the end. However, after wine category is gained and wine is in the market conducting quality control on

national level is most important. In other words, there are serious doubts whether high quality and low-quality wine are mixed.

In the end, it is necessary to highlight that achieving and maintaining proportionally high level of quality can mostly be the result of the following marketing performance:

– creating suitable image wine and its producer,

– improving competitive position in the wine market and precise wine differentiation in the market since raising of the quality level presupposes added value of wine,

– achieving higher wine price,

– rationalization of promotional activities, since unpaid promotional forms are increasing (publicity and "word-of-mouth" advertising),

– general decrease of marketing cost,

– increase of repeated purchase and customers' loyalty etc.

Wine price

Price system directly determines functioning of the whole economic mechanism. On the other hand, price system directly influences making decisions about price even though as a rule price should be the result of economical acts, especially market rules. However, in Croatia it is normally not the case. As a result there is a fact that price is not considered to be significant variable of marketing mix by domestic wine producers; it is primarily considered to be mean of achieving (more) reasonable financial results without changes within production factors and business politics. Even though this fact was also affected by general state of disorder in the market in the time of former country it is obvious that we are pretty far away from perception that price as an element of marketing mix is of extremely significant importance for wine producers' business decision making, decisions of strategic and tacticful importance; everything mentioned is the result of the present situation which is reflected in the environment as well as present situation among wine producers. This also means that wine price has to be congruent to fundamental features and characteristics of particular wine, hence to closely suit its quality, design, packaging… and to realistically present achieved wine manufacturer's work productivity through wine price. Difference among sale price, i.e. valorised market price, and the cost should present realized income earned from wine sale. To sum up, effective combination of price and quality results in suitable strategic position and higher income.

Due to the facts mentioned above wine price is often seen as critical variable within marketing decision making since established price mostly and in large amount affects realization of established marketing goals, i.e. generally speaking fulfilling wine consumers' needs and achieving wine producers' suitable income. Hence making decisions about wine price has to be based on the following principles:

a) wine price has to be acceptable for wine customers
b) wine price has to ensure wine producer's future business
c) wine price has to ensure wine producer's sale increase, i.e. increase in the field of market share
d) wine price has to be competitive in the wine market
e) wine price has to function as stabilization in the wine market
f) wine price has to maintain suitable rate of profit.

On the other hand, price establishing factors are numerous and diverse. However, key factors are market factors, especially the following:

1) faze in the cycle of wine
2) price elasticity within wine demand
3) wine price among competition
4) style and habit of purchase of wine consumers
5) wine price differentiation
6) economic policy measures in the wine price field
7) manufacturer's image and tradition and vineyard position
8) consumers' buying power.

Due to the lack of space for giving explanation for every single of the mentioned factors, in the following part we will generally mention that there are four methods in wine price establishing: (Wagner 2007)

1) Method based on production cost

This is the oldest and the simplest method. Within this method wine price is based on the price of a tonne of grapes. There is a rule in the consistent American practice that the price of a tonne of grapes is divided by 100. According to this, if the price of a tonne of grapes is 2000$/tonne the price of the bottle is 20$. However, this method is old-fashioned and is hardly ever used except in the small vineries.

2) Method of price defining by experts

It is usually based on "blind" tasting of large number of mutually competitive samples of wine (8 to 12 wine samples) by wine experts, retailers and experts alike, four to eight of them in the total. These testers are expected to make a list of tasted wine samples which in the end gives the ranking chart of the wine samples tasted. If wine of a tasted vinery is in the first third of the chart it can be accepted to be in the highest price bracket because it is competitive by its quality as well. There is a problem when this method is concerned and it deals with subjectivity of the tasters, particularly in the process of their recruitment. It is also possible to make a jury of wine consumers who will make the chart instead of the experts motioned above.

3) Price defining method on the strategy-consumers lines.

Within this method the first thing to do is to define the strategy by which wine is to be directed in the particular segment of the market, i.e. to particular competitive market niche. Then, a survey of potential wine consumers of the particular market segment, i.e. market niche, is being conducted in the market and special events can be organized so that survey can have a promotional effect. In any case received feedback is authentic because they are result of true opinion of wine consumers in the market.

4) Method which combines all the methods mentioned above.

No matter which of the methods is used to define price, final decision about wine price has to be made. With this price wine producer will come out in the market by being aware that the price is synchronized with other elements of marketing mix and prices of competitive wine.

Interrelation of wine quality and price

Defining interrelation of wine quality and price is one of the crucial strategic issues within wine marketing, especially for new products, i.e. for new wine brands. Successful strategic defining and then managing interrelation of wine quality and price can result in competitive advantage of particular wine manufacturer. Dynamically observing, in defining this interrelation, generally there are three following variants:

1) One comes out in the market with balanced interrelation of quality and price, i.e. their interrelation is tried to put into balance in the best possible way according to the "value for money" principle. It is expected that quality level in every aspect has suitable price as well; however this cannot be expected in a real situation.
2) One comes out in the market with higher quality in relation to price to draw attention and when it is done the price is slowly increasing till it reaches "value for money" level.
3) One comes out in the market with lower price in relation to quality level to draw attention and when it is done the quality level is gradually increasing till it reaches "value for money" level. It is about specific penetrating price variants which are used to enter a market no matter how tough the competition is.

The problem in relation to the previous question is what really "value for money" is. Furthermore, isn't "more value for less money" present with wine consumers. Namely, the fact is that quality in general, and wine quality in particular, is a subjective category with distinction to price, which is an objective category, understood by wine consumers. That is, quality perception is different from customer to customer, while price is a given category and customers can(not) accept it only in terms of their buying power and life standard. Generally, wine consumers should react positively to the change of the quality level in a way that they recognise it in the first case and then show readiness to pay higher price for reached higher quality level. In order to achieve this investment in the increasing quality level should be directed to those elements of quality that are recognisable to an average wine consumer.

