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ASSESSMENT OF CAPACITY DEVELOPMENT FOR REGION SPECIFIC ORGANIC PRODUCTS IN SERBIA

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Abbreviations

ATS - Accreditation Body of Serbia

CB - Certification Body

CSO - Civil Society Organisation

DOP - Department for organic production

ES - extension service

FAO - Food and Agriculture Organisations of the United Nations

GDP – gross domestic product

GI - Governmental Institutions

GIZ - German Agency for International Cooperation

GNV - Green Network of Vojvodina

HACCP - Hazard Analysis and Critical Control Point

ICOAVC - International expert in organic agriculture and value chain development

IFOAM - International Federation of Organic Agriculture Movement

MoA – Ministry of Agriculture and Environmental Protection

NGO - Non-Governmental Organisation

NOP - National Organic Plan of the US Department for Agriculture

NPM - National Project Manager

OF – organic farming

OP - organic product

OS - organic sector

PPP - plant protection products

SIEPA - Serbian Governmental Agency for Promotion of Export and Investments

SO - Serbia Organica

UN - United Nations

Foreword

The publication “Assessment of Capacity Development for Region Specific Organic Products in Serbia” is intended to be used by the stakeholders in organic sector in Serbia. It has been developed within the framework of the UN FAO Project GCP/SRB/001/HUN: “Assistance to the Development of Capacity and Support Services for Organic Agriculture in Serbia”, implemented by FAO and financed by Hungarian Ministry of Agriculture. The project is implemented in coordination with the Ministries of Agriculture and the Ministry of Education of Serbia.

The project aims to improve capacity of farmers and other value chain stakeholders in organic market oriented value chains through participatory training in farmer field schools and farmer business schools. That is further supported by strengthening of Center for Organic Production in Selenca which has been empowered to provide training and facilitation of market linkages and business development. Project visibility and awareness about organic agriculture was enhanced by numerous activities and publicity work of National Association for Organic Agriculture Serbia Organica.

Broader base of competences for organic agriculture has been supported by upgrading secondary education curricula for organic agriculture and inclusive practical training of teachers and high school students. Overall institutional environment for inclusive organic value chain development will be strengthened by participatory formulation of National programme for capacity development and provision of support services for region-specific organic production development.

The materials produced within the framework of the project have been tested and validated during the workshop and training sessions.

“Assessment of Capacity Development for Region Specific Organic Products in Serbia” was prepared by Olga Keselj.

We gratefully acknowledge contributions of all participants and principal authors, as well as all project team members: Aleksandar Mentov, National Project Manager; Olga Keselj and Bratislav Stamenkovic, National Consultants; Zhupan Martinovski and Vladislav Popov, International Consultants; Gyongy Kurthy, International Team Leader; as well as Nevena Aleksandrova and Stjepan Tanic from FAO Regional Office for Europe and Central Asia for their technical guidance and supervision of project implementation. The manual layout and design were prepared by Alexander Swanwick.

Preface

In Serbia organic farming started around 20 years ago but is still in the developing phase. With the slow rise of organic surface Ministry of agriculture developed structure for regulation of OS. Today within the MoA there is the Department for organic production and senior advisor in charge of regulations and monitoring of the OS. Besides them there are agricultural extension services with less or more knowledge on OF and Inspection for organic production. Common for all is a lack of training on plant protection in OF, measurements of control of diseases and pests, fertilisation and inspection, control and risk assessment.

On the other hand farmers are still on the primary level, producing mostly raw materials not able or aware of possibilities of processing. Also they are left alone in finding solutions for the problems in production since there is no capacity, knowledge and available inputs they would rely on.

In this context has been conducted the survey “Assessment of capacity development for region specific organic products in Serbia” of the four selected regions with the aim of identification of the gaps in OS and assessment of the needs in regions under the UN FAO organisation. FAO has very strong technical capacity to support the project. Its Rural Infrastructure and Agro-industries Division (AGS) is operating world-wide in supporting farmers to diversify their income and production, to move towards market-oriented farming and to create local-level commercial opportunities for further development.

At the regional level FAO’s Regional Office for Europe and Central Asia (REU) is providing assistance in agribusiness and enterprise development supporting capacity and institutional development for improved farmer-market linkages, value chain development, employment and rural livelihoods. One of priority areas is strengthening of functional linkages between all stakeholders of the agricultural-innovation system, researchers, academia, private and public extension, farmers, retailers and small and medium size enterprises, so as to allow the generation and fast adoption of appropriate innovations and their market implications.

The initiative for conducting the research should serve all the key holders in OS to strengthen their capacities and improve the quality of their services. The findings and conclusions came as the result of the triangulation of data collected and as such are intended to be used by decision makers in order to setting better environment for everyone included in organic sector.

This report assesses the profile and the capacity needs of the staff within the MoA, DOP, farmers, processors, ES, CBs, traders in the OF.

In addition survey covered review of the available data on OS and its development from qualitative aspects. Finally, recommendations on needs assessment and on improvement of the identified gaps have been provided.

With regard to partnerships, participation of various stakeholders during the project implementation provided a building block for partnership development. The ministries involved are expected to continue their collaboration in the context of strategic and local planning. The major effort of the project will be to strengthen capacities at different levels as well as to promote collaboration between the various stakeholders.

I would like to acknowledge the valuable support and assistance from various stakeholders among MoA and especially to ICOAVC and NPM for all the help and unconditional support throughout the activities anticipated by this report.

EXECUTIVE SUMMARY

BACKGROUND

Organic farming is underdeveloped type of agriculture in Serbia despite the natural resources in the country. So far GIZ and some national NGOs have done the sector analysis whose results and identified gaps were not entirely available for the purpose of this report. Therefore was performed the research on 4 defined regional organic products and organic farming in specified regions. Ministry of Agriculture and Environmental Protection and its related departments are keeping data on number of producers and surface in organic status and in conversion, but on the policy level was little done in OF. Strategic documents are still missing although the first draft was prepared back in 2009. Gap in training and capacity building is felt among farmers, advisor services of the MoA and their inspection service which was identified in this report.

METHODOLOGY

The objectives of the methodology:

- 1) to explore and identify the existing capacities within the whole value chain,
- 2) to explore and identify main issues and needs in capacity development within the selected regions,
- 3) to inquire market positioning and market channels,
- 4) to identify processing capacities and the most common sort of processing,
- 5) to explore perceived training needs of various organic stakeholders,
- 6) to provide recommendation for improvement of capacity building systems.

In order to achieve these objectives was used a combination of the secondary data available by MoA, DOP, CBs, NVOs, GIZ and on the field research and in-depth interviews. Collected data were later triangulated and used to present findings and recommendation.

The survey covered 34 organic farmers, 4 processors, 2 Control Bodies, 1 Institute for vegetables, 1 Extension service, 3 NVOs from OS and 1 association of organic farmers in the identified regions.

FINDINGS

Triangulation of data revealed the lack of capacities especially in lack of capacity and training of staff employed in extension services, inspection of the MoA and farmers in cooperatives.

There is a need to build capacities of these groups as soon as possible in order to avoid misunderstandings in work and deterioration in relationships between public and private sector.

Organic farmers mainly started their activity for economic reason. Most of them are more or less content with the results of organic farming, nevertheless they experienced some constraints and problems during their activity:

- Supply of inputs for organic production,
- Distance from the market, marketing of the product,
- Lack of qualified labour,
- Lack of capital/subsidies for further investments, developments,
- Challenges in organic farming such as pest management, weed control, feeding, medical treatment of animals,
- Natural constraints (poor quality of soil, water shortage, steep slopes, small parcels etc.),
- Deficiency of available land around farmers' holdings,

- Lack of knowledge on organic technology,
- Lack of external assistance/extension services is not qualified enough or is not existing in the region,
- Lack of communication with MoA and relevant authorities, especially when applying for subsidies/bulk of dossiers is needed and fees to pay,
- Poor livelihood conditions/lack of asphalt roads, lack of infrastructure, lack of water supply, etc.,
- Human behaviour and human habits/low awareness of consumers on organic food.

REGION SPECIFIC NEEDS, PROBLEMS:

- diversification of production missing among farmers in S and W Serbia,
- lack of organic manure in Vojvodina,
- low awareness of consumers in W, S and SE,
- lack of knowledge on possibilities of on-farm processing,
- lack of knowledge on OF in W and S Serbia and promotion advantages,
- lack of interest of grouping into farmers associations when farmers are cultivating smaller surface,
- lack of financial support,
- lack of advisory services in whole region is present,
- lack of knowledge on market positioning and market potentials for OP.

MAIN PROBLEMS IDENTIFIED IN PROCESSING SECTOR:

- The organic raw material is expensive in Serbia, due to the low demand and lack of subsidies.
- Most of the processors work in a small-scale due to the limited supply of raw materials and also due to the limited demand.
- The continuous supply of the organic raw materials is very uncertain.
- Suppliers in cooperatives can be unreliable, the processors have to supervise and control their production.
- Some of the processors are too small in international terms.
- The domestic consumers are very price-sensitive.
- There is a strong competition in the international market and the foreign companies start to enter to the Serbian food market.
- International food retail firms are distributors of more affordable OP for consumers.

CONCLUSIONS AND RECOMMENDATION

Institutional mechanism is present but needs to be strengthened and supported by private sector through development of their links and networking. The current organisation and location of some departments within OS should be considered and reorganised in order to avoid duplication of work and easier transfer of information.

In the private sector is identified the need for building capacities of small scale farmers in on-farm processing, post-harvest activities and in developing processing line in general, as well as in the marketing aspects especially in retail practices, logistics, packaging, advertising.

It is also revealed, that though at the moment the actors of the organic sector feel that the demand is huge they will meet constraints if the supply develops. Due to the higher prices demand for organic foods is limited in the domestic market, this is why the market development– both the domestic and export markets – is also an important issue.

Built networks among private and public sector along the value chain would contribute to the increase of income of organic producers as well as to improve access to organic products for consumers.

Development of human resources, connected to education programs is also beneficial, with regard to the current needs of OS and its future development. This aspect requires strong connections between educational centres and decision makers in OS in their constant information exchange and needs assessment in order to plan and organise training based on the needs.

At the moment organic farmers are satisfied with the needs of the local market they can fulfil, but in the future farmers would need to produce more and offer wider range of products to keep up with the needs and to satisfy regional consumers. The promotion of organic farming has increased demand for organic products. Governmental support should build capacities of farmers in their education, meaning not only primary production but also processing and introduction of modern varieties and new technology present in the world.

Farmers need support when investing in the production and processing units, their economic capabilities are insufficient to rely only on own resources. Investments in the finalisation of the products or increasing areas under organic crops bring more stability for the future. As the way to achieve more competitiveness from the aspect of quantities, linking with other organic farmers and cooperation among them in the sense of planning production and market positioning is one simple step toward it.

1. BACKGROUND AND INTRODUCTION

“Organic Agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic Agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved” (IFOAM definition).

The four principles of organic farming: principle of health, principle of ecology, principle of fairness and principle of care are the roots from which organic agriculture grows and develops. Organic farming is important from the aspect of environmental protection, biodiversity, soil conservation and soil fertility, animal health and consumers’ protection.

Serbia has good prerequisites for further development of the organic agriculture. Currently there is a very low level development from the aspect of new technology and inputs. Most of the organic production relies on primary and semi processed products which cannot reach the price as processed, packed and ready to eat products. In order to assess the overall situation in OS with special regard to the four identified regions for OF in Serbia was performed the analysis of needs, weaknesses in the sector and explored the main factors which could influence on the development of OF.

The analysis comprehends the macroeconomic and agricultural policy aspects as external environment conditions which can influence the functioning of organic sector. (Subsidies, taxes, tariffs, international trade agreements, economic factors, international market trends etc.)

STARTING POINT OF THE RESEARCH

- identified 4 centres of organic production,
- identified region specific products.

