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IMPORTANCE OF VEGETABLE SECTOR IN HUNGARY AND IN OTHER EU MEMBER STATES

A zöldség ágazat jelentősége magyarországon és az Európai Unió egyes tagállamaiban

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Summary

Horticulture sector – in addition to grain and meat sector – is the third pillar of agriculture. However, in recent years the production of vegetables in Hungary and in other EU Member States also decreased significantly. Several countries in EU need to import some vegetables and processed vegetables, while Hungary is still net exporter as regards the most of vegetables. In our study, secondary data were analyzed by different statistical methods and the current situation in the vegetable sector was characterized by using this results. Some countries of the European Union play a key role in vegetable sector; other countries grow vegetables in negligible quantities. Of course, significant quantities are also exported to countries outside the EU by the main vegetable producing Member States. In this Member States product structures are similar. The amount of vegetables grown in Hungary - compared to less fertile areas - can be said to be relatively high compared to the EU average. However, the ratio of foreign trade of some vegetables is different. In turn export demand of Hungarian vegetable products is significantly higher than the amount of tradable goods of Hungary. Solution of this problem is to higher rates of processed vegetable products, implementation of technological improvements, better coordination of

transport as well as organizations of vegetable producers.

Keywords: vegetable growing, EU, foreign trade, vegetable market, Producer's organizations

JEL-classification: Q13

Összefoglalás

A kertészeti ágazat – a gabona és a húsvertikum mellett – a mezőgazdaság harmadik pillére. A zöldségtermesztés azonban az utóbbi években Magyarországon és az EU más tagállamaiban is jelentősen visszaesett. Némelyik zöldségféléből és feldolgozott zöldségekből az EU számos országa behozatalra szorul, míg Magyarország a legtöbb zöldségféle tekintetében még mindig nettó exportőrnek minősül. Vizsgálataink során szekunder adatokat különböző statisztikai módszerekkel elemeztünk, majd az így kapott eredmények segítségével jellemeztük a zöldségágazat aktuális helyzetét. Az Európai Unió zöldségágazatában néhány ország játszik meghatározó szerepet, a többi ország elhanyagolható mennyiségben termeszti zöldségeket. A fő zöldségtermesztő tagállamok természetesen jelentős mennyiséget exportálnak is az EU-n kívüli országokba. Termékszerkezetük hasonló. A Magyarországon termesztett zöldségek mennyisége – a kisebb termőterülethez viszonyítva – az EU átlagához képest

viszonylag magasnak mondható. Az egyes zöldségfélék külkereskedelmi aránya azonban eltér egymástól. Pedig zöldségtermékeink exportpiaci kereslete lényegesen nagyobb, mint amennyi értékesíthető árualappal rendelkezik hazánk. Erre a problémára megoldást jelenthetne a zöldségtermékek magasabb

arányú feldolgozása, ehhez technológiai fejlesztések kivitelezése, a szállítás jobb összehangolása, valamint a termelők termelői szervezetbe történő tömörülése.

Kulcsszavak: zöldségtermesztés, EU, külkereskedelem, zöldségpiac, termelői szervezetek

Introduction

The volume of vegetable production has increased significantly in many countries around the world in the last decade, thereby international trade of vegetables also increased and more and more countries will appear in the vegetable market. In the EU-28, the vegetable sector accounts for 10 per cent of the total agricultural output value, The importance of the sector is higher in most of the southern Member States, representing between one third and one quarter of their total agricultural output (on average for the period 2011-2014, more than 30 per cent in Greece, Cyprus, Malta and Portugal, and between 25 per cent and 30 per cent in Spain, Italy and Romania) (EUROPEAN COMMISSION, 2014).