Apart from the above mentioned, it is quite hard to observe simultaneously both wine quality and price. That is, the problem is that wine consumer can actually judge wine only after it was tasted, even though quality elements don't necessarily be in relation to wine itself; it can include its packaging, label and other visual components of wine as a product and especially wine brand image, its origin, *terroire*, quality category (top quality, superior quality…), wine style and character and other immaterial elements of quality. Wine price can be the result of long wine production tradition and established image, for example French wine have higher prices than wine of other European, and New world wine producers, wine producers within the same quality level. However, decisions about wine quality are mostly made by coincidence (mutually with wine consumption, for example in restaurants and on wine roads), and is even more frequent as an element of post-purchase satisfaction of wine consumers who, after they taste certain wine, can judge about interrelation of wine quality and price. It should be noticeable that this kind of judging is subjective and this can be concluded from the above. In this sense it should be known that if suitable judgement is made about quality and price relation, wine consumer's loyalty toward certain wine brand will arise. This kind of loyalty can be maintained despite reasonable wine price increase. That is, it is important to know that loyal consumers are willing to pay more and stay loyal to wine producer that meets their needs and won't take risks by going to other producer with lower price.

Conjoint analysismakes the defining of interrelations between quality features and service price and their effect on the total product usefulness possible and idea acquired in this way is used for forming your own product offer and price policy. Using this model presupposes the possibility of one feature being compensated by another (trade off). In this way it is possible to determine whether wine consumer prefers qualitative or price elements of the product. In the case in which quality has greater impact in relation to price it is possible for prices to increase and consequently net usefulness decreasing would be possible to compensate with quality level rising etc. (Benazić, 2006)

Interrelation of price and quality can be shown through so-called hedonistic price function which is actually regressive equation which brings close product price and product's characteristics which means that, apart from the rest, individual maximal wine customer's readiness to pay for particular wine quality element can be shown. Achieved price function can then help to define direction and intensity of quality feature change impact on wine price change. Equally, investment profitability of wine quality increase can be defined by additional analysis made by wine producers. Namely, investment profitability of quality increase exists only in the case when wine consumers are willing to pay more for increased quality. Moat authors think believe that competitive advantage is based on perceived added value used is determined by customer's conditions in relation to product price. Hence, wine producers can move in the direction of increasing added value and/or price implicating differentiation and effectiveness, i.e. cost.

In the following text we will try to prove everything mentioned so far by results of indicative personal questioning probing research (Kristić, 2012) conducted last year in the part of Osijek-Baranya County among 476 respondents, members of student population, with the aim of defining importance of quality and price when buying wine. That is, to see the whole picture of wine market and define the preferences of younger population, aimed respondent group was introduced to pre-graduate and graduate students of Osijek University. One should be aware that Osijek-Baranya County where Osijek University is situated represents proportionally significant wine-growing district (Belje, Đakovo, Erdut and Feričanci wine are widely known) and the results given in the following text can be explained. On the other hand, young people definitely don't represent the segment which characterises the biggest wine consumption but it shouldn't be forgotten that young population is the group which create its attitudes, opinions and preferences at the end of this period. Big, if not the biggest effort should be made to direct the promotion of creating wine consumption culture to this very group of people. The specimen was deliberate and included 476 respondents from Osijek-Baranya County. There were 46,01% of men and 53,99% of women among the respondents. In the beginning, the surprising results of the conducted survey show that 88,58% of male respondents and 82,88% of female respondents consume wine while 81,28% of male respondents and 55,25% of female respondents consume beer which contradicts general opinion that most of the young people consume beer in larger amount than wine. This also shows that adequate marketing effort, this prospective market segment, should be held as extremely important in managing marketing strategies. In the context of this work and the conducted survey we were mostly interested in the answers of the respondents who consume wine and answers concerning their attitude towards wine quality and price. Respondents' answers are shown in five grades on Likert scale, and the results are shown in the table 1.

Table 1. Respondents' attitudes towards wine quality and price

Variable	Number of respondents*	Arithmetic mean	Median	Mode	Standard deviation	Coefficient of variation
Wine quality	407	3,65	4,00	4,00	0,85	23,22
Wine price	407	3,84	4,00	4,00	0,88	23,00

*The percentage was calculated on the basis of 407 respondents who said that consume wine.

It is noticeable that respondents evaluated importance of wine quality with an average appraisal of 3,66 and wine price with 3,84 which means that wine quality and price are of great and inasmuch

equal importance. Considering the amount of money the respondents are willing to pay for a bottle of wine for their own consumption in retail shops, the following answer distribution was reached (table 2).

Table 2. Respondents' attitudes on the reasonable amount of money given for their own wine consumption in a retail store

Price bracket (in kn)	<25	26-50	51-75	76-60	>100	Total
Number of respondents	95	160	83	41	28	407
Relative share (in %)	23,34	39,32	20,39	10,07	6,88	100

Note: 1kn = 0,135 €

It is obvious that respondents prefer wine from lower price bracket which is reasonable in relation to their buying power. In this connection respondents' sex is slightly significant (female respondents prefer lower price bracket a bit more than male respondents), but respondents' origin is of no importance (city, suburb, country), neither is the number of family members, but normally there is monthly household income dependence which is just proportional. In relation to the amount of money that the respondents pay for their own wine consumption in a café/bar/restaurant the following answer distribution was reached (table 3).