This part of the research was based on the data given by the certification bodies, unique database present on the web site of the Ministry of Agriculture, Forestry and Water Management (after the election in 2014 - renamed in Ministry of Agriculture and Environmental Protection) and personal contacts.

In Annex I is given the table with collected data according to the products and surface in organic and conversion status. Data from the table were used for identification of the regions and region specific products.

After summary, the data about the surface and operators involved in organic (producers and processors) production, following 4 centres were identified as possible centres for regional specific organic production:

1. Vojvodina,
2. Western Serbia - Macva, Zlatibor and Kolubara district, hereinafter referred as estern Serbia,
3. South Serbia - Toplica and Nisava district, hereinafter referred as south Serbia and
4. South-eastern Serbia - Pcinja, Jablanica and Pirot district hereinafter referred as south-east Serbia.

Indicators of popularity of organic farming in region assessed are share of crops in total production and share of land used for organic production. The selection was done carefully on the data

provided by the certification bodies and geographic conditions of the region. Traditionally grown crops in regions are in most cases produces that are best accommodated in the specific region. Therefore crops with good adaptation to certain region should be boosted and kept as region specific products. According to climate and geographical position, the best yield and quality would give crops that are actually grown in the above mentioned and recommended regions.

Important point taken into a consideration for selection of region specific crops was market and market possibilities.

Based on these parameters following regions and region specific crops raised as a distinct advantage:

- Vojvodina for the cultivation of region specific products:
 - Vegetables
- Western Serbia for the cultivation of region specific products:
 - Berry fruits - raspberries and blackberries
- South Serbia for the cultivation of region specific products:
 - Stone fruits - sour cherries and plums
- Southeast Serbia for the cultivation of region specific products:
 - Livestock production.

In the table below is shown the share of surface under specific organic crop in overall organic production in the region and the percentage of producers in the region.

Vojvodina is a fertile plain suitable for cultivation of all the vegetables, cereals and industrial crops, where yield in adequate conditions achieves higher numbers than in other parts of Serbia.

Table 1 Selected regions and crops

Proposed region	Proposed product	Total surface (ha)	% of surface in relation to total number of organic surface in the region	Number of operators	% of operators in relation to total number of organic operators in the region
VOJVODINA	Vegetables	56.8155	8.92	27	33.75
WESTERN SERBIA	Raspberries & Blackberries	160.27	68.14	132	73.33
SOUTH SERBIA Toplica/Nisava	Sour cherries & Plums	451.1319	90.81	265	85.8
SOUTHEAST SERBIA Pirrot/Pcinja/Jablanica	Livestock production	250.8691 pastures in conversion	1526 cattle in conversion	20	64,52 (in this region)
		10.2905 in organic status	439	4	

Serbian berries, raspberries and blackberries have good physical characteristics and are wanted on foreign markets. There is still the need to explore opportunities of placing those two crops as the final products and to find out ways how to make this crop recognizable in the world - how to make a brand out of it.

In the south Serbia, in Toplica and Nisava district is developed fruit production. Stone fruits - sour cherries and plums are produced on 91% of surface and by 86% of farmers. Plums and cherries are processed, and frozen or dried sold to the markets in the EU, USA and even Japan. Midi Organic, and recently Lion foods were contracted with farmers from the region into cooperatives. More than 70% of farmers of the total organic operators practice this type of cooperation.

Southeast Serbia (in Pirot, Pcinja and Jablanica district) has natural conditions for livestock production. Mountainous region of southeast Serbia is perfect for livestock farming and fodder crops. As a less developed region poor in good types of soil, recently started organic livestock farming. Although still in conversion, 1526 units of cattle graze on 251 ha of pastures. 64% of farmers are involved in the animal farming.

Animal products should be region specific products especially of indigenous breed like Busha.

Organic products are products with added value and why not prioritise them on the governmental level and provide bigger support by identifying steps in becoming the country with recognised quality organic goods in the region. National action plan with clear aims in organic farming and constant work on it regardless to the changes in the political stage is first step toward organic future.

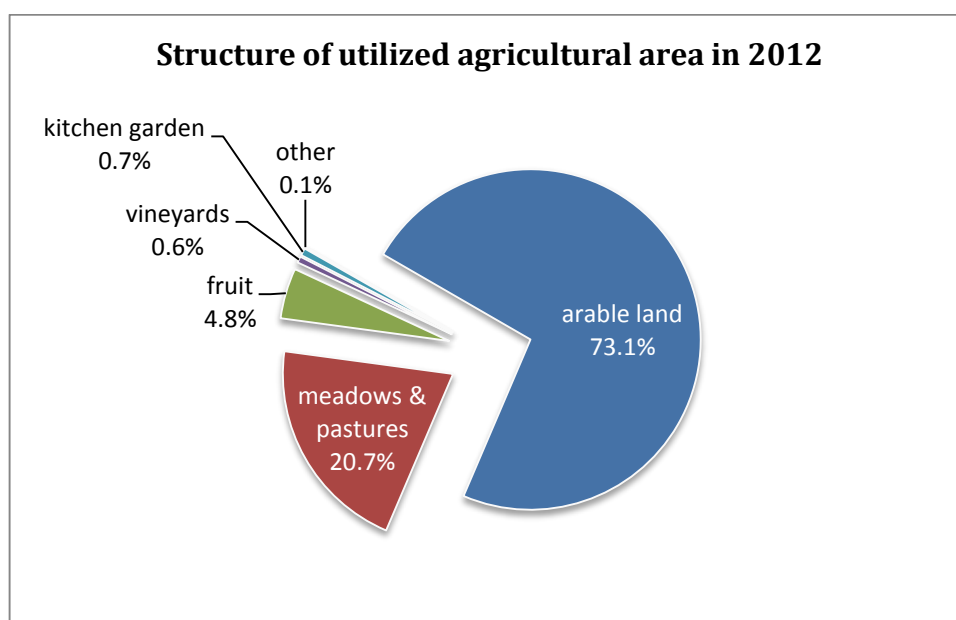
2. ECONOMICAL AND INSTITUTIONAL ENVIRONMENT OF ORGANIC FARMING IN SERBIA

2.1 Development of organic farming in Serbia

According to the Census 2012 Serbia has 5346.597 ha of agricultural area where distribution of the land is as follows:

In 2012, arable land participated with 73.1% in the total agricultural area, fruit plantations with 4.8%, vineyards with 0.6%, meadows and pastures with 20.7%, kitchen gardens with 0.7% of share.

Chart 1 Structure of utilized agricultural land in 2012



According to the results of the Census of Agriculture 2012, in the Republic of Serbia there are 631.552 agricultural holdings.

Results showed the following:

- From the total of registered agricultural land in 2011/2012 was used 89% that is 3437.423 ha. Of the total utilized agricultural land 30% is rented land,
- Household's average size of the utilized agricultural land is 5.4 ha,
- Every household has on average 6 plots, and each plot has 0.98 ha,
- In 2011/2012 irrigation had 12% of households on 3% of utilized land,
- 77% of the total households breed livestock, while beehives are bred on 31.287 households,
- 95% of the total number of tractors are older than 10 years,
- Average farmer is 59 years,
- 43% of the total households' members and full time employees are women.

Based on the results of the Census family households manage around 5 ha. This surface cannot compete with bigger holdings and cooperatives. The future for these small scale farmers is in the organic farming as the alternative to intensive agriculture. Production of specialised crops, niche products, with the support of the country could make small scale farmers self sustainable. Therefore it would be advisable to support more farmers in conversion to organic agriculture as the option of income generation and resource preservation.

The history of organic food production and processing in Serbia goes back for more than 20 years. Serbia has favourable agroecological, climatic and agro-technical conditions to cultivate organically. Therefore it was somehow easier to find suitable land rather than open minded farmers.

Development of the organic sector in Serbia began in 1990. In that time first association on organic farming was established in Serbia, in Subotica. Association Terra's carried out a number of campaigns for promotion of organic farming in Serbia. In that same time, or couple of years before, the first organic raspberries were exported to the EU but it was not documented since Serbia lacked structure and regulations back then. Smart entrepreneurs found the way to get certified by the EU CB and export Serbian OP to the international market as a raw material.

Statistics on OF are done every year regularly based on the data provided by the authorised Certification bodies. The Ministry of Agriculture and Environmental Protection of the Republic of Serbia with its Department for organic production is in charge for monitoring and record keeping of all operators in the organic production value chain. CBs yearly send lists of legal and natural persons controlled by them to DOP after which the unique data base of producers included in the organic production is established. Regrettably by the finalisation of this study, data for 2013 were not finalised according to the regions, therefore study deals with the data from 2012. Nevertheless, received data cover overall plant production for 2013, excluding division by regions. According to this data area under the organic production makes 3186.8082 ha, and in conversion 5041.1841 ha. It means that only 0.06% of the overall agricultural surface is in organic status and 0.15% if the total land in conversion and organic status is summed up.

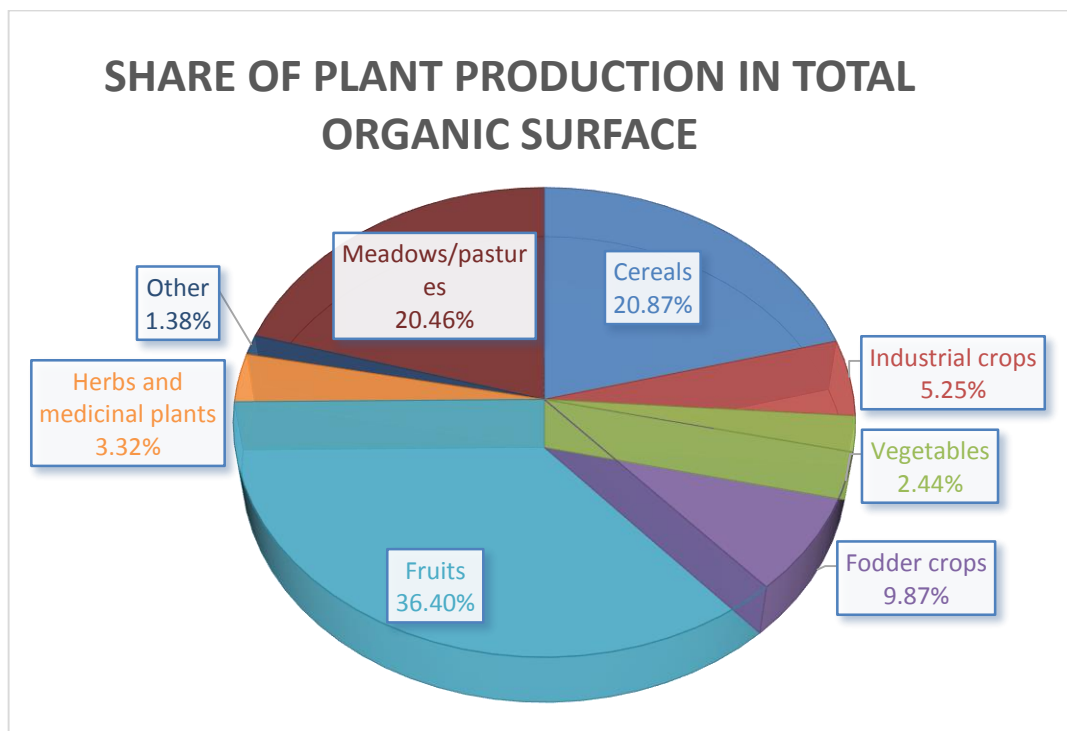
Table 2 Structure of plant production in 2013

PLANT GROUP	CONVERSION (HA)	ORGANIC (HA)	TOTAL
Cereals	1608.2837	665.1399	2273.4236
Industrial crops	505.6534	167.2358	672.8892
Vegetables	28.9796	77.7863	106.7659
Fodder crops	280.2871	314.6763	594.9634
Fruits	324.4256	1159.9507	1484.3763
Herbs and medicinal plants	26.7219	105.9285	132.6504
Other	46.0759	44.1098	90.1857
TOTAL ARABLE	2820.4272	2534.8273	5355.2545
Meadows/pastures	2220.7569	651.9809	2872.7378
TOTAL	5041.1841	3186.8082	8227.9923

In comparison to 2007 when unofficial data showed 829.7 ha of organic arable land, it is significant rise of 380%.

