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Model of sustainable development at the level of local government¹

Abstract: *The cooperation between local communities, scientific research institutions and LAGs – local action groups (especially to development oriented agricultural farms, SMEs – small and medium enterprises and entrepreneurs in the field of agriculture) is imposed as necessary during the establishment of the strategy of sustainable agriculture and rural development of any local community in the Republic of Serbia. Only with close cooperation of all interested local stakeholders can be set a realistic SWOT matrix that describes well state of agriculture and rural areas at the local level (picture of internal resources and development constraints, in the context of opportunities and threats of the environment), then definition of adequate development goals and directions of investment activities that would lead to the realization of determined goals of sustainable agricultural and rural development. As any local government should individually find the best possible modalities for making of its own plan for sustainable development of agriculture and rural development, the intention of the Institute of Agricultural Economics from Belgrade, in this case, was the establishment of model for sustainable development of agriculture and rural areas at the territory of Bački Petrovac municipality (Vojvodina region). The core of proposed model is contained in establishment of the document based on completeness and integrativity, social consensus, in other words participation of citizens, farmers and all stakeholders, in order to achieve more efficient decision-making process related to future capital investments.*

Keywords: *sustainable development, local government, agriculture, rural economy, Municipality Bački Petrovac.*

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Agriculture and rural areas in the Republic of Serbia, in other words policy of sustainable development of agriculture and rural development are faced with significant challenges in upcoming long-term period. In previous two decades, there had been happened certain large changes in political framework and macroeconomic relationships, impacting the all life and economy aspects in Serbia. Penetration of the market economy and market principles certainly had an impact on the agri-food sector that is by its nature very specific and sensitive.

Opening to international community, especially the clear commitment of the Republic of Serbia to European integration, requires a new definition of the role and importance of the agricultural sector (Subić et al., 2013). Therefore, it is estimated that momentarily is the right time for establishment of a very clear conceptual framework and strategy, which will provide adequate answers to the all key issues in the sector of food production. Generally, former strategic documents at national level are shallowly treated the development of rural areas, what represents very important segment of entire agricultural development within the EU, so it is estimated that mentioned segment should be an integral part of one comprehensive document related to sustainable development.

During the period 2014-2015., a team of researchers from the Institute of Agricultural Economics from Belgrade, was engaged at the activities that are outside the scope of the Regional development agency Bačka from Novi Sad, which include establishment of components for the segment agriculture and rural development within the "Strategy of sustainable development for the Bački Petrovac municipality for the period 2014-2020". According to that, IAE experts were involved into the realization of next tasks:

- coordination of the working group for agriculture and rural development;
- communication with the members of the working group for agriculture and rural development, on a weekly basis, in order to achieve successful projects implementation;
- establishment of situational and SWOT analysis for the field of agriculture and rural development at the municipal territory;
- establishment of Action plan for the segment agriculture and rural development;
- establishment of part of Strategy connected to agriculture and rural development, etc.

According to previously mentioned obligations, IAE experts have built a model of sustainable development at the level of local government, which pays special attention to the sustainable development of agriculture and rural areas. From this aspect, research activities are conducted into the two phases:

- Analysis of current situation and estimation of the prospects for sustainable development of agriculture and rural economy;
- Establishment of platform, goals and pillars of sustainable development of agriculture and rural economy.

Situation analysis of agriculture and the rural economy

At the beginning of previous century Bački Petrovac (with associated municipality area) was one of the word centres for the hop production, at the middle of last century was recorded growth of millet production, while at the end of XX century millet and hop production were reduced at the minimum.

At the present time, agriculture of the Bački Petrovac municipality defines the dominant presence of intensive crop production, primarily cereals (corn, wheat), oilseeds (soybean, sunflower) and sugar beet. Vegetable production has been also developed, especially production of industrial peppers, potatoes and onions. Livestock has been poorly developed, as well as fruit and grape growing.

Rural economy of Bački Petrovac municipality is currently characterized by sharp orientation to primary agricultural production and realization of agricultural products, mainly as a raw material for the food industry. Livestock production is underdeveloped, and small percentage of agricultural products is passing through the higher phases of processing and value adding (processing of meat and milk is insufficient, etc.), what reduces the economic effects of agricultural production.

2.1. Used agricultural area

According to agricultural census in Serbia from 2012., used agricultural area (UAA) in Bački Petrovac municipality (in agricultural season 2011/2012.) is 16.049 ha (Table 1.), what represents:

- 0,5% of used agricultural area of the Republic of Serbia;
- 1,0% of used agricultural area of Vojvodina Region;
- 5,6% of used agricultural area of South Bačka District.