Fruit and vegetable sector is one of the most developing sectors of agriculture and horticulture in Hungary. Its preferred feature is that the structure of production and volume of products can be changed more flexibility compared to other horticultural sector. It may ensure a perspective future for increasing and sustaining of rural population because of its favourable market adaptability. Feature of this sector that it can produce a large value in a small area. Because of its labour intensive nature it can provide living for 70-100 thousands of families (TAKÁCSNÉ, 2014). Its production value is HUF 200 billion at the level of primary production output, while it is around HUF 600 billion at value of goods. This provides nearly the two-thirds of horticultural income, so it is the third most important agricultural sector. Its export capacity is outstanding. It has a central role in rural development by high demand for manual labour and its sustaining capacity. However, production in the sector gradually decreased in recent years. This is due to a combination of several factors, such as the lack of competitive production structures, a lack of technical and technological development, narrowing of commercial channels, loss of markets, shortage of goods, change in consumption patterns, declining of production of industrial raw materials, narrowing of product structure of manufacturing as well as contradiction of development of several commercial integration organizations (Producers' Organizations – Pos) (FRUITVEB, 2013). TAKÁCSNÉ (2014) is of the opinion that the main weaknesses of the sector are the followings: a large proportion of fragmented farms, the over-regulation as well as shortage of well-trained practitioners. UDOVECZ (2008) mentions some other problems such as unpreparedness of suppliers, unsolved logistics of mass products, as well as low attracting of domestic and foreign investors of the food industry. He mentioned also the problem of irrigation, which is a key issue for the sector (ERDÉSZ, 2008). Yields and thus income also could increase significantly by irrigation.

Market experiences show that domestic vegetable sector has to cope with an intensifying competition by a converted product structure. Hungary has excellent features as regards the production of vegetables (e.g. natural conditions, geographical location, skills based on tradition), but the ecological and economical benefits from it can not be taken advantage. Producers often do not consider that the potential size and the opportunities of growing are significantly influenced by the canning industry. The role of vegetable sector has appreciated

and new opportunities and priorities are designated within the agricultural production (TÉGLA, 2009).

The main tasks of 2014-2020 development period in vegetable growing is to create conditions for competitive production of goods, and thus creating new jobs in rural areas (FRUITVEB, 2013). In our studies current situation and future opportunities were examined especially in the vegetable sector.

Methods

During this investigation were used data related to domestic and international vegetable sector on secondary databases (Hungarian Central Statistical Office, Eurostat, Faostat). The data were calculated using basic statistical methods (average values, variance, ratios, seasonality test), as well as macroeconomic indicators (gross production value, gross output, GDP, trade balance) and were prepared a detailed analysis of the vegetable sector.

The aim of this study is

- to describe the current condition of domestic vegetable sector for each varieties of vegetables;
- to review the situation and opportunities within the EU and also outside;
- to put forward suggestions taking into account the future development opportunities.

Results

In Hungary, total harvested area of major vegetables is about 75 thousand hectares. As about 11 per cent of the area is under organic farming. In 41 per cent of the total area of vegetable production sweet corn, in 17 per cent peas, in 8 per cent watermelon, in the rest of the field almost the same percentage (1-3 per cent) other vegetables (onions, garlic, carrots, parsley, tomatoes, cucumbers, melons, green beans, cabbage, lettuce, green pepper, red pepper) are grown. Since the early 2000s, the acreage of vegetables gradually decreased (Figure 1), area of the green and red pepper, cabbage and onion by nearly half, while the area of melons quarter, the acreage of green pea is one-fifth fell.

During the same period, the total volume of harvested vegetables fluctuates from year to year, but overall - together with the decrease of production area – it shows a downward trend. Nowadays, there are grown about 1.4 million tonnes from vegetables. However, in recent years average yields all for vegetables have improved (since 2000 the average yields increased in most cases almost one and a half times, in the case of watermelon it doubled, while in the case of tomatoes, green peppers and melons it increased more than two and a half times) (Figure 1).

The gross production value of vegetable production amounted to HUF 144,990 million in 2013. This is 5.2 per cent of total production value of agriculture (HUF 2,770,616 million) (which did not reach the 5 per cent in previous years). It gives 0.2 per cent of total gross output of the national economy.

It can be demonstrated a seasonality in sales of vegetables – both in foreign and in domestic. Although most of vegetables (except peas and beans) are sold year-round, its distribution is highly seasonal in a year. Of course, most of the sales take place during the period of harvest.