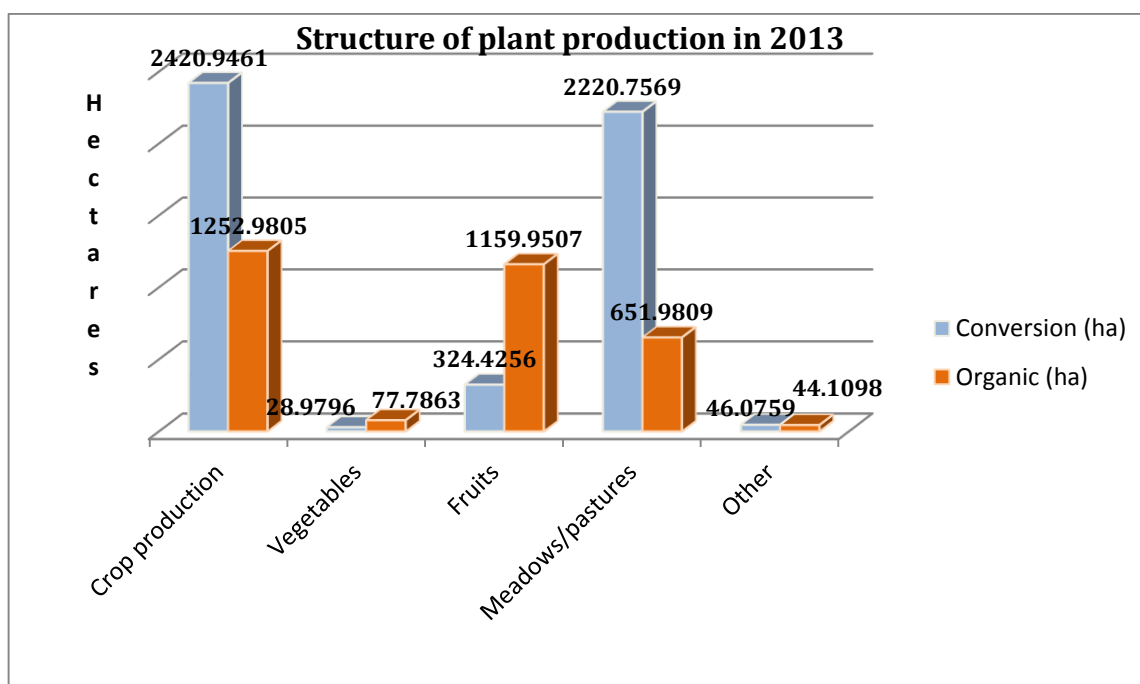
Current percentage of each organic plant production is shown in the chart below:

Chart 2 Organic plant production in 2013



In the chart 3 is shown organic crops' distribution:

Chart 3 Organic production in 2013



Fruit production has the largest share in total organic area (36.40%), followed by cereal production (20.87%). Pastures and meadows are spread on 20.46% of land and vegetables were produced on 2.44%.

Of the total areas under organic production, perennials are grown on 36.40% and annuals on about 41.75%. The balance (21.85%) goes to meadows, pastures, and fallow land and non cultivated area.

Table 3 Structure of organic plant production in 2013

	PLANT PRODUCTION	ORGANIC FARMING (HA)	IN CONVERSION (HA)	TOTAL (HA)
PERENNIALS	Apples	328.1615	6.8014	334.9629
	Raspberries	223.1874	118.5266	341.714
	Strawberries	142.7057	1.9525	144.6582
	Plums	169.5727	80.4805	250.0532
	Sour cherries	54.0640	28.2537	82.3177
	Other	242.2594	88.4109	330.6703
	TOTAL	1159.9507	324.4256	1484.3763
ANNUALS	Maize	53.3152	911.6160	964.9312
	Wheat	44.4525	223.9912	268.4437
	Soybeans	155.9199	254.3467	410.2666
	TOTAL	253.6876	478.3379	732.0255
	Vegetables	77.7863	28.9796	106.7659
OTHER FIELD CROPS		893.3644	1915.8863	2809.2507
HERBS AND MEDICINAL PLANTS		105.9285	26.7219	132.6504
OTHER		44.1098	46.0759	90.1857
PASTURES		651.9809	2220.7569	2872.7378
TOTAL		3186.8082	5041.1841	8227.9923

Within the category of perennials, raspberries, apples and plums dominate, followed by sour cherries, quince and blackberries. Cereals, soybean and vegetables are the main annual crops grown. Although berries are the main export crop, it appears that farmers are diversifying to other crops, opting mostly for apples and plums. According to the statistics from 2012 apples, plums and raspberries are produced on more than 88% of certified organic surface in Serbia.

According to the unique data base at the moment Serbia has around 1470 stakeholders, in conversion and with organic status, 1356 farmers and around 110 legal persons where ~ 30 of them are distributors and retailers.

Nevertheless, this number is not the final one since some of the farmers and/or legal persons are not in the unified registration of the Ministry of agriculture.

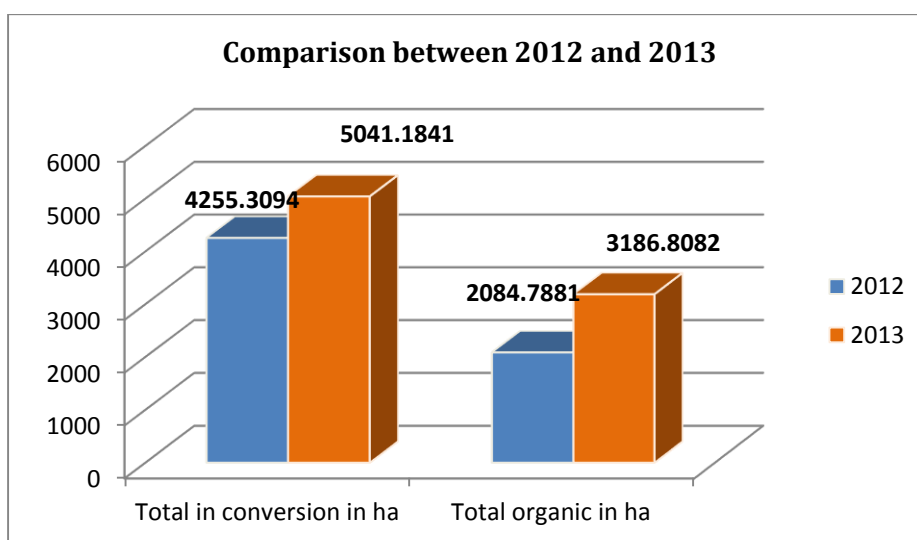
Table 4 Structure of organic farmers

	IN 2012		
	In conversion	In organic status	TOTAL
LEGAL ENTITIES (PROCESSORS AND EXPORTERS)	32	53	85
FARMERS	143	54	197
FARMERS IN COOPERATION	278	881	1159
RETAILERS/DISTRIBUTORS	0	28	28
TOTAL	453	1016	1469

In 2012, area in conversion covered 4255.3094 ha, while this number arose in 2013 by 15.6% and now is 5041.1841, while the difference between 2012 and 2013 in total marks 30% of growth.

The area under the organic production has increased by 34.6%. In the chart is given visual overview of the areas.

Chart 4 Comparison of organic and area in conversion in 2012 to 2013



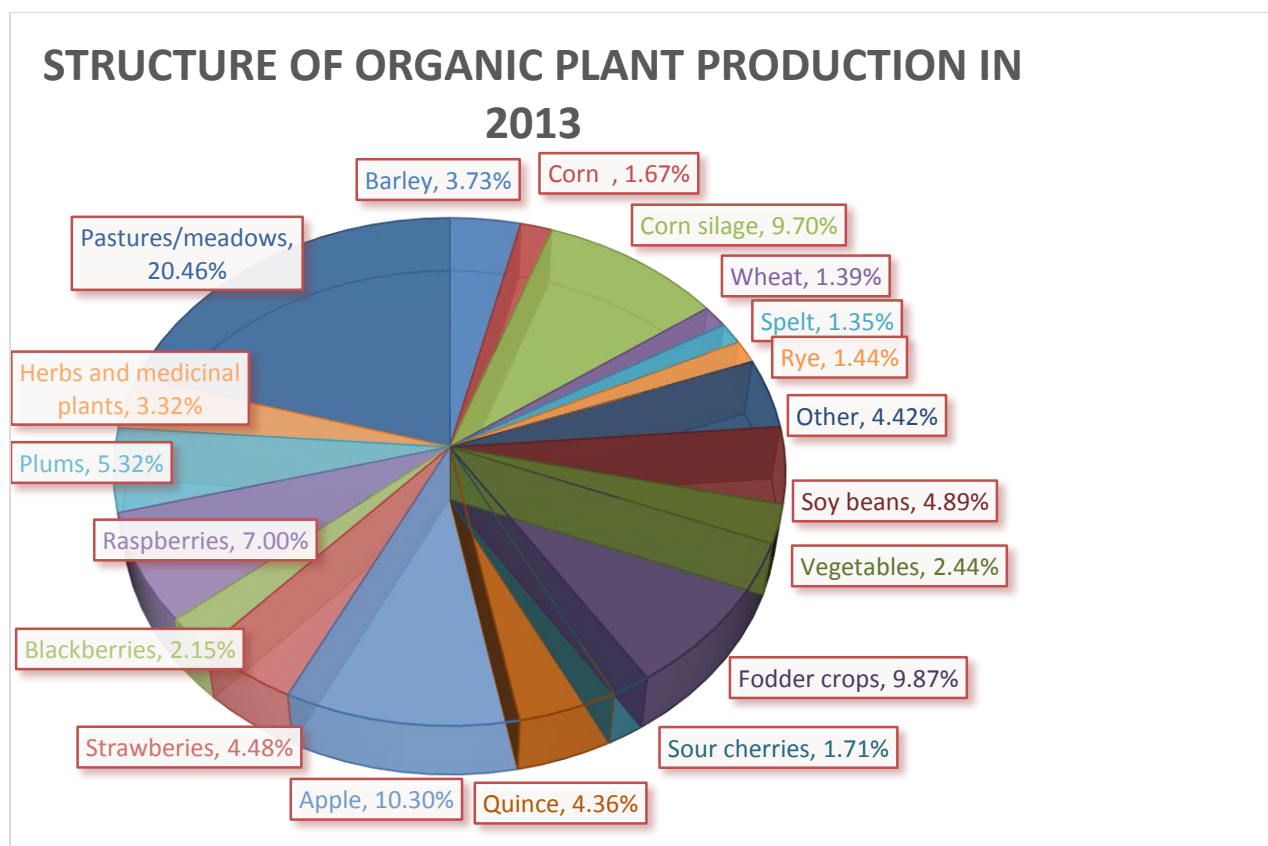
Livestock production is given in the following table:

Table 5 Structure of organic livestock production

ORGANIC LIVESTOCK PRODUCTION IN 2013			
	Number of unit/bee-hives (in conversion)	Number of live-stock/bee-hives (in organic status)	Total
CATTLE	323	1853	2176
SHEEP	1238	2793	4031
PIGS	118	57	175
GOATS	865	81	946
POULTRY	28	1362	1390
DONKEYS	9	12	21
HORSES	162	48	210
BEEHIVES	1337	603	1940
COMMON CARP	655	0	655
TOTAL	4735	6809	11544

Percentage of share of organic crops is given in the following chart.