Table 1. Used agricultural area (UAA) and number of agricultural holdings (AH) in Republic of Serbia, Region of Vojvodina, South Bačka District and Bački Petrovac municipality, in agricultural season 2011/2012.

Description	UAA (ha) ²	AH ³ with UAA	Average UAA per AH (ha)
Republic of Serbia ¹ , where:	3.437.423	621.445	5,5
- Family agricultural holdings	2.825.068	619.141	4,6
- Legal entities and entrepreneurs	612.355	2.304	265,8
Region of Vojvodina, where:	1.608.896	141.570	11,4
- Family agricultural holdings	1.177.264	140.407	8,4
- Legal entities and entrepreneurs	431.632	1.163	371,1
South Bačka District, where:	286.793	30.053	9,5
- Family agricultural holdings	219.304	29.784	7,4
- Legal entities and entrepreneurs	67.489	269	250,9
Bački Petrovac municipality, where:	16.049	1.623	9,9
- Family agricultural holdings	13.221	1.608	8,2
- Legal entities and entrepreneurs	2.828	15	188,5

Note: ¹ without Kosovo and Metohia; ² UAA involves: agricultural land as crofts, arable land and gardens (including fallows), perennial crops (plantations as orchards, vineyards, nursery gardens and other permanent crops), meadows and pastures owned/used by holding; ³ AH - agricultural holding (family agricultural holdings, legal entities and entrepreneurs).

Source: SORS, 2013.

Reconsidering agricultural season 2011/2012., structure of UAA in Bački Petrovac municipality, observed per organisational-legal forms of agricultural holdings, is like: Family agricultural holdings use 13.221 ha (or 82,4% UAA); Legal entities and entrepreneurs use 2.828 ha (or 17,6% UAA).

Observed by municipality settlements, according to Annual Program for Protection, Arrangement and Use of agricultural land for 2013. for Bački Petrovac municipality, the largest areas of arable land¹ has local community Bački Petrovac (5.586 ha), then Kulpin (3.332 ha), Gložan (2.475 ha) and Maglić (2.144 ha).

Having in mind agricultural season 2011/2012., average used agricultural land per farm in the Bački Petrovac municipality was 9,9 ha, what is quite a less than in the Vojvodina region (where the average UAA per AH was 11,4 ha), but significantly higher than the average at the national level (5,5 ha of UAA per AH), or slightly higher than average at the South Bačka District level (9,5 ha of UAA per AH).

Observed per organisational-legal forms of agricultural holdings, average size of UAA per one agricultural holding is:

- 8,2 ha in the sector of family agricultural holdings;
- 188,5 ha in the sector of legal entities and entrepreneurs.

¹ According to Annual Program for Protection, Arrangement and Use of agricultural land for 2013. for Bački Petrovac municipality, as cultivable land are considered arable land, gardens, orchards, vineyards and meadows.

Land quality and structure. The results of comprehensive field and laboratory research show high fertility and quality of agricultural land at the territory of the Municipality, enabling the gaining of high and stable yields of all crop cultures.

By the Annual Program for Protection, Arrangement and Use agricultural land for 2013. For Bački Petrovac municipality, it was found that the soil is not contaminated by hazardous and harmful materials, but there is a certain percent of possibility for alkalizing and salinization, eutrophication with phosphorus and non-organic nitrogen, as well as with pesticides.

Within the land structure, according to data of Agricultural census 2012. (structure of UAA in the Bački Petrovac municipality) dominant share (even 99%) has arable land and gardens (Table 2.).

Table 2. Structure of UAA at the territory of Bački Petrovac municipality, in agricultural season 2011/2012. (in ha)

Total UAA	Crofts	Arable land and gardens	Meadows and pastures	Orchards	Vineyards	Nursery gardens	Other
Areas in ha							
16.049	69	15.891	11	51	10	16	1
Structure in %							
100,0	0,4	99,0	0,1	0,3	0,1	0,1	0,0

Source: SORS, 2013.

Ownership structure of the land. According to Annual Program for Protection, Arrangement and Use of agricultural land for 2013. for Bački Petrovac municipality, total sum of agricultural land in public ownership was 3.113 ha, where 2.383 ha were leased by the Program for 2010.

Surfaces under the irrigation/drainage systems. According to the Census of Agriculture 2012. (in agricultural season 2011/2012.) at the territory of Bački Petrovac municipality were irrigated 2.523 hectares (or 15,7% of the total UAA), what is significantly higher than the average at the national level (around 2,9%).

Sprinkling is the dominant way of irrigation (with a share of 52,6%). It is followed by surface irrigation systems (around 27,0%) and drip drop irrigation (with the share of 20,4%). Main source of water for irrigation is groundwater at the farm (about 87%).