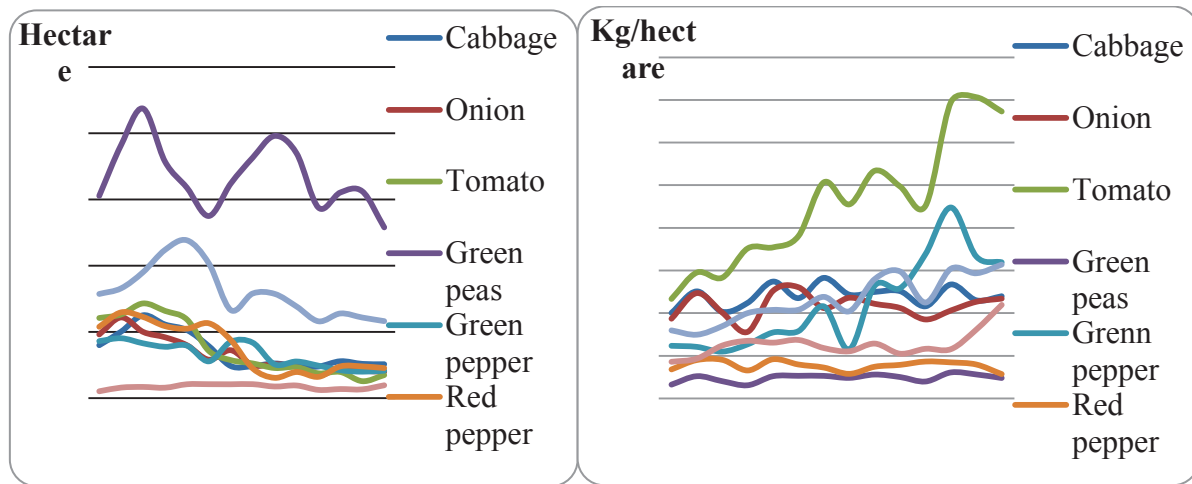


Figure 1: Production area and average yields of the most important vegetables in Hungary (2000-2013)

Source: Own editing based on data of Hungarian Central Statistical Office

Nearly 50 per cent of produced vegetables are sold out of farm (the other half of the crop is processed inside the farm or used for own consumption and storage losses also occur). However, this may vary significantly as vegetables. The several vegetables are sold out of farm in the following proportions:

- 30 per cent of onions and cabbages,
- 40 per cent of carrots, honeydew melons and parsleys,
- 50 per cent of garlics, tomatos, watermelons, green beans and lettuces,
- 60 per cent of green peas, sweetcorns and red peppers,
- 70 per cent of green peppers and cucumbers.

Table 1: Distribution channels of the most important vegetables in Hungary (2014)
Per cent

Vegetables	Purchaser, processing	Markets	Direct export
Onions	50	50	0
Garlic	46	54	0
Carrots	60	40	0
Parsley	29	71	0
Tomatos	59	41	1
Cucumber	88	11	1
Watermelons	72	27	1
Melons	39	61	0
Green peas	91	9	0
Green beans	85	15	0
Cabbage	47	51	1
Lettuces	68	30	2
Green pepper	58	36	6
Sweet corn	96	4	1
Red pepper	89	11	0

Source: Own editing based on data of Hungarian Central Statistical Office

During the off farm sales 2 per cent of the vegetables are exported directly, on average, three-quarters of the vegetables will be sold to acquirers or processors, while nearly a quarter of

them are sold in the market. Ratio of the last two distribution channel is different by various of vegetables. These data are shown in Table 1.

Of course, in addition to direct exports a certain part of vegetables is to the foreign market by buyers. In addition, certain vegetables need to import in Hungary. The total foreign trade of vegetables of national economy as follows:

Hungary is a net importer with regard to honeydew melon, onion, garlic, carrot and tomato (volume of imports of honeydew melon is 10 to 12 times of the amount exported, while that number is 4-6 regard to the rest of the vegetables). Exports of cucumber and red pepper of our country nearly as much as its imports (a minimal difference is observed but rather in favour of imports). Import of green beans and cabbage were more than export until 2012, but since then the exports exceeded imports. Hungary is net exporter regard to green pepper, sweet corn (2-5 times that of imports) as well as watermelon and green peas (8-10 times).