Table 3. Respondents' attitudes on the amount of money paid for their own wine consumption bought in a café/bar/restaurant

Price bracket (in kn)	<50	51-100	101-150	151-200	>200	Total
Number of respondents	159	168	55	18	7	407
Relative share (in %)	39,07	41,28	13,51	4,42	1,72	100

Note: 1kn = 0,135 €

Table 3 shows that even though price brackets are not reasonably equal to price brackets in table 2 respondents in this case as well prefer wine from lower price bracket which is again reasonable with regard to their current buying power. Respondents gave interesting answers to the question what makes them consume wine more often. The distribution of answers is shown in table 4. That is, with this control question of a kind of it was indirectly meant to define wine price significance to wine consumption. It is obvious the biggest possible incentive is cheaper but quality wine, hence reasonable “value for money” variant. That is, respondents are not particularly interested in new wine types even though they are perhaps of higher quality and this means that they would like to consume current (quality) wine at lower price.

It is obvious, as it was defined in the text above, that the most important factors of consumption are wine quality and price, especially if wine aroma and smell are accepted as elements of quality which they truly are. It is interesting that survey conducted by Centre for market study GfK from Zagreb which was conducted in July 2012 (http://trazilica.tportal.hr) which includes nationally representative specimen for Republic of Croatia also shows that today most of Croatian citizens pay attention to and values “price and quality proportion” (even 39% of the total number of the respondents) when buying products of mass consumption and service. “Quality in the first place is important for 22,5% of the Croatian respondents; “health”, i.e. “the amount in which product or

service is good for my health" is highlighted by 17% of Croatian citizens. With regard to the current recession and crisis in Croatia it is interesting that "price" factor is in the fourth place with only 8,3%.

Table 4. Respondents according to possible incentive for often wine consumption

Possible incentive	New wine type	Cheaper quality wine	Better promotional actions	Wine testing	1+1 bonus promotion	Nothing	Total
Number of respondents	24	158	34	49	75	67	407
Relative share (in %)	5,90	38,83	8,35	12,03	18,43	16,46	100

The questionnaire uses one control question which was meant to define indirectly price significance within wine consumption and the following distribution of answers was reached (table 5).

Table 5. The most important factors for wine consumption

Factor	Number of respondents	Relative share (in%)
Design and packaging	70	17,20
Quality	264	64,86
Reasonable price	280	68,80
Brand	56	13,76
Percentage of alcohol	70	17,20
Manufacturer (wine origin)	106	26,04
Recommendation of a friend	114	28,01
Aroma and smell	232	57,00
Croatian product	92	22,60
Famous advertising campaign	9	2,21
Product tradition	90	22,11

Even though the results given refer to indicative survey, since representative specimen is not included, especially in spatial and demographic sense, one can come to certain conclusions which sufficiently confirm attitudes given in the theoretical part of this paper. Naturally, it would be extremely good to conduct an overall survey in the whole Croatian Republic and by using representative specimen, especially in relation to demographic and socio-economic characteristics of wine consumers, and using more subtlety statistic methods such as conjoint analysis which was discussed before and which demand serious financial means for operating such survey. In any case, results of such survey would be very useful for further development and implementation and eventual strategy of wine development correction in Croatian Republic.

Managerial implications

Despite centuries-old tradition of wine production, Croatia is only in the last few decades going back to vineyards in search of quality in order to have a product which will at any time decently represent the country it comes from. Focus on the large quantitive production is replaced with the focus on the quality, from vineyard to visually qualitative introduction of the final product in the market outlet. Croatian market in the recession prefers cheaper private brands and unpacked wine and this is the fact that all Croatian wine producers fight, it is however more obvious with large wine manufacturers it is this reason that wine image is always connected to person of the manufacturer himself. This personality is harder to present with large wine manufacturers contrary to small wine manufacturers whose wine are always connected to the person of the owner it is one of the key reasons that this wine easily achieve the image of exclusiveness and alignment in the premium class. On the other hand, large manufacturers are forced to continually promote their wine and convincing consumers in their quality and individuality with great effort. Export market (out-of-region market is referred) don't consider Croatia as wine country, little it is known Croatian historical wine heritage and such market is not in the position to perceive Croatian unique wine regions in a way they are perceived in Croatia.

Insurance of quality raw material and quality in the wine cellar is just the beginning of a long way which leads to recognisability and acceptance by more demanding but rational consumers. Connecting name and product which evokes time when final product quality was not in the main focus was, for example, the main motive for product rebranding start by one of the large Croatian manufacturers. This process is pretty time and money consuming because it demands great involvement of financial and human resources. The process is developed through three key-fazes:

1) Research - research, collecting and analysing sequence of data and information
2) Imagination - process of brand strategy defining and the story which will be a framework of all marketing activities that relate to the brand
3) Narration - sharing brand story with all sides that are interested in it and their inclusion in the brand story.

We will briefly present how it appears in reality in the example of Vina Laguna (Laguna Wine). Identity of Vina Laguna is based on the icon which was created for it and named "Spirit of Istria"- inspired by legends about magical Istrian land, and especially legend about magical beings who built the ancient town of Pula during the night. The icon presents ease of Istria which is reflected in wine, air and Istrian way of life. Each bottle of Vina Laguna, within all price brackets has its icon on it and it has a different interpretation of depending on the price bracket it relates to. Each etiquette has the same brand story text "The lightness of being Istria". The icon and the story are integrated in all marketing activities of Vina Laguna, from in-store to the Internet, from advertising to experience in vineyard. Campaign bearer is Malvazija in the selected series which transparent bottle reflects ease in colour as well as character. New brand identity led the way to brand optimization - products with higher quality are produced which quality is now reflected through better visual presentation which tells the unique brand story through all price brackets. Within first five months of campaign- rebranding all new Vina Laguna were listed in all sales formats, and the total sale was increased for 20% in relation to the previous year (the increase is particularly noticeable in the highest price brackets - Selected and Premium category). It is necessary to highlight that parallel with rebranding, redefining of price policy to higher level followed.