Under irrigation systems prevail production of corn seed, then vegetable crops (such as peppers and potatoes), as well as sugar beet and soybean.

According to the data of members of the Municipal Council for Agriculture, irrigated area is insufficient in compare to the potentials, so issues that are slowing down area enlargement are marked as follows:

- Solving of this important issue is in the sector of family agricultural holdings and their individual approach to this problem;
- possibility of water use from the canal DTD is limited by high price of the services provided by public company authorized for mentioned channel;
- unsatisfactory maintenance of the channels.

Regarding the state of the drainage systems, at the Municipal territory exist 5 systems for drainage (surface channels) in total length of 104 km, what covers 12.029 ha of agricultural land.

These systems are not maintained properly and most of them are almost out of function. Due to this situation, the land is threatened by excessive water.

Hydro meliorations should not be only under competence of agricultural holdings and their personal approach to the mentioned issue, so that problem has to be systematically and strategically solved by Municipality in partnership with relevant public enterprises, provincial institutions and farms.

2.2. *Holders of agricultural production and ownership structure of agricultural holdings*

According to the data from the Census of Agriculture 2012., in Municipality of Bački Petrovac there are recorded totally 1.661 agricultural holdings, what is 0,3% of the total number of agro-holdings in the Republic of Serbia, or 1,1% of the sum of all farms within the Vojvodina region, or 5,2% of all agro-holdings from the territory of South Bačka District.

Total number of agricultural holdings with used agricultural area in municipality is 1.623 (so without UAA are 38 agricultural holdings). Observed per organisational-legal form of agricultural holdings (AH), in total sum of agricultural holdings with UAA in Bački Petrovac municipality, there are:

- 1.608 family agricultural holdings (or 99,1% from total number of AH);
- 15 legal entities and entrepreneurs (or 0,9% from total number of AH).

Family agricultural holdings have, in average, on disposal 8,2 ha of UAA per holding, what is much more in compare to national level, where UAA per family agricultural holding amounts 4,6 ha.

According to estimations of the Municipal Council for Agriculture, as well as data of the Census of Agriculture 2012., large percentage of family agricultural holdings is engaged in crop and vegetable production. These producers are characterized by:

- High market orientation (high rate of agricultural production is selling directly at the market);
- Possession of significant production capacities;
- Possession of significant storing capacities.

Agricultural holdings ownership structure. In the structure of agricultural holdings at the territory of Bački Petrovac municipality, as well as at national level, the highest share has holdings that possess from 1 to 5 ha of UAA.

Agricultural holdings at municipal level have slightly better ownership structure in compare to structure at the republic level. Holdings that possess up to 5 ha of UAA represent 76,1% of total number of agricultural holdings at national, or 59,5% at municipal level.

At the same time, there are more agricultural holdings with larger estates in the sum of all agri-holdings at the municipal territory, in compare to the national level (whether focus is on family holdings or on legal entities and entrepreneurs), (Table 3.).

Table 3. Agricultural holdings according to size of UAA (in Republic of Serbia and Bački Petrovac municipality)

Description	Number of agricultural holdings		Structure (in %)	
	Republic of Serbia	Bački Petrovac municipality	Republic of Serbia	Bački Petrovac municipality
Without land	10.107	38	1,6	2,3
≤ 1 ha	174.567	397	27,6	23,9
> 1 - ≤ 5 ha	306.208	592	48,5	35,6
> 5 - ≤ 10 ha	89.083	275	14,1	16,6
> 10 - ≤ 20 ha	32.313	173	5,1	10,4
> 20 - ≤ 50 ha	13.029	153	2,1	9,2
> 50 - ≤ 100 ha	4.394	26	0,7	1,6
Over 100 ha	1.851	7	0,3	0,4
Total	631.552	1.661	100,0	100,0

Source: SORS, 2013.

2.3. Plant and livestock production

Plant production. Within the agriculture of Bački Petrovac municipality dominates crop production, in other words production of cereals and industrial plants². According to Census of Agriculture 2012, the highest share in the structure of arable land and gardens has previously mentioned production: cereals (8.822 ha, or 55,5%); industrial plants (4.989 ha, or 31,4%).

Observing the season 2011/2012., among cereals, the highest share had a production of wheat and maize, and within the industrial plants, soybean production (Table 4.).

² Industrial plants include: tobacco, hop, oilseed rape, oil gourd, sunflower, soybean, medicinal and aromatic plants, etc.