Total imports of vegetables give 0.1 per cent of Hungary's foreign trade balance, while the total exports give 0.12 per cent of the balance sheet accounts. The most important export vegetables are the cucumber, watermelon and green peppers, nearly 40 per cent of the amount of that is exported. Also the red pepper exports of Hungary are significant (15%). However, only 1-5 per cent of the amount of other various of produced vegetables are foreign markets. Importance of cabbages and root vegetables declined. This is partly explained by the domestic market unfamiliar, and part of the uncompetitiveness of production against their European competitors.

Based on experiences the development of domestic demand is the first step to localization of production of the most crops. Then export market opportunities can be built by widening of this resulting production base and by increasing of the quality of commodity stocks. However, in case of some products – which have high demand in foreign markets – export production may prevent the spread of the domestic consumption in case of availability of necessary competitive factors.

Export demand of Hungarian vegetable products is significantly higher than the amount of tradable goods of Hungary. This can be changed by technical and technological development and by significant increasing of availability, concentrated and high quality commodity. There are high potential for developing of fresh sweet peppers, tomatoes, melons, asparagus, courgettes, lettuce and other vegetables, but an exactly timing production and transportation required for maintaining markets and trade relations. Increasing of proportion of processed products could be a further competitive advantage, as the world market demand has shifted from unprocessed or lightly processed products, toward processed and prepared foods, and value-added fresh foods (such as packaged and shipped fresh fruit). As for the characteristics of demand, consumers pay more attention to food safety, packaging, taste and flavour, freshness (CAMANZI et al., 2009).

In EU almost all vegetable cultivation are typical in the same countries, for up to its order can be different. The amounts of produced vegetables by these countries are shown in Table 2, compared with Hungarian data. Regarding vegetables there are significant differences between growing quantities of the countries consisting of the first three places and quantities of other Member States (these cells of the Table 2 are shaded). The amount of vegetables grown in Hungary - compared to less fertile areas - can be said to be relatively high compared to the EU average.

Table 2: Amount of vegetables grown in some EU Member States

Thousand tonnes

	Belgium	Germany	Greece	Spain	France	Italy	Netherlands	Poland	Romania	Hungary
Brassicas	..	..	..	..	..	..	279	1 435.3	696.4	..
Cauliflower and broccoli	99.2	149.2	58	597	335.4	405.1	52	320.6	45.1	..
Cabbage	31.5	477.8	116.6	150.5	75.7	76.9	150	1 156.4	681.4	19.8
Celeriac	48.8	79	0.4	6.6	65.5	..	74	113.4	4.8	51.9
Leeks	190	108.1	22.8	90.5	160.6	8.7	106	94.3	1.9	9.1
Lettuces	52.7	59.7	49.6	902.9	241.1	484.9	89	34.8	2.1	1.1
Spinach	107.1	62.9	33.5	63.2	122.3	96.7	35	0	1.9	8
Asparagus	3.6	114.1	7.3	48.8	21	43.4	18	0	0	4.1
Chicory	39.3	..	10.4	2.4	260.5	224.4	51	0	..	4.3
Artichokes	0	..	11.3	234.1	35.3	451.5	0	0	..	0.2
Tomatoes	249.3	84.5	1 009.2	4 888.9	778.4	4 498.1	900	810.6	473.9	0
Tomatoes under glass	249.3	84.5	338.3	..	573.6	498.6	851	..	75	116.1
Cucumbers	17.6	57.2	163	775.9	128.5	59.9	440	454.1	115.3	8.8
Red pepper, capsicum	25.2	8.4	146	1 130.3	23.3	285.2	340	133.6	149.5	79.2
Carrots	328	609.4	43.7	376.3	557.9	539.2	548	822.6	139.2	99.7
Garlic	0	0	8	177.4	17.9	29.2	0	14.2	33.6	6.3
Onions	102.3	589.7	196.1	1 364.6	372	418.6	1.4	651.1	249.5	58
Radishes	0.2	84.1	1.2	5.5	53.3	32.8	26	7.8	1.4	3.4
Peas	79.1	28.9	15.5	98.6	227	80	19	42.7	5.4	79.7
Beans	112.6	..	54.5	188.2	313.9	169.7	32	58	27.5	16.3
Melons	..	..	78.9	750.2	254.8	560.3	0	0	56	21.3
Watermelons	0	..	537.5	858.6	14.2	453.2	0	0	474.6	148.5