Conclusions

We tried to answer the question to what amount product price is synchronized with its quality in this paper. We also tried to confirm that with the increase of quality level value for the consumers is increased at the same time and profitability for wine manufacturers is increased as well. Everything mentioned leads to conclusion that value creating is the frame for interrelation of quality and price synchronisation and the frame to overall activities with the aim development of interest of consumers and of manufacturers and all the other sides which are interested. This paper considers strategic approach to interrelation of wine quality and price in Croatia experience. The results show that interrelation of wine quality and price positioning affects the growing strategy of wine producing; especially quality increasing system which gives excellent results to employers, manufacturers and wine consumers as well. This doesn't mean that wine consumer is interested in every aspect of higher quality; he is interested in that aspect of quality which fulfils his clearly defined needs and wishes. Gained experience of Croatian manufacturers confirm that continuous tendency to increase quality level is profitable in long period because it achieves satisfaction of wine consumers who have the perception of it and manufacturer's suitable profit achieving creates security for future business, increases the volume of sale and market share as well which finally results in long term market competitiveness. In the end, with the aim of successful wine manufacturer strategy positioning conducting and achieving their competitive advantage it is necessary to include all resources to form and conduct basic wine manufacturer's competitive strategies.

References

Benazić, D. (2006). Međuovisnost kvalitete i premije usluga životnog osiguranja. Tržište, Vol. XVIII. No.1/2. pp. 67-80.

Bovée, C. L, Thill, J. V. (1992). Marketing, McGraw-Hill, Inc. New York. 1992. p. 729.

Hall, S. M., Mitchell, R. (2008). Wine Marketing: A practical guide. Elsevier. Oxford. 267.

http://trazilica.tportal.hr/?q=Hrvatima%20pri%20kupovini%20nisu%20najbitniji%20brendovi%20ni%20cijena (access 23.08.2012.)

Kristić, J. (2012). Stavovi studentske populacije o utjecaju promocijskog spleta na kupnju vina. Ekonomski vjesnik. God. XXV. br. 1. pp. 98-105.

Ladašić, H. (2006). Izvještaj "Pozicioniranje vinogradarstva i vinarstva u Hrvatskoj". Puls. Zagreb. p. 30.

Meler, M. (2005). Osnove marketinga. Ekonomski fakultet u Osijeku, Osijek.

Pravilnik o vinu. NN 96/96 i 141/10.

Wagner, P., Olsen, J., Thach, L. (2007). Wine Marketing and Sales – Success Strategies for a Saturated Market. The Wine Appreciation Guild. San Francisco. pp.181-186.

Zakon o vinu, NN 96/2003.

СТРАТЕШКИ ПРИСТАП КОН ИСТРАЖУВАЊЕ НА МЕЃУСЕБНАТА ЗАВИСНОСТ НА ЦЕНАТА И КВАЛИТЕТОТ НА ВИНОТО - ИСКУСТВОТО ВО ХРВАТСКА

Марцел Мелер, Ђуро Хорват, Јелена Крстиќ

Апстракт

Една од главните стратешки точки во рамките на маркетингот на виното е воспоставување на меѓусебна зависност на квалитетот и цената, особено за нови производи. Трудот започнува со теоретски пристап кон квалитетот на виното и цената на виното одделно, потоа се зима предвид меѓусебната зависност на квалитетот и цената на вино што ја претставува претпоставката за стратешки пристап кон овој проблем за производителите и диструбутерите на вино. Резултатите од индикативното истражување спроведено во Република Хрватска кои добиени од поединечно испрашување со цел дефинирање на важноста на квалитетот и цената при купување вино, се прикажани во рамките на научното истражување. На крајот, прикажани се менаџерски импликации врз основа на искуството на хрватски производители и дистрибутери на вино.

Клучни зборови: цена, квалитет, маркетинг на вино, меѓузависност на квалитетот и цената на вино.

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EXPORT OF FRUIT AND FRUIT PRODUCTS FROM THE REPUBLIC OF SERBIA

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Abstract
The aim of this research is to analyze the main characteristics of changes in exports of fruit and fruit products from the Republic of Serbia. The task is also to review the changes and to identify factors which determine the movement of realized exports. The authors point out the main problems and suggest the necessary measures that will increase the volume of production and exports of fruits, i.e. the possible directions of development for this very important branch of agriculture for the Republic of Serbia. Growth and change in the structure of production is the basis for the increase in fruit exports. The strategic goal of the Republic of Serbia should be the production of high-quality fresh fruit and processed products and increase the competitiveness in the international market. The marketing concept of legal entities should be to obtain a dominant position in the production concept, processing and export, in order to meet the needs of foreign markets and obtain an adequate (high) profit for the producers.
Key words: fruit, fruit processed products, exports, Serbia.

Introduction

Pomiculture as an important field of the plant growing production is characterized with some comparative advantages in terms of the remaining branches of agriculture, meaning that a greater amount of attention will need to be paid to pomiculture in the future. The production of fruit and fruit products can be a very profitable activity, especially when the export of fruit and fruit products is in question. But in this aspect it is necessary to undertake significant measures in the direction of intensifying the fruit growing production, as well as the modernization and specialization of the processing capacities (Milić and Radojević, 2003). The fruit growing production has a great development perspective due to the favorable natural conditions for growing of all continental types of fruit and due to the greater demand of fruit and fruit products on the domestic and worldwide market. About 60% of the total agricultural deficit of the rich countries in Europe and North America come from the deficit of fruit and vegetables.