Table 4. Structure of arable land and gardens in agricultural season 2011/2012., according to the most significant cultures (in Republic of Serbia, Region of Vojvodina, South Bačka District and Bački Petrovac municipality)

Description	Arable land and gardens, total	Cereals	Potato	Sugar beet	Sunflower	Soybean	Vegetable, melon and strawberry
Republic of Serbia							
Area, ha	2.513.154	1.715.562	25.132	69.112	186.361	181.684	33.232
Structure, %	100	68,3	1,0	2,8	7,4	7,2	1,3
Region of Vojvodina							
Area, ha	1.466.176	976.243	3.775	65.660	168.173	166.242	15.190
Structure, %	100	66,6	0,3	4,5	11,5	11,3	1,0
South Bačka District							
Area, ha	274.012	146.636	1.825	15.875	8.961	82.870	5.705
Structure, %	100	53,5	0,7	5,8	3,3	30,2	2,1
Bački Petrovac municipality							
Area, ha	15 891	8 822	449	969	408	4 499	389
Structure, %	100	55,5	2,8	6,1	2,6	28,3	2,4

Source: SORS, 2013.

According to the data from the Census of Agriculture 2012., vegetable, melons and strawberries cover 2,4% surfaces of arable land and gardens in the Bački Petrovac municipality. Based on results of survey of agricultural holdings and data of municipal management, it can be underlined that vegetable production is mainly organized in Gložan settlement (primarily, production in protected area of tomatoes and peppers). Also, field vegetable production is organized at the municipal territory (industrial pepper, potatoes and onion).

Data from the Census of Agriculture 2012., also showed that Bački Petrovac municipality has 2 coolers (in ownership of 2 agricultural holdings), 5 glass greenhouses owned 2 agricultural holdings and 120 plastic greenhouses, owned by 53 agricultural producers.

Fruit and wine growing is insufficiently developed and usually are organized for own needs of holding members. According to the survey of agricultural producers, only 2 agricultural holdings have single apple orchard (extensive production). In this case, there is a need for gradual development of fruit and grape production (intensive plantations) in Kulpin, in the area of Vinjičke settlement. It is also important to say that municipality has several small but nationally awarded vineyards.

Livestock production. Livestock production has high importance and multiple roles for the valorisation of labour and production resources connected to agriculture in each country. In the municipality of Bački Petrovac livestock production is highly underdeveloped, particularly having in mind all natural, market and other opportunities and potentials that municipality has on its disposal.

According to data from Census of Agriculture 2012., number of livestock units (LU) per hectare of used agricultural areas (UAA) at municipal level is quit a lower than the average at national, Vojvodina region, or South Bačka District level (Table 5.).

Table 5. Livestock units (LU)¹ per ha of UAA in agricultural season 2011/2012., (in Republic of Serbia, Region of Vojvodina, South Bačka District and Bački Petrovac municipality)

Description	Cattle	Pigs	Sheep	Goats	Poultry ²	Bee hives	LU	LU per UAA
Republic of Serbia	994.692	3.407.318	2.158.128	289.373	26.711.220	665.022	2.019.889	0,6
Vojvodina Region	282.706	1.398.496	404.328	67.816	11.972.538	124.174	686.386	0,4
South Bačka District	51.210	332.512	77.426	12.992	3.004.511	22.417	158.140	0,6
Bački Petrovac Municipality	1.587	5.372	634	229	29.877	779	3.094	0,2

Notes: 1 Livestock unit (LU) is standardized unit of account that brings down all heads of various livestock species and categories to comparable value; 2 Poultry include: chicken, turkey, duck, goose and other poultry.

Source: SORS, 2013.

In municipality there are only two large agricultural holdings that have organized livestock production. According to municipality data, ownership structure of agricultural holding „Maglić“ can be defined as (inventory at February 2014.): cattle farm (340 milking cows and 512 other cattle categories); pig farm (1.000 fatlings); sheep farm (87 ewes and 70 other sheep categories).

According to same source, ownership structure of agricultural holding „Castro-Cop“ is like (inventory at February 2014.): cattle farm (145 milking cows and 182 other cattle categories); pig farm (with annual production of 2.000 piglets and 1.700 fatlings).

Poultry production (before all table eggs production) is represented in Kulpin, where are located two large laying hens' farms (one belongs to the company "Vinfarm" and second to the local entrepreneur).

Within the sector of family agricultural holdings, there are only few market-oriented producers with larger livestock fund. Large percent of these holdings organize livestock production as a raw material base for their further meat products production (production of sausages (especially kulen) and other dry meat products), that will be naturally consumed at the farm.

Beekeeping is underdeveloped (there are only 2-3 large honey producers, with capacities of around 800 kg of honey per year). Caused by intensive use of pesticides, the development of beekeeping is aggravating (hives are usually taken to the certain locations at National Park Fruška Gora Mountain).