Source: Own editing based on data of Eurostat

Regarding vegetables self-sufficient level of EU is about 100 per cent, but about half of the member countries are not self-sufficient, which is favorable for the self-sufficient level of 160 per cent of Hungarian production.

Today it is a major commodity coming into the EU from third countries (Morocco, Kenya, Egypt, Turkey, Thailand, Argentina), especially for fresh products. The Vegetable sector is a key sector in EU agriculture, weighting around 10 per cent of EU agricultural production. In EU it is exported 16-18 per cent of the total vegetable production (about 10 million tons of goods). The most important vegetables, in terms of volume harvested products, are tomatoes (16.1 million tons), carrots (5.1 million tons), and onions (5.4 million tonnes). EU exports represent around 12.5 per cent of the production of onions, 5-6 per cent of sweet peppers and mushrooms, and less than 5 per cent of the production of tomatoes, potatoes, cucumbers, carrots, cauliflowers and broccoli, cabbages and eggplants (EUROPEAN COMMISSION, 2014). The biggest vegetable producing at the same time leading exporting countries are mainly the Mediterranean countries, due to their favourable climatic and topographic conditions. The weight of the sector in the total agricultural production of the individual

Member States is notably large in Italy, Spain, and Greece. In addition, there are some other Member States in which the vegetable sector has a significant share of total agriculture. These countries are France, Netherlands, and Belgium.

Outside the European Union the main export destination countries are Switzerland, the United States, Russia, and Norway. The EU's largest importers of fresh vegetables are Germany, the United Kingdom, France, Netherlands and Italy (BIJMAN, 2015). EU exports to Russia only account for 2 per cent of total EU vegetable production. Russia represents however the main export market for the EU's vegetables production, currently buying about quarter (26 per cent) of the fresh vegetable exports (EUR 734 million). For vegetable products, Russia is the top destination: this is the case for cabbages, eggplants, tomatoes and carrots (60-64 per cent), cucumbers (50 per cent), and potatoes as well as sweet peppers (40 per cent). Between 2011 and 2014, exports to Russia significantly increased for some products (especially for melons and watermelons, tomatoes, cucumbers, sweet peppers, cauliflowers, broccoli, and eggplants) (EUROPEAN COMMISSION, 2014).

Vegetable consumption of the EU's population is an average of 120 kg/person/year, which corresponds to medium levels of consumption. However, this value is significantly different in several country groups. In the southern countries more vegetable are consumed on average (120-160 kg / person / year) than in the Nordic countries (50-70 kg/person/year). In Hungary, vegetable consumption is medium (100 kg/person/year), but its distribution is not appropriate as about 50 per cent of total consumption is in the end of summer and in the beginning of autumn (around 4 months), while from January to April this rate is very low. Due to seasonality of vegetable growing in vegetables consumption the ratio of preserved vegetables should be about 30-35 per cent (against the current 20-22 per cent). An additional problem is the product structure (species assortment), which causes one-dimensional (TAKÁCSNÉ, 2014). In Western Europe, tomatoes and cucumbers are the most popular vegetables among consumers because these products are available throughout the year. In EU, regulation of the fruit and vegetable sector is different from other sectors, and it belongs to the less regulated agriculture sectors (EUROSTAT, 2013).

Among the post socialist EU Member States (EU-12) Hungary and Poland has a positive trade balance of fruit and vegetable.