Material and methods

The aim of this research is to analyze the main characteristics of exports of fresh and processed fruit in the Republic of Serbia for 2000-2001. The research is based on the data available, with the application of the method „desk research“. The basic data have been undertaken form the Statistical

Office of the Republic of Serbia in Belgrade. The most significant characteristics are presented in tables, and have been processed with the standard statistical methods.

Results and discussion

Export of fruit and fruit products from the Republic of Serbia

The average export of fruit and fruit products in the time period researched (2010-2011) was a little over 200 million dollars. Good export results have been achieved with a significant trend of growth of the export (growth rate of 17% annually). In 2010 the production of fruit in the Republic of Serbia achieved over a million tons (1,3 million tons), and the total value of the export of fruit and fruit products amounted to 316 million dollars. In terms of value, the largest share in the export belongs to the frozen (73%) in terms of fresh fruit (26%). The lowest share belongs to dried fruit (1%).

The favorable results of Serbia in the foreign trade of fruit and fruit products have been realized due to the suitability in the preferential status on the market of the countries from the European Union, the realized liberalization in the exchange with the countries from the Western Balkans (CEFTA) and the market conditions, which are still maintained on the world market (www.akter.co.rs).

Table 1. Export of fresh fruit from the Republic of Serbia (2010-2011)

Fruit	Amount (tons)	Value (000$)
Apples	107.967	46.433
Plums	22.359	14.715
Peaches	8.284	5.631
Nectarines	5.272	3.471
Sour cherries	4.270	2.822
Apricots	3.188	1.757
Cherries	2.848	4.848
Strawberries	1.484	2.408
Total	155.672	82.085

Source: Customs Administration of the Republic of Serbia, 2012

The export of fresh fruit is a little over 155 thousand tons, which amounts to over 82 million dollars (2010). In the amount structure of the fresh fruit export of the Republic of Serbia, apples dominate with 68% share; plums come second; peaches; and then nectarines (table 1). Although the crops were not realized to the maximum, the notable results in the export of apples were accomplished, among other things, due to the supplies which were kept in the ULO (Ultra Low Oxygen) refrigerators. In the Republic of Serbia there are quite a lot of standard refrigerators, but there are only 13 ULO. These results have proven that the number of ULO refrigerators needs to be increased in our country in order to keep and observe the continuity of the export. The greatest export was realized with the Russian Federation and in the countries of the CEFTA region. The greatest part of the export of plums is being realized in the Ukraine, Moldavia, Belarus, and the Russian Federation.

One of the basic problems which occur in order to achieve a greater export of fresh fruit is is the fact that in our country there are very few “real” producers with large production. They are mainly producers which produce relatively small amounts of fruit for their own purposes and retail markets.

Without more significant producers having a larger and continuous production, and putting the accent on the high quality, more serious export of fresh fruit cannot be expected.

Table 2. Export of frozen fruit from the Republic of Serbia (2010-2011)

Fruit	Quantity (tons)	Value (000$)
Sour Cherry Rolend	28.556	33.538
Raspberry Rolend	26.303	95.416
Raspberry Gritz	22.649	43.566
Blackberry Rolend	18.521	16.935
Raspberry Blok	5.701	8.006
Raspberry Bruh	6.774	9.828
Raspberry Original	2.498	7.366
Strawberry frozen	2.433	3.733
Other frozen fruit	19.033	15.154
Total	110.947	233.542

Source: Customs Administration of the Republic of Serbia, 2012

The export of the frozen fruit slightly exceeds 110 thousand of tons, which is amounting to 233 million dollars (table 2). In the structure of the export of frozen fruit, the raspberry has a dominant position with the amount of 164.2 million dollars, or with a share of 70% in the export value. Largest export was realized to the countries of the European Union (Sweden, Great Britain, Germany, France and Belgium). Largest export of the frozen sour cherries was realized in Netherlands, Italy, France, Germany and Austria. It is obvious that the countries of the European Union dominate in the export structure.

Serbia exports around four thousand tons of prunes at annual level, and has a potential to place up to 10 thousand tons on the foreign market. The prunes are mostly exported in the Russian federation, followed by Bulgaria, Croatia, USA, but there are new potential markets such as the Near East, India and the former republics of the Soviet Union. The profitability from the export of dried fruits is up to ten times higher than the profitability from the fresh and frozen fruit. In 2010, Serbia exported a total of 4.590 tons of dried fruit and realized profit of 14 million dollars, where the major part of the export consisted of prunes. In addition, 34 tons of dried apples, 43.4 tons of dried peaches, 12.8 tons of dried apricots and 3.4 tons of dried pears were exported. Serbia has quality fruits of apples for drying, and its share in the production and export can be increased for at least ten times. The dried apricot and raspberry have very important potentials.

The realized export results were influenced by heterogeneous factors: the scope and the quality of the production, the constant lack of finances, the undefined relationships in the reproduction chain, the numerous problems related to the purchase and processing of the fruits and similar. Despite the abovementioned, external factors influenced as well, but mostly the measures of the agricultural protectionism, including the economic policy and the economic regime with their numerous means (customs tariff, bans, contingents, subsidies and other measures) protecting the market of the developed countries (Vlahović and Tomić, 2003).