2.4. Realization of agricultural products

Bački Petrovac Municipality has a favourable geographical position, which facilitates realization of agricultural products to the markets of major Serbian cities, such as Belgrade and Novi Sad. According to the survey, conducted at the municipal territory, farmers are relatively satisfied with their agri-products realization (primarily cereals, oilseeds and vegetables), pointing out following notes:

- availability of reliable purchase channels;
- availability of contracted production;
- availability of contracted products sale.

At the municipal territory there are many companies that have a certain number of silos, and which, according to the survey, timely contract the production with farmers, or:

- provide opportunities for purchase of basic supplies (chemicals, seed, pesticides, etc.);
- provide stocking for grainy products;
- timely pay entire quantity of repurchased products, etc.

It's very important to mention, that companies „Maglić“ and „Petrovec“ have proven, long lasting channels for potatoes sale.

On the other hand, regarding certain products, such as sausage and other meat and dairy products, according to conducted survey, market for mentioned products realization is not sufficiently developed. From this aspect next can be noted:

- there is no safe and organized sale;
- there is no cooperation between purchasers and producers (each agricultural producer finds its own sale channels).

2.5. Level of development of farmers' associations

Farmers' associations are established and active in almost each village under the municipal territory. Next associations are quite a large and the most famous: Farmers' association in Gložan; Association of winegrowers in Kulpin; Association of vegetable producers in Bački Petrovac; Association of fishermen in Bački Petrovac; Association of beekeepers in Bački Petrovac, etc.

2.6. Level of development of rural economy and diversification of rural activities

The backbone of the rural economy is not just in intensive primary agricultural production, but also in wide range of activities based on non-activated potentials of rural areas. With new and/or with increased investments in non-agricultural activities conducted on the holding, can be provided alternative

sources of income, as well as greater economic power of holdings. Economic diversification, i.e. generating of new employment opportunities, includes primarily support of local and wider community in small rural farms directing to non-agricultural activities and tertiary sector. Among possible benefits next can be marked: possibility for additional income sources; higher rate of employment; decrease of some kind of “exodus” from rural areas (especially young and women), etc.

The state of rural economy development and diversification, as well as the application of the concept of multifunctional agriculture³ (Subić et al., 2005), can be reflected the best through the fact how much are represented at agricultural holdings so-called other profitable activities, that have not agricultural connotation, but which are related to the holding (Cvijanović et al., 2014). According to Statistical Office of the Republic of Serbia (SORS) methodology, other profitable activities related to holding have an economic impact on holding, parallel using the farm resources, such as: land surfaces; agricultural facilities; mechanization; equipment; labour force; agricultural products, etc.

Previously mentioned activities may be carried out on the holding (e.g. tourism, folk handicraft, processing of agricultural products for sale - except the processing of grapes in wine production when all or most of processed grapes originated from own production, etc.) or outside the holding (agricultural and non-agricultural contract work, e.g. work with own combine harvester, etc.)⁴.

Among the most important other profitable activities related to the agricultural holding conducted at the territory of Bački Petrovac municipality (activities that indicate level of development and diversification of rural economy in municipality), next can be marked:

- **Meat processing (especially sausage (kulen) production⁵)** – A number of agricultural producers are engaged in sausage (kulen) production. Although this production is predominantly focused on natural consumption at the holding, a lot of farms are commercialized the production of this traditional Slovak specialty, which belongs to the group of autochthonous products, labelled with geographical indication of origin. In the municipality there is agricultural cooperative “Kulen”, which gathers 26 family holdings involved in sausage (kulen) production, respecting internal quality standards harmonized with the detail standard that define a geographical indication of origin of the product “Petrovac sausage” (Petrovská klobása), established

³ FAO defines a multi-functional characteristic of agriculture in the following way: “agriculture, which has a fundamental role to produce food and to contribute to food security, has also different environmental, economic and social functions”. Its’ diverse functions are related to its own nature (Pingault, 2001).

⁴ More about methodology of SORS, having in focus defining of agricultural activities and other profitable activities related to the holding, can be seen in the Census of Agriculture 2012: Agriculture in the Republic of Serbia, book 2, SORS, Belgrade, 2013, pp. 202-205, or in Annex of mentioned publication.

⁵ Sausage – Petrovački kulen (traditional meal of Slovak cuisine) belongs to a group of ethnic-gastronomic products, which are based on tradition (recipe for its preparation is two and a half centuries old), authentic geographical origin and specificity of production recipe).

by the Intellectual property office in Belgrade. According to the estimates of cooperative representatives, the annual volume of sausage (kulen) production at the municipal territory amounts about 60 tons. Mentioned production is not sufficient to meet constantly growing domestic demand.