Poland is the third vegetable producer in the European Union. In 2004-2014, the annual national production of vegetable reached from 4.9 million tonnes to 5.6 million tonnes. 9 per cent of vegetable harvest in the European Union comes from the Polish vegetable production. Poland is one of the European leader in carrot, red beet, cabbage, cucumbers and onions harvesting. In 2014, the volume of the Polish vegetables export reached 526 thousand tonnes and it was 42 per cent bigger than in 2004. The vegetables export value rises 2,7 times, reaching 258 million EUR. Member states of the European Union (principally Germany and the UK) and the countries of the Commonwealth of Independent States (CIS) are the main recipients of the Polish vegetables export (onion, tomatoes and cabbage) (ARR, 2015).

Traditional export markets of Hungary for fresh products are mainly in Germany, in the Visegrad Countries and in the Baltic States, which in recent years has caught up with Romania. Apart from Britain all the great consumer markets of fresh goods are in the immediate vicinity of Hungary. The largest importer of fresh fruit and vegetables is Germany, but Russia's needs evolve also rapidly. In addition, (with about 60 million members) consumer markets of countries immediate vicinity of Hungary (Romania, Poland, Czech Republic, Croatia, Austria) offers huge opportunities for Hungary. Currently, 5 per cent of the exports is to Russia, but the development strategy of sector for 2020 is based on increasing sales in the Russian market. The aim is that 30 per cent of exports of fruit and vegetable sector will be into Russia until 2020 (NAK 2013).

Table 3: Foreign trade direction of the most important vegetables in Hungary by major foreign trade partner countries (2014)

Thousand tonnes

	Austria		Germany		Czech Rep.		Poland		Slovakia	
	Export	Import	Export	Import	Export	Import	Export	Import	Export	Import
Beans	0		6	5	0	366	32	96	399	101
Green beans		5	0	0				342	69	2
Cabbage	255	62	794	3425	628	285	346	1053	589	272
Carrots	0	890	23	1838		276	1069	1263	23	817
Green- and red pepper	2976	160	13424	1251	2428	11	308		5222	5
Cucumber	836	266	4935	5347	2394	11	238		641	8
Garlic	48	66	24	97	63		3		44	536
Melons	2	7	87	223					2	
Watermelons	729	134	11261	1259	13139		15504		4215	3
Onions	153	2318	1373	1626		166	935	562	23	1118
Tomatoes	1245	856	356	1897	3	7	79	22	109	128

Source: Own editing based on data of Faostat

There are four substantial domestic market channels in Hungary: hyper- and supermarkets as well as traditional grocery retailer and the consumer markets. Discount department stores and small food shops have significantly less weight. Share of hypermarkets, supermarkets and discount chains included in "modern retail" is about 45-47 per cent.

Producers' Organizations have been one of the main instruments provided by the Common Market Organization (CMO) for vegetables. POs give producers the opportunity to increase their bargaining power, share risk and attain scale economies. They can provide information and help farmers about customers' requirements. Moreover, POs can implement quality control systems, providing technical assistance to improve on-farm production methods. POs are an intermediary between a large number of small farming households and few buyers. In this perspective, horizontal concentration is a means to achieve vertical coordination with the downstream marketing channels. The success of POs is variable across the Member States, it depends largely on the size of business (CAMANZI et al., 2009, HUTCHISON, 2015).

Currently there are number of 79 production and sales organizations (PSO) in Hungary, which total turnover gives 18 per cent of the total sector output. With trade cooperations these organizations are able to create second- and third-level organizations and thereby increase the concentration of the supply of goods (NAK, 2013).

Discussion

Regarding cultivation of vegetables in Hungary, despite the ever-improving crop yields the production area is decreasing in recent years. Vegetable growing is one of major sectors of the national economy because of the GDP contribution as well as the characteristics of foreign trade. Hungary is still considered to be a net exporter regarding most of vegetables, but the indication of some vegetables relies on imports. Hungary's foreign trade balance of vegetables is positive. Export demand of Hungarian vegetable products is significantly higher than the amount of tradable goods of Hungary. Therefore the main problems in this sector are as follows: the lack of commodity supply, the significant drop in commodity production. However, this situation is resulted by mutually reinforcing effect of multiple factors, so the solution has to be realized on several places.