The market of the European Union is a demanding market, especially concerning the product quality. The consumers from the EU countries are prepared to pay higher price for the required

quality. There is a trend of constant increase in the demand of products of organic origin, which is based on natural factors in the growing, without presence of chemicals and mineral fertilizers, grown in ecologically stable conditions. Republic of Serbia still encounters numerous problems in the production of fruit and quality fruit products. In addition to the undisputable natural conditions for growing of all types of continental fruits, it needs to make a division into fruit areas, to struggle towards the required assortment, towards highest product quality, towards promotion of the organization in all phases of this activity, beginning from the stem plants, establishing orchards, production of fruit, harvesting, storage and placement. The prices are an important item in all of this, and they must be competitive with the quality since the profitability of the production greatly depends on them. Republic of Serbia could start producing fruits according to the principles of the organic production on remarkable areas, which should enable a safe placement and satisfactory price in the highly developed EU countries. Significantly higher budget amounts should be allocated in this direction, along with the finances which could be provided by particular local self-government units that see their chance of development in the promotion of this type of production. Good preparation and appropriate marketing strategy need to be carried out for a successful fruit export. The planning and realization of the fruit export must begin from the primary production, via an appropriately organized logistics, and at the end, the marketing (agroekonomija.wordpress.com).

One of the significant measures for development of the fruit production and export is the signing of the Agreement between the Ministry of Agriculture of the Republic of Serbia and the Kingdom of Denmark (2012). The agreement for implementation of the Programme for support of the private fruit and berries sector in Southern Serbia foresees investments in the total amount of nine million euro. The government of Denmark shall grant 5.35 million euro for the Programme, the government of Serbia shall grant 3.3 million euro, and the local self-governments shall have to invest 300.000 euro. This assistance shall be used by the agricultural producers of five districts –Pčinja, Jablanica, Toplica, Nišava and Pirot district. The farmers shall receive non-refundable assistance for growing of berry plants with advanced techniques, purchasing of equipment and refrigerators, and training shall be organized as well. The Agreement shall promote the production and shall raise the competition of the Serbian producers.

Denmark already imports significant amounts of fruits from Serbia, while the export of processed products should be increased. The purpose of the Agreement is to promote the production and processing of fresh fruits and fruit products in the underdeveloped regions of Serbia, to promote their export and placement on the foreign market, to realize higher incomes for the local population and to open new work posts. The application of the Programme for support is planned for the period from 2012 to 2014. The Stabilization and Association Agreement and the Interim Trade Agreement as its segment, were signed in 2007, and the same regulate the internal trade issues. The Agreements have been signed in 2008 in Brussels. The Assembly of the Republic Of Serbia has ratified both agreements in 2008. From February 1st 2009 Serbia has unilaterally applied the Interim Trade Agreement. In 2009 the Council of the European Union has adopted a decision that the European Union shall start a bilateral application of the Interim Trade Agreement on temporary basis, and Interim Trade Agreement officially entered into force on February 1st 2010, while the ratification of the Stabilization and Association Agreement of the EU member states commenced in the second half of 2010. Two most important responsibilities that the Republic of Serbia undertook by the signing of the Stabilization and Association Agreement and Interim Trade Agreement are the establishment of a free trade zone and harmonization of the Serbian legislation with legislation of

the EU within the transitional period of six years. The Agreement creates a free trade zone between Serbia and the EU within a transitional period of six years. The responsibility of Serbia shall be composed of gradual abolishment of the EU origin goods import customs duties within the transitive period. On the other hand, the European Union confirms the free access of goods from Serbia to the European Union markets (www.merr.gov.rs).

With Article 11 from Interim Trade Agreement, for the fruit for which in the Joint Customs Tariff of the EU a special customs fee shall be envisaged ad valorem, during export from Serbia, from the day of entering into force of the Agreement, a special customs rate shall be applied, while the import of the other tariff positions shall be free, respecting the strict standards in the field of the sanitary safety, traceability and quality. Serbia may offer a product which does not carry any health risk but the production is with uncompetitive price and quality. In order to change that, it is necessary for the producers to increase the level of incomes and to decrease the costs and to improve the quality of the produce packaging. The export potential of the Serbian agriculture for many years was based on the fruit, more precisely the berries or even more precisely the raspberry. The berries participated with 63.7% in the entire export and the raspberry alone was 57.8% from the value of this group of goods. Observed by tariff positions, bigger export, besides the Roland, Gritz and Bruh raspberry, the coreless sour cherry and the Roland bramble achieved bigger export (Tomić and associates, 2010).

Having in regard that the fruit production in Serbia has been export directed, its liberalization shall expressly have a positive impact, because it will initiate significant changes in the sector which will reflect with increased competition i.e. keeping the old or obtaining new markets. That means that the liberalization may potentially improve the fruit sector in Serbia. Such scenario depends on the reforms in the sector that need to cover: knowledge improvement, embracement of new technologies, establishment of more efficient intellectual rights protection system, in order to facilitate the implementation of new varieties, the organization of production groups (clusters) and the unification of the offer, creation of conditions for implementation of the standards, the investing in storage rooms, refrigerators and mastering the fruit storing technology and the investing in the processing capacities. A great portion of the producers, who have not changed the approach toward the orcharding, will have to adjust to the changes or transfer in some other sector. The prices of the fruit in Serbia are lower that the prices in the EU, but higher than the prices in the neighboring countries. The liberalization shall not have a significant impact on the prices, but the consumers shall have a better quality and regular supply for the same price (www.agrobiznis.net).