Chart 5 Structure of plant production by the share of the crops in 2013



Investments in organic farms are poor or do not exist at all, plantations are usually old, machinery over aged, organized storage and glasshouses are available to every third farmer, and leasing land or loans for purchasing inputs or machinery are practiced by just 5-20% of all farmers surveyed. Future investment plan is therefore very moderate and concentrates on rehabilitating the irrigation infrastructure, perceived as a major problem by fruit producers.

2.2 Regulation and institutional background of OF

Development of the organic sector in Serbia began more than 20 years ago following IFOAM movement, establishing the first associations on organic production, Terra's. Terra's still carries on the work on promotion of organic farming and environmental importance with other NGOs in Serbia.

Later, the development went through following stages:

- EU Regulation 2092/ 1991 was published.
- The first Law on Organic Agriculture in Serbia was adopted in 2000.
- First certification body in Serbia started to work in 2003, GIZ supported Terra's in cooperating with the German certification firm BCS.
- Serbian producers exhibited for the first time in 2010 at the Biofach fair, supported by GIZ, SIEPA and USAID Agrobiznis.

- EU Regulations 834/2007 & 889/2008 came in force.
- In 2011, with the support provided by the Ministry of Agriculture, regional Centres for organic production were established in Selenca, Valjevo, Svilajnac, Leskovac, Negotin and Uzice in 2013.
- In early 2011 was adopted the new Law on organic production in compliance with the EU regulations.
- Accredited 6 certification bodies for 2014.

Below is shown the organisational chart of the Ministry of agriculture and their links and connection.

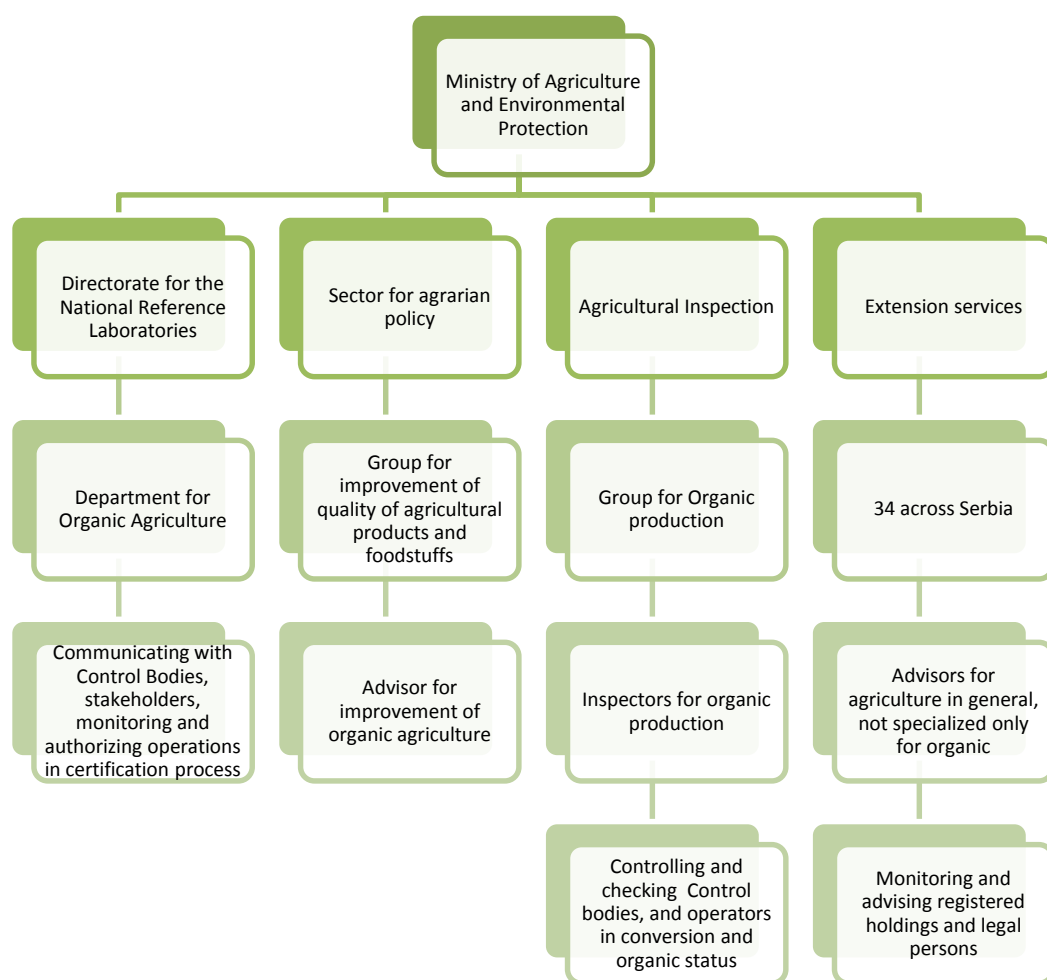


Figure 1 Organisational scheme

Serbia started to apply organic principles before the first Law on organic production was enforced in 2000. From 2006-2010 organic production was based on the Law on organic production and organic products. This law and its bylaws regulated in detail all issues related to production, processing, storage, transport, trade and labelling of organic products.

New Law on organic production was delivered on 1. January 2011 (Official Gazette of Republic of Serbia, no. 30/10). This new Law is prepared in compliance with 889/2008 Regulation and 834/2007 Regulation. Regardless, Serbia is not on the list of the third countries, and before joining EU will have to comply with all health and food safety Regulations as in all points of the EU framework.

The new Law on organic production replaced the guidelines on organic plant production and collection of wild plant and animal species (2009), Guidelines on organic livestock farming (2002), Guidelines on technology in processing organic products, cleaning and products for cleaning equipment, allowed substances, additives and additional substances in food industry (2009), Guidelines on packing, storage and transport of organic products (2006), Guidelines on trade of organic products (2008), Guidelines on national logo of organic products (2006), Guidelines on requirements for control legal entity has to meet (2006), Guidelines on record keeping and compulsory data in the reports in organic production (2008).

National action plan on organic production was drafted in 2009 for the period from 2010-2013 after which followed the establishment of the Department for organic agriculture within the Ministry of Agriculture, preparation of the new Law and entry into the list as one of the members of the third countries.

In autumn of 2012 the MoA started the preparations for drafting the program for the period 2014 – 2020, which would be in line with the European Union's rural development policy. In March 2012 when Serbia became the candidate country simultaneously acquired a possibility to access IPA funds for the V component - rural development, so called IPARD funds. Organic agriculture is one of the measures within the IPARD programme. Still until mid 2014 little is done to prepare the country for the EU funds and implementation of the fifth component of IPA.

National action plan is still in the process of adoption.

In the new Law from 2011 the Department for organic agriculture is designated body for the tasks of:

- authorisation of certification bodies (CB) in Serbia for the control and certification activities,
- keeping updated list of authorized certification bodies and publishing those data in Official Gazette,
- providing authorized certification bodies with codes,
- keeping records on producers, areas under organic production, areas under wild collection, data on livestock, issued certificates, production of seeds and plant material, export, import...
- maintaining and withdrawing authorization of certification bodies if conditions foreseen by the law are not met.

At the moment Serbia has 6 authorized certification bodies for 2014:

- Control Union Danube, Belgrade,
- Ecocert Balkan, Belgrade,
- EtkoPanonija, Novi Sad,
- Organic Control System, Subotica,
- Suolo e Salute, Belgrade,
- TMS CEE, Belgrade.

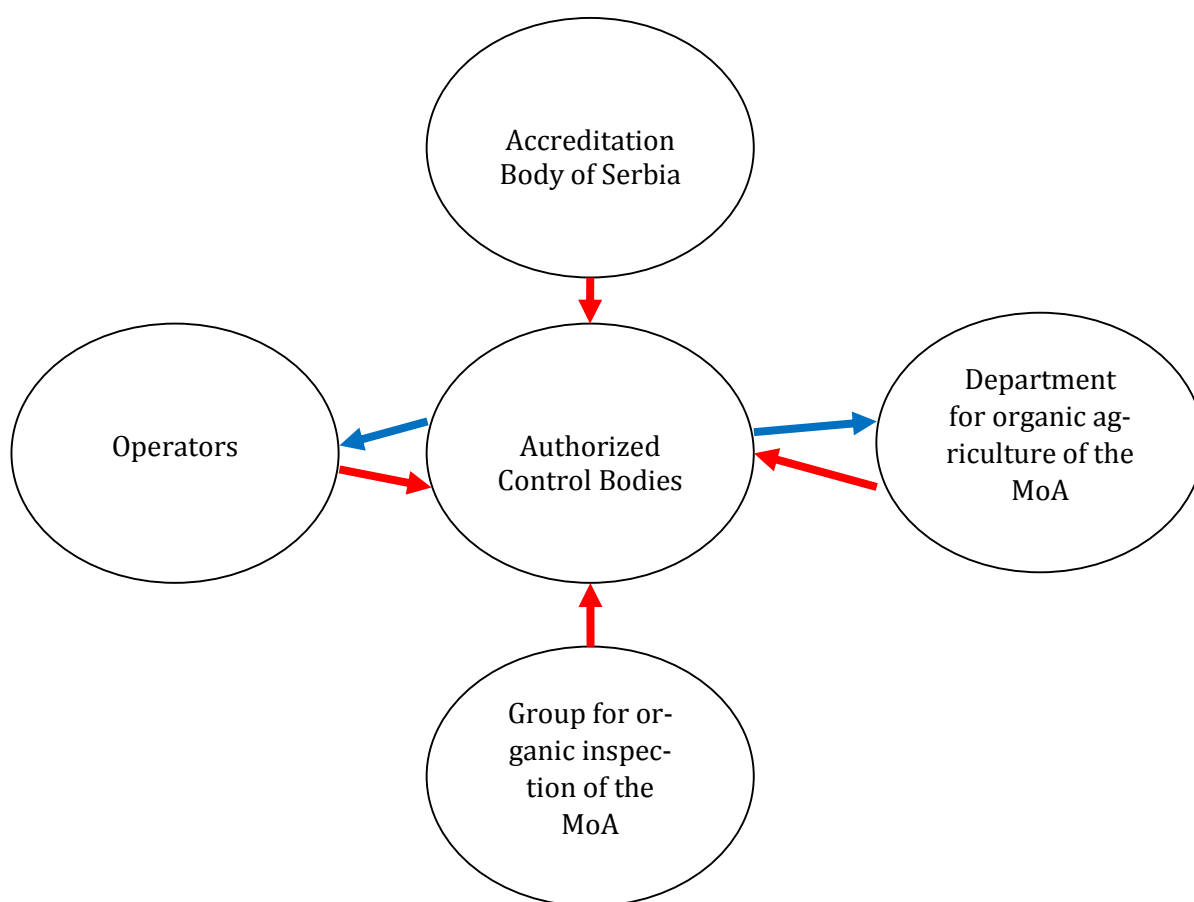
The number of CBs is not constant and except for Ecocert that is certifying big processors in the country, for some bodies' costs of running office solely for organic certification would not be economically viable. Truth is that Serbia has great potentials, nevertheless is still developing country by the number of organic operators and organic surface.

All authorized CBs' are accredited according to SRPS EN 45011 standard by the Serbian Accreditation Body (ATS) which is now replaced by SRPS/ISO 17065:2013 and until 2015 all CBs would

need to get accredited according to the new standard. Besides collection of data on surfaces, quantities, and import transaction documents DOP monitors export of organic products in cooperation with the Ministry of finances (Directorate for customs).

In the scheme below are shown connections between Certification bodies and relevant stakeholders (Figure 2).

Figure 2 Relationship in process of OF



Incentives for organic agriculture are stipulated in the Regulation of the MoA.

Ministry of Agriculture in 2005 for the first time supported financially organic farmers from the governmental budget for the certification costs. By that time the Law was not adopted nor were certification bodies present. One association applied for the subsidies and got the support of 224.000 dinars.

One year later, in 2006 applicants got 1898.055 dinars in total for the period of conversion, certification, promotion and protection of locally produced organic products, education of farmers, demonstration farms and others.