- **Rural tourism** – Bački Petrovac municipality has touristic contents and potentials for tourism development: Danube River, attractive castle Dunderski, Museum of Agriculture, Museum of hop production, ethno park/houses, Aqua park Petrolend, fish ponds, etc. Besides that, Municipality is a place, where many culture, folklore and music festivals are arranged, as well as sports, hunting and fishing competitions, and gourmand events (Days of Petrovac, with Kulenijada). Previously mentioned were affected development and spreading of accommodation facilities (capacities) within the sector of family agricultural holdings, where agricultural producers have a possibility to, through offer of adequate accommodation, sale certain volume of agricultural products produced at their own holding.
- **National handicrafts** – include handicrafts made by knitting and embroidering, souvenirs, etc. This activity is successfully developing through number of associations, such as: “Zlatni zanati (“Golden Crafts”); “Udruženje petrovačkih žena” (“Association of Petrovacs’ women”); „Petrovillage“ (this association is partly involved in production of domestic vegetable-based soaps); „Vojvođanski motivi“ (“Vojvodina motives”); etc. All associations are very active at local and regional trade fairs, widely recognized at national market, as well as very significant for rural tourism and the rural economy of the municipality.
- **Hunting tourism** – each village within the municipality has its own hunting association. Also, village Gložan is famous by size of wild rabbit population.

Mentioned activities, especially meat processing (sausage (kulen) production) and rural tourism can be a very important source of income for family agricultural holdings. But, many problems limit larger development of these activities, as well as development of rural economy. Specifically, the most important limitations relating to possibilities of larger sausage (kulen) production are:

- at national level (Republic of Serbia) is still not regulated field of production related to the market of meat, milk, fruit and vegetable products, made according to traditional recipes in small family processing facilities;
- production and sale of sausage (kulen) is disunited and disorganized, making individual (per farm) offer relatively small and significantly lower than the market demand. There is no association of sausages’ producers (there is no one larger processing facility for organized and controlled production), as well as common realization of final product. Even the members of the Agricultural Cooperative "Kulen", although they have a common marketing, they have not common sale of sausage. Each producer finds its own sale channels (usually to personally known individuals, restaurants, etc.);

- although sausage (kulen) producers are not willing to change production technology, as well as industrialize and commercialize mentioned production, lack of a common processing facilities, where the production can be consolidated, controlled and standardized, results in small volume of sausage production, as well as problems in its realization at the market.

SWOT analysis of agriculture and rural economy

SWOT is an acronym of English words Strengths, Weaknesses, Opportunities and Threats. It represents an analytical technique that on a systematic basis allows comparison of strengths and weaknesses with opportunities and threats in close surrounding, as framework for the implementation of strategic planning.

Strengths of agricultural holdings and municipal territory from the aspect of agricultural production and rural economy, as well as the opportunities "provided" by national and international environment/market - represent positive developmental factors, which Bački Petrovac municipality has to use for sustainable development of agriculture and rural areas in upcoming period.

On the other hand, the weaknesses of agriculture and rural economy, as well as threats of national and foreign environment – represent the negative developmental factors (factors that hamper the development), which Bački Petrovac municipality and agricultural holdings have to, before all, understand, anticipate and appropriately react, in order to diminish negative impacts of these factors as much as possible.

Mentioned approach to sustainable development (Vasiljević et al., 2010), from the aspect of recognition of all positive and negative factors of development in the field of agriculture and rural economy at the municipal level, can represent a good starting point for determination of strategic development goals, as well as for formulation of measures and priority projects related to sustainable agricultural and rural development.

Table 6. SWOT analysis of agriculture and rural development of Bački Petrovac municipality

<ul style="list-style-type: none"> • Fertile land, water resources and favourable climate for agricultural production. • Favourable ownership structure of agricultural holdings. • Availability of canal network Danube-Tisa-Danube (DTD). • Developed crop and vegetable production. • Availability of storage facilities (silos, warehouses). • A number of companies engaged in agricultural production by production contracting or by trade/purchase of agricultural products. • Developed association in agriculture. • The tradition in the production of sausage (kulen) - recognizable brand "Petrovački kulen" is protected by geographical indication. • Developed rural tourism and a large number of events on which are exhibited agricultural products and handicrafts. 	<ul style="list-style-type: none"> • Orientation to the production and sale of agricultural products as raw material for further processing. • Underdeveloped livestock production. • Underdeveloped fruit and grape production. • Insufficiently used canal network system Danube-Tisa-Danube (DTD) for irrigation and drainage. • Non-organized production and marketing of sausage - kulen.
Opportunities	Threats
<ul style="list-style-type: none"> • Nearness of Novi Sad and Belgrade as large markets. • The use of EU funds during the period 2014-2020. • Currently high and constantly growing demand for sausage - Kulen and other traditional food products with geographical indication, produced in small handicraft facilities according to traditional recipes. • High prices, as well as high and constantly growing demand for organic products and processed organic products on the world and wider regional market. • Worldwide high demand for the branded products, manufactured in compliance with quality standards. • Cross-border cooperation and regional association. 	<ul style="list-style-type: none"> • Unfavourable business environment at national level (high income taxes, especially in the sector of legal entities and entrepreneurs; high interest rates; difficult receivables collection and high illiquidity within the economy). • Variable agricultural policy and insufficient budgetary support to investments in agricultural production. • Instability of the political environment and high inflow of policy in economic and investment decisions. • Relatively poor development of the competition policy and unsatisfactory role of the State in the field of competition at the national level. • Representation of the informal economy, which leads to unfair competition of legal entities. • Strict regulations in environmental protection impede higher livestock production development. • Much sharper consumers' demand at the world market in terms of quality standards and food safety, branding, geographical indication, etc.