Since the economic crisis domestic currency has weakened as well as import value of commodities are also expensive, so interdependence of producers and processors has increased. Cooperation as an integration form as well as an integrator role of processing plants would be an optimal solution for both parties. Intensive varieties and technologies are required for higher yields and improved quality, so it is essential to coordinate the production of commodities. Both the production of commodity and the manufacturing sector are characterized by economies of scale disadvantages, technological obsolescence and financing problems. Vegetable production declined by 14 per cent between 2004 and 2011. The decline in industrial processing is even more significant: canning industry has fallen by 48 per cent and refrigeration industry has fallen by 32 per cent. This is a problem, because horticulture sector within crop production sectors require the most labour forces. It is also need to adapt to changed consumer habits. Although consumers are increasingly seeking to fresh products, but also need processed products, which are produced by modern, vitamin and mineral content preserving and artificial additive-free preservation processed methods. Modernisation and development of these technologies can strengthen our position in export as well. That do not require the modernization and development of these technologies can strengthen our position in export as well. The capacity of modern plants can only exploit by adequate supply of commodities, which further enhanced the importance of integration (VM, 2014).

Poland is one of the biggest producer and also exporter in the EU. It could be a good practice. The export increase was supported by the good quality of Polish vegetables and their competitive prices. Soil and labour resources establish a significant potential for the development of vegetable industry, despite the fact that the climate-soil conditions are not as favourable as in Western and Southern Europe. Relatively cheap labour force, increasing purchasing power of consumers, well-developed processing industry and favourable geographical location for establishing business relationships are conducive for the development of the local vegetable industry. Changes occurring in the Polish vegetable industry were made possible thanks to the improvement of the organization, the concentration of the production and the upgrade of the distribution. Contemporary vegetable production in Poland combines a long tradition with a modern approach by applying new technologies, specialising farm production and introducing new and efficient vegetable varieties for sowing. Preferences for the production of vegetables under cover are spreading rapidly, even though - taking into consideration temperature which is lower than in Western and Southern Europe - it takes much more energy to make it work, therefore the cost of production gets bigger as well. Greenhouses and poly-tunnels make possible to offer a complete range of fresh vegetables to customers all year round. Taking into account seasonality of the vegetable production, in Poland the processing and preservation industry plays an important role in an uninterrupted provision of access to vegetables and their vegetable-based products to customers. In Poland it is a main purpose to support the vegetable producers in crisis situations and integration among manufacturers in the fruit and vegetables sector (ARR, 2015).

In case of Hungary the specific possible solutions were examined from two aspects; there were taken into account the possibilities both the local producers and also the commodity-producing farms.

In terms of local products the most important task is building up a local market. In many smaller settlements of Hungary it is an applied practice that so-called public workers carry out fruit and vegetables cultivation in the areas of local government (e.g. it is typical in some small village of a Hungarian small region "Rábaköz"). The produced vegetables are processed locally, to which unused properties of the village were rebuilt in many areas Processed products are sold in the locality and the surrounding larger settlements. Local "public canteens" (e.g. nursery school and school care, socially needy and elderly day care) are also getting involved in consumption of local products in several settlements, which means not

only market but also some income for the rural population. All of these are important for direct small community because it makes possible consumption of high quality products and the fruit and vegetable supply is also expanded in the settlement. Of course, all these will increase the national economic role of the fruit and vegetable sector.