In 2007 and 2008 legal framework included subsidies for the period of conversion. Due to the official objection made by the Inspection department in 2007 where was said that certification body was included in signing contracts with producers and issued certificates before the authorisation from the Ministry was given and due to the incomplete documentation farmers submitted, only one application was approved in amount of 22.496 RSD.

All registered holdings and legal entities were allowed to apply for subsidies.

In the previous years, organic farmers could have not relied on the subsidies due to their inconsistency. There was neither a clear vision nor guidelines that would have had ensured farmers to depend on the governmental support and to plan accordingly.

In 2011 subsidies were given to natural persons / farms, legal entities, cooperation, producers, educational institutions, according to the surface cultivated in conversion status of:

- 1) 36.000 dinars/ha for the field crops production,
- 2) 50.400 dinars/ha for vegetables production,
- 3) 64.800 dinars/ha for fruit growing and vine production,
- 4) 21.600 dinars/head of the herd for at least 4 heads,
- 5) 7.200 dinars/head of flock for at least 10 heads,
- 6) 720 dinars/unit of poultry for at least 100 units,
- 7) 2.800 dinars/bee hive for at least 30 beehives.

Subsidies for natural persons, farms, legal entities, producers, cooperation, educational institutions in organic status per surface:

- 1) 30.000 dinars/ha for field crops production,
- 2) 42.000 dinars/ha for vegetables production,
- 3) 54.000 dinars/ha for fruit growing and vine production,
- 4) 18.000 dinars/head of herd for at least 4 heads,
- 5) 6.000 dinars/head of flock for at least 10 heads,
- 6) 600 dinars/unit for poultry for at least 100 units,
- 7) 2.400 dinars/bee hive for at least 30 beehives.

At the moment farmers can rely on 34 extension services where 235 advisors are employed. External services are governed by the Ministry of Agriculture, Government of Serbia and Provincial Secretariat for agriculture, water management and forestry.

None of the advisors is specialised in the organic sector, since organic advice makes only a part of the services they provide on the field.

Private companies are also present as the consultant providers in the organic sector and provide services according to the contractual base.

Holdings dealing with organic farming have organic production as the only business or have conventional production along. In both situations organic products are intended for market sale. Therefore support from the governmental budget should follow demand and trends on the market.

As for the organic inputs seeds and planting material can rarely be found on the market, and if so, the quantities are rather limited. Another issue is the registry of varieties allowed to import to Serbia which is sometimes limiting factor for organic seeds that cannot be imported unless they are not on the list. Domestic organic seeds are of poor quality and/or choice of varieties is limited.

The same stands for the plant material which is difficult to find in Serbia. Also, farmers are lacking information on places where they can purchase available products.

In Serbia every other farmer keeps animals, and even then too few of them, that manure produced on farm is hardly enough to provide nutrients for 5-6 ha of land (under which category goes 60% of farmers). Soil enhancers and plant nutrition products can be found on the market but at relatively high prices, and the remained issue is their cost effectiveness (source; GIZ research).

Farmers rely on basic plant protection like copper and sulphur based products, or herbal plant teas they prepare themselves on the farm. Tea preparations are based on garlic, nettle or any other plant proven to be efficient in organic plant protection. The lack of organic inputs is the most common threat for the new organic farmers. Inability of adequate treatment in case of disease or pest is limiting factor for many farmers who are considering entering to OF. Accordingly the number of organic farmers rises slowly. On the other hand organic farmers are not willing to share their positive practices or measures that proved to work with other farmers. Transfer of knowledge between farmers is limited and often farmers feel discouraged by the competition.

3.METHODOLOGY OF THE SURVEY

The objective of the research was:

- 1) to explore and identify the existing capacity within the farmers, processors, organisations and governmental representatives within the OS,
- 2) to explore and identify main issues and needs in capacity development within the selected regions.
- 3) to explore the value chain for the each regional organic product,
- 4) to inquire existing types of relationships within the OS,
- 5) to inquire market positioning and market channels,
- 6) to identify processing capacities and the most common sort of processing,
- 7) to explore perceived training needs of various organic stakeholders.
- 8) to provide recommendation for improvement of capacity building systems.

Methodology used in the study was selected according to:

- 1) Focus of the research goals. According to it were selected:
 - a. approach,
 - b. methods of data collection,
 - c. methods of data analysis.
- 2) Types and sources of information needed and available,
- 3) Accessibility to the sources of information (official records, available database, personal information and field experience...),
- 4) Time-frame for the data collection.

Focuses of the research are farms and legal persons in four selected regions in Serbia. After the review of the secondary data available, database of the Ministry of Agriculture, literature review of publications issued within organic sector, web sites, information obtained from different associations in this field in Serbia, was decided upon the approach to the methodology. Since the number of farmers and types of selected regional products were selected the research was narrowed to specific category of farms and products. Research was performed in four selected regions with producers (natural and legal persons) of 4 selected organic products. In Vojvodina region organic vegetable producers were visited, in Western Serbia berry producers (raspberries and blackberries), in South Serbia stone berry producers (plums and sour cherries) and in the Southeast livestock breeders were interviewed.

Methods of data collection relied on secondary data to get the quantitative overview of the number of stakeholders dealing with regional products and their percentual presence in the total number of organic stakeholders in the selected region. These quantitative results gave the insight in the structure and superficial analysis of the sector, for thorough research qualitative methods should have been applied. Qualitative methods would have provided the answers on the common problems operators are facing from the different perspectives, (from the aspect of the farmers, processors, certification bodies, distributors...) and give the possibility to triangulate them.

Methods of data analysis chosen were:

- 1) secondary data like literature review, information from the NVO sector, MoA, GIZ, etc.
- 2) on the field interviews:
 - a. in-depth interviews semi-structured, where prepared questions allow to get some flexibility in interviewing.
 - b. focus group when needed rational use of time,
 - c. participant's observation when circumstances would allow it. Most of the interviews were anticipated to take place in the winter season due to the low level engagement of farmers in this time of year.
- 3) on the field questionnaires:
 - a. self-completion questionnaires in the combination with interviews where some questions would have multiple choice of answers or would have required simple answers like name, location, etc.

Problems with these methods are mostly the availability of time of the interviewees and their willingness to cooperate and give answers to some delicate questions. Nevertheless, most of the operators were approachable and cooperative. In addition, it was noted before the actual start of the survey that simple question with Yes/No answers as well as "Tick boxes" answers would not serve the purpose. In order to save time during the interviews the option was to read questions where interviewees would select one of the offered answers and provide information on simple questions related to the personal information. And when was needed to go into some depth about existing capacities, challenges, training needs, the practice was to ask an open question.

Semi-structured interviews took place after noting first information in order to obtain qualitative data for questions related to the problems on the field, their relationships with other organic stakeholders, education on OF, market, etc. 80% of farmers were interviewed individually on their farms, green markets, offices, seminars, in some cases were organised focus group interviews since the local dispersion of farmers disabled on the spot interviewing, on the other hand it would be resource consuming to visit everyone and still the results would be the same. Therefore farmers in the southeast Serbia were gathered and then each one of them was interviewed. Interviewees showed great interest in this type of research. All of them were cooperative and ready to give honest answers and their perspective related to main issues of organic farming in the region. The farmers were already familiar to each other and during the interview felt cosy and open to actively participate in interviewing where they encouraged each other to give their own points of view. Due to the character of questions each one needed to be additionally interviewed as well. In three other regions was applied individual approach.

For the field research interviews were carried out in every selected region, 5-8 interviews with every group of the stakeholders. For this study was prepared set of questions with the goal to assess the situation on the farm regarding the surface under organic production, structure and size of the farm, age, education, source of the organic inputs, mind setting of the farmers, common problems in production, market opportunities, constraints and future development plans. The number and structure of the questions required at least 1-2 hours to spend with each interviewee. Of course this cannot be possible in the season period, even during the winter time interviewer had to be very sensitive about other people's time and find the most convenient approach to the interviewee. The most convenient way was to come in the company of the locally familiar person (engineer, consultant, advisor, etc.) when farmers felt more confident in the interview and its purpose. Interviewees were reluctant to fill in the questionnaires, they preferred oral interviewing where answers were noted down by the interviewer. On the other hand it opened the way to getting the more explanatory answers then they would rather be willing to give.

Research covered 34 individual farmers (representatives of each identified typical group of farmers), 4 processors, 2 Control Bodies, 1 Institute for vegetables and 1 association of organic farmers, 1 Extension Service, 2 NGOs, several agro-pharmacies. The results should reflect on the current situation in the region regarding organic farming but also on the problems these farmers are facing.

A list of important issues and areas necessary for adequate assessment of the OS was prepared. Almost all the stakeholders were specifically asked about their own capacities, challenges and future development as presented in the table of areas questioned in the research.

Table 6 List of issues covered in the questionnaire

TARGET GROUP	AREAS COVERED BY THE QUESTIONNAIRE
Farmers	• farm structure • farmer's profile • farm's capacities • post harvest operations and processing • marketing channels • training needs • challenges in production and placement • future aspirations • relationship between different stakeholders (MoA, farmers, NGOs...) • feasibility of production
Processors	• processor's profile • processors capacities • internal system of control and risk assessment measurements • market orientation • training needs • challenges in OS • future development • relationship between farmers, CB and governmental representative
NGOs	• NGO's profile and capacities • scope of work • relationship between other NGOs and individual farmers
Certification Bodies	• CB's profile • cooperation with GI, NGO, and ATS
Organic input producers	• structure and capacities • market channels • training needs • challenges and needs • cooperation with farmers

Selection of the interviewees was done according to the structure of farm - main orientation, location, approachability - not everyone was willing to participate in the survey. In the regions where cooperative relationship makes majority of organic farmers it was much easier to select farmers since they are all in the same position regarding the market accessibility, production process, constraints and challenges present in the region. In Vojvodina and Southeast Serbia were encompassed farmers in organic status, producers of regional organic product, fully or almost fully converted to organic status, market oriented. Due to the small number of those, an attempt was made to choose a sample which was as representative as possible.

Time foreseen for this research was from December to beginning of February. Unfortunately Serbia suffered heavy snowfall in almost all the country which prevented on the field interviewing. By the beginning of March interviews were finished and their analysis and triangulation started.

After data collection, data was triangulated and analysed using large number of qualitative data analysis techniques. Where it was possible data was analysed using statistical tests. However, the most of the information was qualitative hence entered in data-entry formats, categorised and analysed to summarise the findings. The findings were later used to formulate conclusion and recommendation.

3.1 Selection of typical farms

A typical farm represents a significant number of farms in a region in terms of size, farm activities, land use production systems and labour organization. Available statistical data and, even more important, expert judgment are used to define typical farms. Typical farms are not representative in a statistical sense, but they should represent as a whole a significant share of the farms in the country. The number of typical farms to be defined in the country depends on the specific country characteristics, according to farm diversity and regional variability.

While being aware that the typical farms will never be representative in a true statistical sense, if available they are a valuable amendment to the official statistical farm data. The approach with the involvement of farmers and advisors in the selection process of typical farms, and its impact assessments in relation to policy changes, provides realistic results close to the true situation in organic farming.

Organic farms are usually more diversified than conventional farms and represent a higher variety of farming systems. According to the described methodological background, selection criteria for the definition of typical organic farms were:

- regional distribution of organic farming
- farm size
- main products, main farm activities
- production system
- legal form
- marketing channels.