4. Method for establishment of specific goals of sustainable development at the level of local government⁶

For achieving of desired condition, in order to obtain sustainable development, long-term strategic priority, as well as specific goals and measures have to be accomplished. Methodology for goals defining respects certain principles, how all goals have to be: specific, clearly defined; measurable, achievable and real; relevant to defined priority; timely defined.

The strategic priority is very global and represents a long-term view on sustainable development. It is, in fact, the answer on question "what do we want to achieve?", reconsidering all available resources. Set of three specific goals, as the result of previous phases, was defined.

Specific goals lead to the accomplishment of defined strategic priority. By realization of several specific goals, strategic priority is implemented. By specific goals can be determined rate of strategic priority implementation, as they represent instruments of strategic priority that will solve a certain problem, or part of the problem. Thereby, it can be defined specific goals that can be implemented (resources, time), and that provide optimal effects in the development and achievement of strategic priority, with predictable results (ratio: input-output).

For the establishment of each specific goal it is necessary to identify real measures that have to be done in order to achieve the priority of development in certain time frame. They represent the instruments for the resources usage, how specific priority goal will be achieved. Technically, they are the bridge between the strategic and operational part of achieving the development. Measures allow the time and financial measurability of defined goals.

For defining of strategic priority, specific goals and measures within the strategy of sustainable development, it is particularly important to achieve certain consensus among all interested stakeholders. Consequently, the participatory approach throughout the survey, workshops, expert meetings and discussions is respected.

4.1. Goals defining by field and types of production

Sustainable development of agriculture and rural economy is structured to include goals by key types of primary agricultural production, as well as the processing of agricultural products in the sector of agricultural holdings for which is directly connected.

⁶ In order to define much clearly priority, goals and measures in the field of agriculture and rural development at the territory of Bački Petrovac municipality, it was used the methodology adopted by the team of experts from the Institute of Agricultural Economics from Belgrade, during the establishment of the "Strategy of development of agriculture and agro-industry at the territory of Pančevo city for the period 2009-2013."

Agriculture is still the basic activity for residents of rural areas in order to create their self-employment and incomes. In accordance with practice adopted in many EU countries, within the model for sustainable development of the Bački Petrovac municipality, special attention was paid to the definition of rural development goals.

4.1.1. Primary agricultural production

The structure of specific goals is adjusted to the categories and types of primary agricultural production. Model of sustainable development includes several goals that are primarily related to: plant production; livestock production; organic production.

4.1.2. Processing of agricultural products within the sector of agricultural holdings

As the primary agricultural production is closely linked to the processing of agricultural products in the sector of agricultural holdings, model of sustainable development at the municipal level reconsiders this area too. Processing of agricultural products in the sector of agricultural holdings is based on agricultural products as basic inputs and, therefore, development of competitiveness and capacities of mentioned activity is directly related to the increasing of possibilities for the sale of agricultural products.

4.1.3. Rural development

In order to obtain larger development potential at certain rural territory, it is necessary to develop a policy for strengthening of social and physical infrastructure in villages, what also includes encouraging of development of other activities in the rural areas, before all processing and service activities. Rural development goals are defined based on natural and traditional values, in the direction of economic activities diversification and creation of new employment opportunities for the rural population, trying to improve the quality of life at the countryside.

4.1.4. Framework for the sustainable development of agriculture and rural economy

Inside the model for sustainable development of agriculture and rural economy, it is necessary to include the goals of framework improving, within which agricultural and rural sector are developing. In order to enable the realization of established goals by the type of agricultural production, as well as processing of agricultural products at the segment of agricultural holdings and rural development, it is necessary to develop an adequate legislation and organized institutions and organizations related to agriculture.