Another suggested solution is related to the commodity-producing farms. Fruit and vegetable growers produce sectoral growth which can be directly quantified from the point of view of national economic. The most important task is that these growers should be engaged in cultivation of high-yielding and high-quality varieties because this is the only way to appear on market. One way could be to develop several fruit and vegetable variety structures in certain regions (like wine-growing) and these specified varieties should be grown in each region. In this way farmers could provide higher commodity stock from the same kind and quality products. To this, through the POs realized quality raw material purchase, growing technology and sales market could provide a quality assurance opportunity in addition to the volume of products. To development of variety structures it is needed to survey not only local conditions but also market needs. To achieve this it would be an excellent option if in Hungary operating and foreign-owned supermarket chains would carry out surveys among both domestic and foreign consumers. These companies could carry out these surveys relatively easily and at low cost due to their presence in abroad. This could provide export markets for the domestic farmers. So by developing a variety structure the appropriate quantity and quality of commodities could be provided, hereby producers could become able to export, their revenues could increase, thus their financial opportunities could be expanded and eventually their bargaining position could be improved as well.

References

- ARR (Agencja Rynku Rolnego) (Agricultural Market Agency) (2015): Vegetable Market in Poland. ARR November 2015, Warszawa
- BIJMAN, J. (2015): Towards New Rules for the EU's Fruit and Vegetables Sector. EU Directorate-General for Internal Policies, Policy Department B: Structural and Cohesion Policies, Agriculture and Rural Development, Study, European Parliament. 13-23 p.
- On-line:
[http://www.europarl.europa.eu/RegData/etudes/STUD/2015/540347/IPOL_STU\(2015\)540345_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/540347/IPOL_STU(2015)540345_EN.pdf) Date of download: 7 December 2015
- CAMANZI, L. – MALORGIO G. – GARCÍA AZCÁRATE, T. (2009) :The role of Producer Organizations in Supply Concentration and Marketing: a Comparison Between European Countries in the Fruit and Vegetables Sector. 113th EAAE Seminar “A resilient European food industry and food chain in a challenging world”, Chania, Crete, Greece, date as in: September 3 - 6, 2009
- ERDÉSZ F. (2008): A hazai zöldség-és gyümölcságazat fejlődési kilátásai. *Gazdálkodás*, 52. évf. 2. szám. 144-152. p.
- EUROPEAN COMMISSION (2014): Analysis of the EU fruit and vegetables sector. EU production and exports to Russia (2011-2013). Recent market trends and measures taken to address market disruptions following the Russian import ban. 26 September 2014
http://ec.europa.eu/agriculture/russian-import-ban/pdf/fv-production_en.pdf
- FRUITVEB Magyar Zöldség-Gyümölcs Szakmaközi Szervezet (2013): A magyar zöldség-gyümölcs ágazat stratégiai megvalósíthatósági tanulmánya, Budapest, 105-127 p. On-line:
http://fruitveb.hu/kiadvany/zgy_agazati_tanulmany.pdf Date of download: 5 May 2015
- HUTCHISON, T. (2015): EU must incentivise fruit and vegetable farmers to join POs – MEPs. *Agra Europe*, 06 May 2015

<https://www.agra-net.com/agra/agra-europe/policy-and-legislation/cap/eu-must-incentivise-fruit-and-vegetable-farmers-to-join-pos---meps-477928.htm>

NAK (Nemzeti Agrárgazdasági Kamara) (2013): Magyar zöldség-gyümölcs ágazati stratégia, Budapest, 3-26 p.

<http://nkfih.gov.hu/szakpolitika-strategia/agazati-strategiak/agrarium-elelmiszeripar> Date of download: 20 April 2015

TÉGLA ZS. (2009): A zöldség-hajtás méretökönómiai kérdései, doktori (PhD) értekezés, Gödöllő, 1-188. p

UDOVECZ G. (2008): Alkalmazkodási kényszer az „élelem-energia-környezet” összefüggésrendszerben, az MTA Agrártudományok Osztálya 2008. október 29.-i ülésén elhangzott előadás, kézirat 15. p

VM (Vidékfejlesztési Minisztérium) Élelmiszer-feldolgozási Főosztály (2014): Magyarország közép és hosszú távú élelmiszeripari fejlesztési stratégiája 2014-2020, Budapest www.kormany.hu/download/f/82/60000/ÉFS.pdf Date of download: 11 May 2015

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