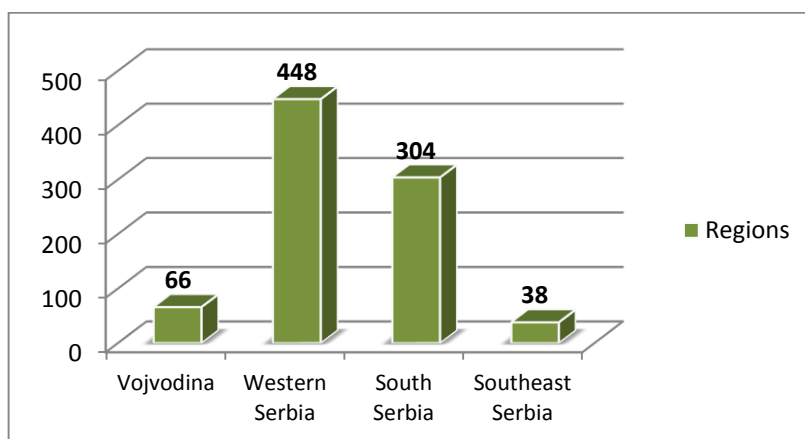
Identification of typical farms is easier when the number of organic farms is large, as it is then more likely to have regional centres of farms of the same type or of similar structure. In a young organic sector, with a small number of farms, nearly every farm is different, making it difficult to pool them into groups.

Once the typical organic farms were decided upon, one representative farm was selected for every farm type, with characteristics close to the parameters set for typical farm. During an extensive interviewing process (one to two hours each) the whole set of physical and economic data could have been collected.

The selected farms had to meet the following requirements:

- to be fully converted
- to be larger than one hectare
- to be managed by farmers with at least three years of experience in organic farming.

Chart 6 Number of organic operators by regions



According to set parameters for the selection of the typical farm and selected regional product following typical farms were:

1. IN VOJVODINA

Small scale farmer is a typical producer of organic vegetables, average farm size is between 5-10 ha, farm is fully converted and market oriented. Typical organic farmer started his production almost 10 year ago and is running farm as a family business.

Typical farm in Vojvodina is run by family and usually the only source of income is the one generated from the organic activity. 75% of farms are fully converted. Small scale farmers are producers of organic vegetables and cereals. They are growing vegetables on open field and therefore supply the market during the season. Their products have seasonal character and small quantities, therefore are mostly sold on the green markets or hyper markets in Belgrade and Novi Sad.

On the other hand, farmers could sell their quantities to organic processors of vegetables in the region. But even if their whole yield would be taken by processor, which basically means they could concentrate just on the production cycle and save resources they would otherwise use in market positioning, farmers are still reluctant to deal business with local processors. The reason for it lies in the fact that their organic products are being easily sold for cash on the green market for the price as twice as bigger at least, as processors' would be.

What is more, there are some possibilities for processing organic raw materials in Vojvodina. Organic processing, milling, grinding and finalization of the end product can be done in one of 7 bigger processing companies or in mills with smaller capacity. Major processing facilities in the region have their own production and are constantly looking for good, organic raw material. Companies like Repro trade, Galus doo, Suncokret doo, Zdravo Organic, Ekorporacija (data from 2012) are main processors in the field.

Typical farm in Vojvodina is a family household where the main products are vegetables. Since the surface of typical farm is rather small and/or limited organic vegetables is the most valuable crop - it brings quick turnover of the money, farmers can sell it on the cities' green markets (there is no need for additional costs of building some kind of stores) for the cash, and the price is high enough to cover all the expenses and to provide income for the family. All farmers agreed that the price of organic vegetables is enough reason to start and to develop their farms. Vegetable production on these farms should be considered as the future family business for followers and farmers owing a smaller size farms.

2. IN WESTERN SERBIA

In Western-Serbia typical farm is a mixed family household where farmers keep cattle and organic fruits. The cattle are kept in extensive conditions and main organic crops are berries - raspberries and blackberries. Around 60% of all organic farmers are situated in the West Serbia and are organic soft berries producers. The average farm has less than 20 ha, and on average 60% of farm is utilized, while 40% is woods or fallow land, meadows and pastures. Organic surface under these soft berries is rather small, however even production on smaller plots provides good income since their price is rather high and rewarding for farmers. Main income comes from selling woods and organic berries.

Typical farm in western Serbia is partly converted, livestock and field crops are kept in conventional status. This is mainly due to the relationship farmers have with buyers in the region.

Namely these farmers are part of the cooperative with processor who is certifying, processing and marketing crops after the harvest. 100% of farms are not present on the market with their organic fruits and deliver entire yields to contractor. Farmers benefit from this relationship, since they get a good value for the yield, and the risk of dealing with fresh and sensitive berry crops bears processor.

Processors/cold storages in the area like Zadugar, Berry frost and Frikos are making contractual obligations with farmers where they oblige themselves to take over raspberries. Price is usually foreseen in the contract or it is counted as a 20% of surplus to the market price in the moment of harvest. On the other hand farmers invest a few resources in their plantations. Inputs are mainly deriving from the farm, like manure coming from their cattle, while plant protection treatments are given by the contractor/processor. Every farmer is recorded in the system of internal control as well as the quantity of delivered crops and plant protection products delivered and used. The cost of these treatments bears farmer. At the end of each year processor reimburses costs of plant protection products from farmers. This is usually happening in the winter time when farmers have more income.

Post harvest treatments and market positioning for these farmers is not an issue; they are giving harvested crops to the contractor. Even crates used in harvest are provided by processor. After the harvest berries are delivered to cold storages for processing - sorting, freezing and packing.

3. IN SOUTH SERBIA

In the South Serbia typical farm is similar to the one in the Western Serbia. Farmers have developed the same concept of organic cooperation relationship. More than 70% of farmers in the region practice this type of cooperation, while 30% of the total number of organic farmers are in this region and practice organic stone fruit production. Main crops are stone berries - plums and sour cherries. Farmers are organic fruits producers and their farms are partly converted, meaning although they may practice organic principles, under certification scheme are surfaces under stone berries - plums and sour cherries - that is under the crops farmers and processor have agreement on control and purchase. Every farmer has livestock in extensive condition of production which is a good on-farm input for fertilization. Plant protection treatments are provided by the contractor.

Main organic crop are plums produced on 86% on surface and by 65% of farmers. Plums are processed, and frozen or dried sold to the EU market. Processors like Midi Organic and Lion foods (Den Juro Organic) made contracts on internal system of control and the carrier of the certification is the processor.

4. IN SOUTHEAST SERBIA

Mountainous region of Southeast-Serbia are perfect for livestock farming. As a less developed region and with poor quality soil, here recently started organic livestock farming. Although still in conversion, 1526 units of cattle graze on 251 ha of pastures (data from 2012). 64% of farmers are involved in the animal farming.

Typical organic farm is a livestock farm fully in organic status with more than 10 ha of land. Typical regional products are dairy products of cheese originating from cow and sheep milk.

Specificity of the region is autonomous breeds like Busha and Pramenka which can be used for meat production as well. Wide unsettled nature, abundance of pastures and unpolluted habitat would easily embrace thousands of cattle in this very moment. This chance should be taken especially now when farmers got organic status and are aware of the benefits and advantages organic certificate brings. Naturally, nearness and tight traditional bonds and commercial relationship with Bulgarians is an advantage for farmers. Most of them speak Bulgarian and language is not considered as an obstacle in seeking market across the border.

4.RESULTS OF THE SURVEY: ASSESSMENT OF THE NEEDS FOR CAPACITY DEVELOPMENT

4.1 Situation of organic farmers in Serbia

The recent study on organic sector was done in 2010 by GIZ with the aim of exploring organic households and collecting data on typical Serbian organic farmer. The survey covered 140 agricultural households dealing with organic production. More than 60% of examined households cultivated less than 6 ha while 25% have 10-20 ha. 15% of organic farms were operating on the land surface from 6-10 ha. Such areas were run mostly as the family business, and every second household rendered seasonal labour help.

Selection of crops depended on the size of the farm. Farms with more than 20 ha cultivated cereals and oleaginous crops, while small farms with less than 5 ha cultivated cereals on smaller plots and for own consumption, and grew soft berries and other fruits on most of their land instead. Vegetables were mostly grown on farms size from 5-10 ha. All farms having more than 5 ha however had parts of non-cultivated land, which was used as pastures or left fallow (source: Agriculture at a glance).

The larger the farm the bigger the area under the organic certification, but it never exceeded more than 15-25% of the total farm surface. Land was mostly used for cultivation of soft berries, where raspberries were predominant. Plums and apples were the most important crops among the fruits.

Research conducted at the end of last and this year showed how the situation changed and if it changed at all. Study covered representatives of typical farmers' group. In Vojvodina typical farm is family holding, producers of vegetables. In western Serbia typical farm is berry producer and a part of cooperative relationship with processors. In the south Serbia typical farm produces stone fruit and is contractually obliged in cooperation relationship with processor. Typical farm in the southeast breeds livestock.

RESULTS:

Age

Based on the responses gathered during the personal interviews and random sample of farmers, the majority of the interviewees are younger than 40 years 32,4%, and 29,4% are between 41-44 years.

In the group from 45-54 are 23,5% of farmers, even less is in the group of 55-64 years - around 11,8%. And only 2,9% is older than 64 years.

It would mean that opposite to common opinion, young people do stay in villages and start living from agriculture and organic farming which is nowadays attractive sector for small scale farmers. Again, these young farmers are the ones left in abandoned villages where most of the population migrated to bigger cities searching jobs. Currently, Serbian rate of unemployment is around 21% and if the announced economical policy measurements would be implemented consequently this rate would increase. However, while the economic situation in urban systems would entirely depend on State policy, in the rural area population would have the advantage of choice - work in agriculture or any related activity or to wait the prosperity in the economy. Fortunately poor

economic situation in rural areas for years contributed to reduced use of chemical products and made Serbia one of the countries with the lowest percentage of chemical use per hectare (40 kg/ha). This is another advantage Serbian farmer has - possibility of production of food with added value that has upward trend in consumption - organic food.

Reasons for entering OF

According to the results of the survey all farmers had different motivation for starting organic farming:

- 1) 43,3% were inspired by economic reasons - higher prices of organic produce, subsidies given by the government,
- 2) 29,7% declared that ecological and health reasons attracted them,
- 3) 13,5% said organic farming was easy to implement due to the natural conditions and low level of inputs needed,
- 4) 13,5% had other reasons to enter organic - some were unemployed, or changed their lifestyle.

Farmers who said it was easy to convert to organic farming are mostly in poor regions where plant protection products are not wide used in production. The only constant is the on-farm manure and products on copper base, and also these treatments are not implemented regularly or in time and adequate manner mostly because of the low awareness of farmers and their perception of organic principles. This is one of the reasons why yield of raspberries vary on some farms from 2 t in the west to 15 t in the South.

Surface in OF

Majority of the surveyed farmers, that is 41,2% have between 2-6 ha in organic status, after which follow 23,5% of farmers with land up to 2 ha. The detailed distribution is given in the table below:

Table 7 Organic surface in ha per holding

LAND IN OF	% OF FARMERS
<2 ha	23,5%
2-6 ha	41,2%
6-10 ha	5,9%
10-15 ha	5,9%
15-20 ha	0
20-25 ha	5,9%
25-50 ha	2,9%
50-75 ha	11,8%
75-100 ha	0
>100	2,9%

In comparison to the survey GIZ has done in 2010, farmers with less than 6 ha make majority, 64.7%, but there are farmers present whose organic surface has more than 20 ha. 23.5% of holdings have more than 20 ha. This is characteristic of the regions with livestock production.

Livestock

As one of the most important inputs needed for organic farming is manure preferably from organic or extensive farm. Therefore it is good to know that farmers are aware of advantages of having own manure. According to the answers 91,2% of farmers keep livestock in organic or extensive farming, only 8,8% farmers do not keep any livestock, and are provided with the manure from farms approved by the Certification body. This is a good indicator for the future organic

production. Farmers with livestock in extensive production would easier convert to organic farming.

OF status and starting period of OF

70,6% of farms are partly converted and 29,4% is fully organic. Usually animals on farm are not certified, since it would increase certification costs and would not have any added value for the farmers. Animals are kept for the use on farm and holding and are being sold outside the farm as conventional.