The inclusion in the international market and the placement of the fruit from the Republic of Serbia is conditioned by many factors such as: the quality, the price, the assortment, the competitiveness, the currency regime as well as some quantity and quality limitations and the signed agreements. The export of fruit from our country is not limited by the quality, namely the quality of our fruit (ex. the raspberry, the plum etc.) is highly appreciated at the European strict market. In the strategy for export of agricultural and alimentary products from the Republic of Serbia, the fruit should have a dominant position. In the following period significant changes will occur in the fruit sector and they will cover in particular (www.ledib.org):

- Opening of the borders, by signing the Stabilization and Association Agreement and the membership in the WTO, which provokes even bigger contest on the fruit market and a need for increasing the price competitiveness for the respective product,

- Increased requirements and demands for the quality competitive products, where that quality has been certified- integral production, organic production, protection of the origin name, protection of the origin symbols etc.,
- More strict standards in the production and sale of the fruit, especially export related (in the European Union, as well as in the other countries), but also in the home market. Increased production traceability requirements (registry, plant passports, standards etc.),
- Increased need for embracement of new technologies in the production process because they change fast and it creates a need for acquisition of new knowledge to adjust to,
- Increased investments in the agriculture, the rural areas and by that in the fruit sector through various programmes of the central government and also by utilization of the EU structural funds- mostly the IPARD fund.

Analyzing the agricultural export in Serbia and observing the export incentives which the Government defined in its Decrees for utilization of the subvention funds for the producers of agricultural and alimentary products for the researched period, it can be concluded that the fruit and the fruit products are most significant goods from the export assortment in the agriculture of the Republic of Serbia.

Having in regard the fact that the aim is total market liberalization and abolishment of the customs duties and levies, the subventions are a good stimulation measure which may be applied as long as the EU approximation process allows that. That is significant support for the domestic production and processing of fruit and fruit products. The export stimulations for the fruit are not high- they vary from seven to ten percent but are useful, as they should increase the competitiveness of the domestic products at the European market.

It is necessary to have consistency and harmonization in the production so that the Republic of Serbia can realize permanent export of fruit and fruit products with permanent increase. In other words, it is necessary for our country to have high quality products, to increase the domestic production, to perform continuous control over those products, which is harmonized with the export standards, in order to achieve significant export of these products. It is necessary for the domestic internationally oriented enterprises to abandon the external trade approach as soon as possible and to introduce the marketing concept in order to become holders of the international business activities. Unfortunately, many of the economical entities which are involved in the production and processing of fruit in Serbia have not embraced the marketing concept in the international operation. That means that for the purpose of creation of an optimal international marketing MIX, only the basic elements (product, price, distribution and advertising paths) are at disposal. Simultaneously, they are not in a situation to perform a research on the foreign market, which is a basic precondition for efficiency and effectiveness for the international operation. The marketing concept of operation of the economical entities should have a dominant place in the planning of the production and the export in order to satisfy the needs of the foreign market and to realize appropriate profit. It is necessary to unify the export programme in a single product trademark „Serbian Fruits" or „Fruits of Serbia" or similar stressing the high quality and the sanitary safe character. The orcharding is definitely not only a standardized technology and a selected variety, but also organization of the fruiterers who sell some variety within the standard for agreed quality for a higher price at the domestic and global world market (www.vocarstvo.com).

The increase of competitiveness and agro-industrial products from Serbia can be based on the following activities of the business entity (modified Cvijanović and associates, 2008).

- Leading an active policy and continually promoting product quality by observing the standards of importer countries (introducing and certifying a food quality and safety system and observing all health and sanitary standards). These standards refer to the biochemical characteristics, external appearance (fruit mass, color, diameter) and the presence of harmful materials (nitrates and heavy metals, pesticide residuals, phytohormones). The case is primarily ISO for agricultural production and HACCP in the processing industry. These standards were produced as consumers' reaction to the occurrence of sanitary unsafe food and from the fear of introduction of genetically modified food. GLOBALGAP is a standard that covers the main aspects of production, such as land management, growing crops and gathering. Also, it deals with the issues regarding pollution, treatment of labor force and protection of the environment. It monitors production from harvest (it analyzes the origin of seeds and history of the land), through growing (it monitors the use of herbicides, pesticides and fertilizers – quantity, type, quality, place and manner of application) irrigation and gathering (the hygiene level and manner of storage), up to packing, transport and display of products on store shelves (Presnall and cap., 2003). Many authors support integral fruit production in order to increase export. This represents a strategic path for pomiculture development in developed countries, as well as in our country in future. The integral concept is based on the application of a combination of genetic, agronomical, biotechnical and chemical methods in an economically acceptable system of production, which provides fruit quality, preservation of the environment and human health (Keserović, 2005).
- It is necessary for the producers to dedicate themselves to the production of quality fruit varieties that will be processed in accordance with modern technologies in order to achieve maximal marketing supported placement of products with high nutritive value.
- Addition of new properties of the present products, in accordance with the demands, wishes and needs of the consumers in separate market segments – grafted dry fruit, processings on the basis of frozen fruit, and similar.
- Creation of "new" products that are demanded by the foreign market, primarily in the field of organic food and/or biologically valuable food.
- Creation of a brand in order to gain the trust of foreign consumers in the fruit that is produced in the Republic of Serbia.
- Reduction of production costs in order to achieve more favorable prices in the international market.
- Definition of adequate strategies for placement in separate market segments – EU market, market of the CEFTA region countries, Russian Federation market.