In order to have a sustainable agricultural sector, throughout the improvement of national agricultural production, therefore the exports increase, it is necessary to harmonize current agricultural policy with policies present in neighbouring countries and with good EU practices. So, model of sustainable development also includes the goals for improvement of framework for agriculture and rural economy development at the territory of Bački Petrovac municipality.

4.2. Strategic priority of sustainable development on the territory of Bački Petrovac municipality and definition of measures for its implementation

In order to realize complete content of strategic priority of sustainable development at municipal territory, it is necessary to define specific goals, whereby they should be: clearly defined; achievable; relevant to strategic priority; timely defined.

Specific goals are very general, but at same time very important, as they represent strategic priority in long term period.

Precondition for the achievement of strategic priority is defining and realization of specific or priority goals. They determine the way of strategic priority realization and represent instruments of strategic priority which is specified in order to solve the whole or part of certain problem.

In order to define each of specific, priority goals, it is necessary to define realistic measures for their realization. They are such a link between the strategic and operative part of development implementation, in accordance with:

1. defined priority of development of agriculture and rural economy;
2. SWOT matrix (by complex and detailed analysis of all strengths and weaknesses of agriculture and rural economy at the territory of Bački Petrovac municipality, from the context of opportunities and threats of national and international surrounding in which exist agriculture and rural economy);
3. the need for adjustment of rural development policy in the Republic of Serbia with adequate policy in EU countries (EC, 2005).

The following defines the strategic priority and specific goals of sustainable development of agriculture and rural economy in Bački Petrovac municipality, as well as measures for their implementation.

Table 7. Priority, goals and measures for the sustainable development of agriculture and rural economy at the territory of the Bački Petrovac municipality

Priority	Goals	Measures
Sustainable development of agriculture and rural economy	1. Strengthening of agricultural sector competitiveness at national and international market	1.1. Development of rural economy with the focus on agricultural production
		1.2. Development of rural economy through the support to networking and cooperation in agricultural sector
		1.3. Development of rural economy through the strengthening of institutional capacities
	2. Sustainable management of natural resources	2.1. Development of rural economy with the accent on land resources protection
		2.2. Development of rural economy through sustainable management of water resources
		2.3. Development of rural economy through popularization of organic agricultural production
	3. Diversification of economic activities in village	3.1. Support to development of non-agricultural activities at agricultural holdings
		3.2. Support to development of tourism at agricultural holdings

Conclusion

Agriculture and rural economy of the Bački Petrovac municipality, Vojvodina Region and the Republic of Serbia are in the process of intensive changes, starting with the changes of understand the essential role of agriculture and the rural economy for the development of a certain country, to the necessary institutional changes, as in Bački Petrovac municipality and the Vojvodina region, as well as in entire Serbia.

Model of sustainable development of agriculture and rural economy at the level of local government has to compensate the lack of appropriate strategic document in this area.

In the context of the above mentioned, it is necessary to adjust the needs of the agricultural policy of the municipality Bački Petrovac with the national agricultural policy, as it would allow further long-term sustainable development of agriculture and its harmonization with the requirements of international integration processes, before all, joining to the World Trade Organization, Stabilisation and Association Agreement and accession process to the EU.

Model of sustainable development of agriculture and rural economy at the territory of Bački Petrovac municipality, as general goal of overall sustainable

development, should define the establishment of economically viable and environmentally friendly agricultural production, through:

- harmonization of national legislation and actions from the field of agriculture and rural economy with the EU legislation and practice;
- encouraging the investment in decrease of pollution from agriculture, conservation of agro biodiversity and traditional (combined) farm systems in order to preserve landscape and species biodiversity in sensitive agro-ecological conditions, by development of animal welfare system, erosion reduction, and preservation and improvement of the entire environment;
- increasing the area under organic and other environmentally friendly farming systems;
- increasing of farmers awareness on environmental issues, respecting the principles of biodiversity protection and animal welfare;
- introduction of codex of good agricultural practice.

In accordance to defined priority of sustainable development of the municipality Bački Petrovac, SWOT matrix findings, therefore, complex and detailed analysis of all strengths and weaknesses of agriculture and rural economy, in the context of opportunities and threats from national and international environment, in which exist agriculture and rural economy, as well as in line to need for harmonization of rural development policy at national level with the adequate EU policies, next are defined: strategic priority; specific goals; measures (priority activities).

Although in practice, or legislation, at all levels, there are still a number of unresolved problems related to agriculture and rural economy, the Bački Petrovac municipality with its rural areas can and must provide a reliable model of sustainable development of agriculture and rural economy.

Socio-economic analysis of the condition of agriculture and rural economy at the municipal territory is a real basis for desired future, in order to plan proper ways and opportunities for achievement of overall sustainable development.

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