If the starting year would show the very beginning of organic farming in Serbia, then in 1993 it all started for 8,8% of farmers. It means they started organic farming according to principles they learnt about but certification process was not kept during all this period of time.

In 1998 2,9% joined them, after which followed a gap of 6 years when 2,9% farmers joined organic farming in 2004. Since 2004 at least couple of new organic farmers entered OF yearly. On average 9,49% of farmers were joining organic farming yearly.

Advisory services

During the production cycle farmers cannot rely completely and solely on the advice of the extension services in the region. This service is free of charge and is financed from the budget of the Ministry of Agriculture. As a public service, advisors from the extension services are obliged to provide technical assistance to all registered farmers in their region. Extension services have different numbers of employees depending on the needs and resources. Advisors are not always able to visit each farmer but farmers are on the other hand free to contact service and ask for advice. Yet, not all extension services have trained advisors in organic farming. Therefore 26,5% of farmers are not relying on their assistance, and only 8,8% is satisfied with the service they are providing. Other 64,7% are being advised by the private companies and associations.

Education

The most of the farmers have finished professional secondary schools 64,7% of them. Elementary school finished 11,8%. 5,9% finished college, 11,8% finished education on Agricultural or Veterinarian faculty. Other types of universities finished 5,9% of interviewers. Judging on the percentage of graduates families are sending children to schools and the choice of staying on farm or find a job in the city is on the individual. Therefore that individual has to have the same living conditions and comfort in the rural areas as population in cities has. Migration to cities and high rate of unemployment may be declined if differences between urban and rural population would have been soften.

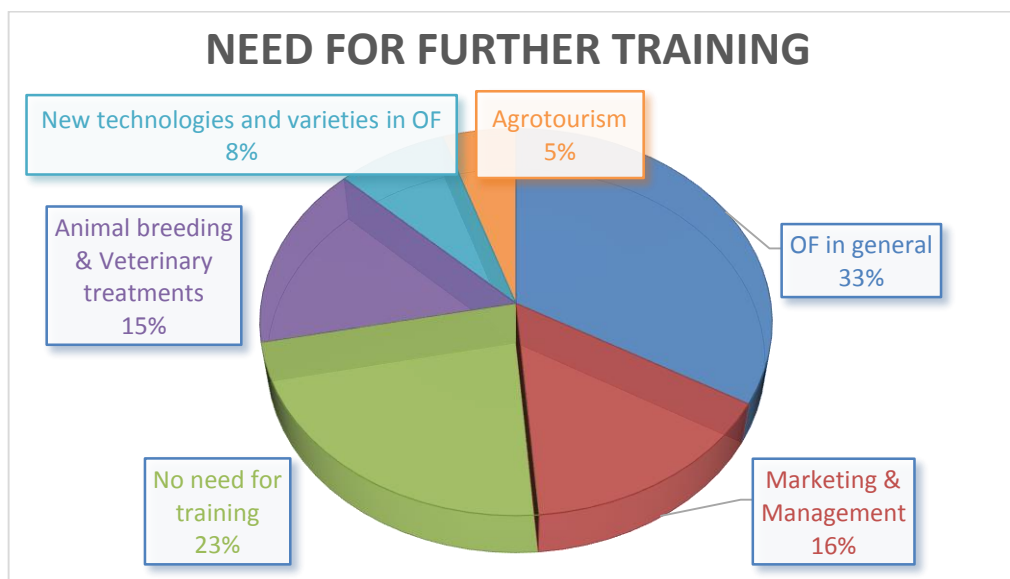
Training and educational needs

Training and lectures are organised ever year by the extension services or private companies or NGOs where 23,5% of farmers have not participated even one day, 55,9% spent 1-4 days in the last year on training. 14,7% spent 5 days on organic farming lectures and 5,9% more than 5 days spent on professional seminars. Most of these training are organised in the winter period when farmers are resting from the season and preparing for the next period.

As for the topics they would like to learn more, 33,3% would like to hear more on organic farming in general, 23,1% is satisfied with the knowledge they got and see no need for further training, 15,4% would like to know more on animal breeding and veterinary treatments in organic farming, 15,4% would appreciate information on marketing and managerial skills. 7,7%

think that organic farming needs to be updated with the new technology and varieties and therefore would like to know more on new available and suitable organic varieties. 5,1% is considering agro tourism as additional activity on farm and would like to know more about it (Chart 7).

Chart 7 Farmers' need for further training



Obviously farmers need more managerial skills and marketing capabilities where they are not apt to cope with the market demands or not aware of their deficiencies. Farmers that are selling produces directly to consumers, 41,2% of them, developed better communicational and social skills, while 58,8% that are subcontracted to processing companies are more reluctant to know more on market opportunities and farm management. Usually they do not keep financial records and are not aware of prices and market and commercial requirements.

Employment on farm

Most of the operation in the organic farming is manual because heavy machinery is not allowed for use and/or adequate one is not available. Therefore farmers employ seasonal or full time employees throughout the year. 73,5% of surveyed farmers employ labour. It means every third farm employs additional labour force.

Future plans

Future of the interviewees is uncertain. 31,8% consider increase of surface, 12,8% will not change anything in the near future, while 2,6% would consider decrease in case of cancellation of the subsidies.

However, farmers consider starting new organic activity like wild collection and its processing, agro-tourism, growing new varieties and setting irrigation systems in 52,9% of cases.

OF successor

Agricultural households tend to keep agricultural practice and provide sufficient financial support for family members. From this aspect of successor of the farm 85,3% of farmers are sure in the sustainability of the household, while 11,8% of farmers think family members would go and search for another employment outside agriculture in case of financial instability.

Positive examples of the neighbouring countries can give an insight on types of activities that could be implemented on farms in order to diversify offer and on the way generate more income

and efficiently use labour on farm. One of the popular farm's diversification measures is agrotourism or eco tourism or rural tourism how it is also called. This type of offer promotes region, nature, tradition, food and is very popular among nature/environmentally friendly and environmentally conscious people. Usually eco tourist facilities have smaller capacities and can accommodate limited group of tourist. Accommodation needs to be appropriate, furniture rather basic, made of natural material but that fulfils the requirements. The use of resources is environmentally friendly and the nature around intact. Of course there must be some kind of infrastructure present, tourist need to reach farm and they would need basic luxuries.

Farmers can then offer tourist home-made organic food, tracking tours or whatever their capacities allow them to do.

Lack of subsidies and lack of governmental support extends already present dissatisfaction among certain number of member and in the long term can lead even to failure of these organic farms. Nevertheless farmers should be aware of options available and to search for activities convenient for their farm. Local NGOs, local authorities' representatives and other players in organic sector should work on promotion of OF and diversified organic activities.

At the moment farmers have identified a lot of constraints which could be classified in the following groups according to their importance:

- 1) economic constraints (lack of financial support, lack of bank loans with low interest, high costs for organic inputs, lack of own capital, etc.) - 31,3%;
- 2) natural constraints (poor quality of soil, water shortage, steep slopes, small parcels etc.) - 20,8%;
- 3) market & marketing opportunity (lack of market, difficult to find market in the area, long distance from the main regional market, lack of buyers, etc.) - 18,8%;
- 4) lack of organic inputs (plant material, seeds, plant protection products, fertilizers, feed, etc.) - 10,4%;
- 5) poor livelihood conditions (lack of asphalt roads, lack of infrastructure, lack of water supply, etc.) - 9,41%;
- 6) poor links and relationships with governmental bodies and departments of the Ministry of Agriculture, Forestry and Water Management - now Ministry of Agriculture and Environmental Protection (often misunderstandings with Payment agency related to applying for subsidies, inspectors for organic farming, etc.) - 7,3%;
- 7) human behaviour and human habits (low awareness of consumers on organic food) - 2,1%.

4.2 Regional specificities and needs for capacity development

Identified regions have similarities regarding the production, marketing and investment abilities. Farmers are facing common problems and challenges in that respect in all regions like:

- diversification of production missing among farmers,
- lack of knowledge on possibilities of on-farm processing,
- lack of interest of grouping into farmers associations when farmers are cultivating smaller surface,
- lack of organic inputs / seeds, plant material, fertilisers, PPPs, soil enhancers, etc. / and organic manure,
- Lack of market in the production sites,
- Lack of qualified labour,
- Lack of capital/subsidies for further investments, developments,
- Challenges in organic farming such as pest management, weed control, feeding, medical treatment of animals,
- Land fragmentation,
- Lack of knowledge on organic production technology and marketing,
- Lack of competence among extension service and lack of external assistance/extension services is not qualified enough or is not existing in the region,
- Lack of communication with MoA and relevant authorities,
- Poor livelihood conditions/lack of asphalt roads, lack of infrastructure, lack of water supply, etc.,
- Human behaviour and human habits/low awareness of consumers on organic food.

However, each region has its positive side to benefit from. The common issue is the necessity of the third party in developing positive results from the regional advantages since it seems that the local farmers cannot or are not able to do it by them.

Regional specificities and advantages in Vojvodina:

- good quality soil / high yields in the plant production easier to achieve,
- higher awareness of consumers comparing to other areas,
- good prices of produces achieved on green markets.

Regional disadvantages in Vojvodina:

- land fragmentation,
- organic surface per farm is rather small,
- lack of local markets / transportation and produces' handling costs increase the end price,
- lack of on-farm processing facilities,
- reserved attitude of farmers toward new ones,
- lack of offer during the winter time.

Regional specificities and advantages in Western Serbia:

- employment opportunities for local population due to the big cold storages dealing with organic products,
- agriculture provides job opportunity in this underdeveloped region.

Regional disadvantages in Western Serbia:

- lack of springs for irrigation,
- lack of good roads,
- low level of investments in the plant production.

Regional specificities and advantages in South Serbia:

- favourable conditions for fruit growing,
- set prerequisites for offer diversification on farms / agrotourism, more fruit varieties.

Regional disadvantages in South Serbia:

- lack of irrigation systems,
- lack of infrastructure,
- land fragmentation,
- lack of communication with local authorities,
- elderly population.

Regional specificities and advantages in South-eastern Serbia:

- favourable for livestock production,
- possibilities of on farm diversification in services and product finalisation / cheese production, agrotourism, trade opportunities with bordering countries.

Regional disadvantages in the South-eastern Serbia:

- lack of fertile soil/ quality feed,
- lack of processing facilities / inability to offer final product of animal origin with longer shelf life,
- lack of awareness of consumers.

Capacity development as the process of strengthening and maintaining capabilities aims at achieving own development objectives over time. In order to realise that, needs of the capacity development need to be assessed from the aspect of the individual farmer, organisational system in the community and enabling environment - where the society and organisations function.

Although regional specificities vary and provide different benefits to farmers in the regions, the needs of capacity building are common for all of them especially nowadays with the unemployment rate of 21% and poor economic growth. The capacity building within the sector of agriculture as the resource at hand seems the only tool for the income generation for the rural livelihoods.

The needs assessed in this study particularly in Vojvodina region would be to raise awareness among farmers regarding the business and marketing skills. Operating as the small scale farms, they are mostly focusing on the sale on the green markets and cash flow on such places. Certainly it raises costs, requires additional preparation and handling of produces and investing more time

for delivery and sale on the spot. On the other hand collaboration with other farmers would decrease post-harvest operational costs and broaden the varieties of products not to mention a possibility of purchasing processing lines that would be more economically used and expenses of the purchase would bear all the farmers.

At the moment there is no will for joining in cooperatives and farmers are not so open toward other future organic farmers who are often seen as competitors on the market.

In Vojvodina capacity building should aim at establishing linkages between private sector and farmers, networking between organic farmers in the region, networking between organic and future farmers and building partnerships among them. On this issue local and regional authorities should provide support through organisation of business and professional seminars, on the spot training, mentoring that build technical skills, expand critical thinking and sharpen problem solving, and the venue for this process could be the open fields, informal network, farmers' field and business schools as well as the traditional workshops or classrooms.