Price competitiveness is no longer a defining export advantage, but quality factors have shown to be significantly defining: design, packaging, safety and speed of delivery, trademark ("*brand*"), ability to meet the specific demands of the consumers regarding usage, services in the course of and after purchasing, warranty deadlines and observance of contractual obligations during export, the issue of patents, introduction and use, permanent advertisement in the media, representation of our country's trade interests and building a positive image of the company products and promotion of the national identity (Presnall and cap., 2003). The basic steps that always lead to increase of competitiveness of the export products are the following (Paraušić and cop., 2007): increase of production productivity and restructuring of the export offer, promotion of the business and market ambience, application of innovative marketing strategies and initiation of cluster associations and the like. For export oriented development of the processing industry there must be significant and stable raw material

base, i.e. production of quality fruit. Constant expansion of the assortment based on fruit. Search of new solutions in the fruit production and processing technology. Application of modern standards in production and processing is one of the basic determinations regarding export of fruit and processings from Serbia is the constant quality improvement. The increase of competitiveness on the international market must be based on quality, not price. At present, the quality and satisfaction that the buyers will have during use is increasingly more important. Fruit products must also have modern and attractive design, i.e. high quality packaging. It is necessary for the product to be adjusted to the conditions on the defined market, i.e. the wishes, demands, needs and habits of the consumers.

Conclusions

Fruit and fruit products have a dominant place in the structure of agricultural – alimentary products from the Republic of Serbia. Main obstacles for more dynamic export of Serbian fruit and fruit products are: inappropriate varieties and quality of plant propagating material, insufficient knowledge of foreign markets as well as lack of knowledge of the new production technologies that prolong the production season. The problems related to product export are inappropriate quality and design of the packaging, limited number of varieties, large number of small producers with un-harmonized fruit production technology and instability of export markets. During the monitored time period significant export results were realized. Export of fruits and products in the value of over 200 million dollars was realized, as well as there was also a trend of significant increase. Fruit production reached over one million tons (1.3 million tons) in the Republic of Serbia in 2010 and the total value of the fruit and fruit processings export amounted to 316 million dollars. In terms of value, frozen fruit had the largest export share of 73% in relation to fresh fruit (26%). Dry fruit had the lowest share of 1%. Export should be the instigator for increase of the total national production and industrial processing of fruit. Producers must be connected in specialized professional associations in order to increase production and export. Their goal would also be higher quality production since solely quality can help achieve a better result, especially on the international market. There is a significant opportunity for export of the fruit produced in the integral production system, i.e. sanitary safe food, for which there is a significant demand on the international market. The marketing concept of operation of the business entities must acquire dominant place in the planning of production and export, in order to satisfy the needs of the foreign market and to realize appropriate profit.

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References

Cvijanović. D., Vlahović, B, Paraušić, Vesna, (2008.): Uloga Mečunarodnog marketinga u kreiranju konkurentnosti domačih povrča- stanje, šanse i perspektive, Savremeni povrtar, number 1. Novi Sad.

Kezerović, Z. (2005.): Integralna i organska proizvodnja voča, monografija, Institut za ratarstvo i povratarstvo, Novi Sad.

Milić, D., Radojević V. (2003.): Proizvodno- ekonomska i upotrebna vrednost voča i grozhča, Naučna knjiga, Novi Sad.
Paraušić Vesna, Cvijanović, D., Subić., J (2007): Afirmacija Udruzhivanja i marketinga u funkciji kreiranja konkurentnosti agragnog sektora Srbije, Institute of Agricultural Economics- Belgrade.
Presnall, A., i sar., (2003.): Konkurentnost poljoprivrede Srbije, Jefferson Institute, Natonal Bank of Serbia- Belgrade
Tomić, D., Popović Vesna, Vlahović, B., (2010.): Implikacije primene prelaznog trgovinskog sporazuma na agroprivredu Srbije, Agroprivreda Srbije i evropske integracije, (ne) prilagočenost prelaznog trgovinskog sporazuma, Tematski Zbornik, Belgrade.
Vlahović, B., Tomić, D. (2003.): Izvoz maline iz Srbije i Crne Gore- izgled za budučnost, Ekonomika poljoprivrede, number 3, Belgrade.
http://www.akter.co.rs/ekonomijaprint/3286-izvoznik-hrane-postaje-zavisan-od-uvoza.html
http://agroekonomija.wordpress.com/2011/04/24/izvoz-voca-srbije-u-2010-godini-2/.
http://www.merr.gov.rs/sr/c/eu-efta/eu-efta/171
http://www.agrobiznis.net/documents/RS_Efekti%20liberalizacije%20na%20poljOpri-vredu%20Srbije%20VERZIJA%20ZA%20STAMPU.pdf.
http://www.ledib.org/uploads/downloads/6_en.doc
http://www.vocarstvo.com

ИЗВОЗ НА ОВОШЈЕ И ПРОИЗВОДИ ОД ОВОШЈЕ ОД РЕПУБЛИКА СРБИЈА

Бранислав Влаховиќ, Ристе Еленов, Душан Милиќ

Апстракт
Целта на истражувањето е да се согледаат основните карактеристики на движењето на извозот на овошје и производите од овошје од Република Србија. Исто така, задача е да се квантифицираат настанатите промени и да се утврдат факторите кои го детерминираа реализираното движење на извозот. Авторите укажуваат на основните проблеми и даваат предлози за неопходни мерки кои ќе влијаат врз зголемување на обемот на производството и извозот на овошје, односно на можните насоки за развој на оваа, за Република Србија многу значајна гранка на земјоделството. Порастот и промената на структурата на производството претставуваат основа за зголемување на извозот на овошје. Стратешката цел на Република Србија треба да биде производство на квалитетно свежо овошје и производи од овошје и зголемување на конкурентноста на меѓународниот пазар. Маркетинг концептот на работење на стопанските субјекти треба да добие доминантно место во конципирањето на производството, преработката и извозот, за да се задоволат потребите на странскиот пазар и да се оствари соодветен (висок) профит за производителот.
Клучни зборови: овошје, производи од овошје, извоз, Србија.