For the Western Serbia, South Serbia and South-east Serbia assessed needs for capacity development are rather the same. The advantages in the regions are established extension services that should be used as the tool in building capacity of individuals, organisations and whole environment. Established extension services are in direct communication with the MoA and local population and as such can overcome lack of communication between farmers and relevant authorities. Often extensionists lack capacities and abilities to assess the needs of local population therefore it would be advisable to first cooperate with farmers, relevant authorities and organisation in assessing capacity assets and needs that should be addressed and a roadmap for their achievement. It would be a great challenge for all the parties involved to set priorities, locate necessary resources, think about the sustainable programme suitable for the regions, which would possibly deliver a long term regional and/or national capacity building programme.

Local farmers are reluctant to adopt new technologies and practices, therefore local authorities should work with CSOs, national authorities, relevant organisations, private sector in mobilising resources and encouraging farmers to accept innovative practices from other regions and/or countries that would build their own capacities. Often, the most valuable source of such knowledge and know-how technologies are producers in other countries and policy makers. Therefore the MoA and the Government should facilitate Public-Private Partnerships (PPPs) that would mobilise private sector resources - technical, managerial and financial - to deliver essential services such as infrastructure and education, essential for the poor communities and remote areas.

Once the programme on capacity building is set and the objectives had been identified, constant training and learning process will become integral part of the capacity development.

4.3 Main results in the selected regions¹

In the table below are given results on the main parameters surveyed in the study according to the regions.

Table 8 Results of the survey in brief

PARAMETER	SCALE	VOJVODINA (%)	WESTERN SERBIA (%)	SOUTH SERBIA (%)	SOUTHEAST SERBIA (%)
ORGANIC CROP	Organic vegetables	12,5	/	/	/
	Organic veg. + con.livestock	25	/	/	/
	Org. veg. + field crops+ cereals	62,5	/	/	/
	Organic fruits + con. livestock		100 (1 st raspberries, 2 nd blackberries)	100 (1 st plums, 2 nd sour cherries)	
	Organic live-stock+ pastures, field crops, alpha alpha	/	/	/	100 (1 st sheep, 2 nd cows)
AGE	<40	25	50	16,7	50
	41-44	37,5	33,3	16,7	37,5
	45-54	37,5		16,7	25
	55-64	/	16,7	33,3	12,5
	>65	/		16,7	/
REASONS TO ENTER OF	Economic	25	46,2	26,7	25
	Ecological & health	50	46,2	26,7	35
	Natural prerequisites in place - OF was easy to start and cheap	/	7,7	26,7	20
	Other (lifestyle, unemployment)	25	/	20 (market opportunities are better)	20 (lifestyle, social reasons)
SURFACE	<2 ha	25	16,2	33,3	/
	2-6 ha	/	83,3	66,7	/
	6-10 ha	37,5	/	/	12,5
	10-15 ha	12,5	/	/	12,5
	15-20 ha	/	/	/	/
	20-25 ha	12,5	/	/	12,5
	25-50 ha	/	/	/	12,5
	50-75 ha	12,5	/	/	37,5
	75-100 ha	/	/	/	/
	>100 ha	/	/	/	12,5
STATUS IN OF	Fully organic	62,5			62,5
	Partly organic	37,5	100 (livestock)	100	37,5
YEAR OF START	1993	/	/	16,7	/
	1998	/	/	/	/

¹The detailed results are in Annex IV.

PARAMETER	SCALE	VOJVODINA (%)	WESTERN SERBIA (%)	SOUTH SERBIA (%)	SOUTHEAST SERBIA (%)
	2004	/	/	33,3	/
	2005	25	/	/	/
	2006	25	/	60	/
	2007	12,5	66,6	/	/
	2008	12,5	16,7	/	/
	2009	/	/	/	25
	2010	/	/	/	37,5
	2011	/	16,7	/	37,5
	2012	12,5	/	/	
	2013	12,5	/	/	
LIVESTOCK	Keeping livestock	62,5	100	/	62% sheep, 20,8% cows, 6,9% goats, 5,9% horses, 4,5% pigs, 0,9% donkeys
	No livestock	37,5	/	/	/
EXTENSION SERVICES	Using & helpful	37,5	100		50
	Not using and/or not helpful	62,5		100	50
EDUCATION	Elementary school	/	16,7	16,7	12,5
	Secondary school	75	83,3	66,7	37,5
	College	/	/	16,7	/
	Agriculture related faculty	25	/	/	25
	Other faculties	/	/	/	25
DAYS SPENT ON TRAINING	0	50	/	/	37,5
	1-3	25	100	50	37,5
	4-5	/	/	50	/
	>5	25	/	/	37,5
TRAINING NEEDS	OF in general	25	50	50	20
	Animal breeding and vet. treatments	/	16,7	10	30
	Marketing & management	12,5	/	10	20
	New technology and new varieties	12,5	/	/	/
	Agrotourism	12,5	/	10	10
	No need for training	37,5	33,3	/	/
	Growing of organic raspberries	/	/	10	/
	Processing technology	/	/	10	10
FARM SUCCESSOR	Exists	100 (young families)	100	100	100 (in case of lack of gov.support and generated income from OF families will be force

PARAMETER	SCALE	VOJVODINA (%)	WESTERN SERBIA (%)	SOUTH SERBIA (%)	SOUTHEAST SERBIA (%)
					to provide income somewhere else and in some other activities)
	No successor	/	/		
EMPLOYMENT ON FARM	Hiring labour	100	33,3	83,3	100
	Not hiring labour		66,7	16,7	
CON- STRAINTS	Economic (lack of own capital, bank loans, subsidies...)	14,3	11,1	35,3	28
	Natural (water shortage, poor quality of soil, land fragmentation, lack of land...)	/	19,7 (water shortage)	11,7 (lack of irrigation and land)	8
	Market & market opportunities	23,8	5,6 (farmers are not satisfied with prices of berries, and think if competition is bigger, prices would grow)	/	14
	Lack of organic inputs, treatments for animals & adequate machinery	28,6	50	/	32
	Poor livelihood conditions	/	/	17,6	/
	Poor links with governmental authorities (especially with Payment agency)	/	/	11,7	/
	Low awareness of consumers & human behaviour should be influenced on	9,5	/	/	/
	Lack of (qualified) labour	9,5	5,6	23,5	4
	Lower yield & insufficient knowledge on OF	9,5	22,2 (weed control difficult)	/	10
	Nothing	4,8	/	/	/
	Other		/	/	4
CHANNELS OF SALE	Green markets	35	/	/	/
	Retail	15	/	/	/

PARAMETER	SCALE	VOJVODINA (%)	WESTERN SERBIA (%)	SOUTH SERBIA (%)	SOUTHEAST SERBIA (%)
	Wholesalers	5	/	/	/
	Processing industry	10	100	100	
	On farm sale	15	/	/	87,5 (cheese)
	Post delivery	10	/	/	/
	Internet, bench near roads, home delivery	10	/	/	/
	Restaurants		/	/	12,5 (cheese)
	Processing on farm	37,5	/	/	75 (cheese production)
PRO-CESSING	Not present	62,5	/	/	25 (slaughtered animals are not certified)
FUTURE	Increase of surface /livestock	87,5	50	33,3	37,5
	Decrease	/	/	/	37,5 (is subsidies are cancelled)
	No change	12,5	16,7	50	25
	Not sure		33,3	16,7	
NEW ACTIVITIES		Fruit growing, animal breeding, processing lines	Agroutourism by few farmers	Organic livestock production, rose hips production	Processing of milk and meat, agrotourism, new organic animals
ADDITIONAL INCOME	Just OF	37,5	50	50	
	OF+ conventional	37,5	/	/	25
	OF + off farm jobs	25	16,7	16,7	62,5
	OF + selling woods		33,3	33,3	/
	OF + agrotourism	/	/	/	12,5
FUTURE CHALLENGES		-lack of qualified labour -lack of credits at favourable interest -lack of awareness of consumers and buyers, -lack of governmental support, -lack of diversified offer and lack of quantity, -legal constraints in buying land	-Lack of irrigation - Lack of governmental support	-Lack of infrastructure -Lack of water -no irrigation	-lack of vet.treatments, -lack of subsidies, -lack of fertile soil, -lack of market, -lack of processing industry, -lack of organisation among farmers, -lack of distributors, -promotion of OF and region

PARAMETER	SCALE	VOJVODINA (%)	WESTERN SERBIA (%)	SOUTH SERBIA (%)	SOUTHEAST SERBIA (%)
		and unfair competition among producers in the local community, risk of GMO, -less fertile soil in the region, -complicated procedure when applying for subsidies, -lack of organic seeds, -difficult to access MoA, -lack of irrigation, -lack of seasonal workers, -high costs of organic inputs, -lack of organic markets in the region.			specific products
PROCESSORS' CONSTRAINTS		-expensive raw material and insufficient quantities, -lack of marketing skills, -lack of investments in technology lines.	-lack of knowledge among inspectors within MoA -lack of good planting material, -lack of control in cooperative, -lack of control system within the country, -lack of organic inputs on the market, -berries' prices impossible to stabilize (unrealistic high), -lack of education among farmers in cooperative.	-lack of control in cooperative, -lack of capital, -lack of organic products.	-lack of processor willing to take over all the operations from the slaughtering/milking to the end market; - lack of quantities to offer to processor; --lack of organisation and managerial skills; -lack of knowledge on self-promotion; -lack of diversification of offer and services in the region.

4.4 Organic food processing

About 40 food processing companies process organic products as an additional line in operation process. Some of the primary producers also process their own produce, but majority work in cooperatives with bigger processing companies. There is only one purely organic processor – Den Juro Organic ltd.

Two years ago all processors were obliged by the Regulation to implement HACCP in their facilities. Bigger processing exporters are keeping cold storage and drying facilities, the others have technology lines for processing of vegetables and fruits into juices, jams, comfitures, lines for processing of cereals, milling, grinding of peppers. Products coming from these types of processing are very few. Companies are struggling with the market – due to the small quantities and price they cannot compete with bigger foreign companies.

The most of organic products processed in Serbia predominantly are frozen and dried organic fruits and vegetables.

Processors interviewed in this research are one of the biggest in this sector, but with the same problems. Financial problems are their main threat. Bank loans are rather unfavourable, and State budget has rather limited resources. Processor's activity serves to farmers as the final step in their market oriented product. Processing into teas or grinding and milling in the flour of small capacities serves to add the value to the product or to offer herbs and teas as the only possible way.

On the other side processors have difficulties to start new technology lines in the first place because of the financial risk and buyers who are different for final and semi processed products. Nevertheless, processors are willing to invest in increase of surfaces under organic production in their cooperatives since this sector noted significant increase despite the world economic crisis.

Processors are led in business by economic benefits and profit, and they have positive attitude toward future organic market. Yet if their products would be finished, ready to eat products with favourable prices, Serbian product would be clearly distinguished as a trade mark even abroad.

Challenges identified within the sector:

- The organic raw material is expensive in Serbia, due to the low demand and lack of subsidies. Therefore processors are in unfavourable position since they cannot compete with prices on foreign and domestic market. This competition is intensified with cancellation of tariffs enforced in Serbia from 01/01/2014 for the processed foods of the EU origin imported to Serbia.
- Most of the processors work in small-scale level due to the limited supply of raw materials and also due to the limited demand. The small scale production also decreases the profitability of the sector.
- The continuous supply of the organic raw materials is very uncertain. Even if they have contracts with the farmers the contract does not contain prices in some cases even quantities - it is more or less only a "Memorandum of Understanding". This represents a weakness to processors since they cannot plan their production, costs etc.
- In some cases the suppliers are not reliable, the processors have to supervise and control their production.

- Some of the processors are too small in international terms; they are not potential partners for international distributors. It is difficult for them to enter to the export markets.

Advantages identified within the sector:

- Processors' applied technology is up-to-date in most cases, as well as implemented quality assurance systems which qualifies them marketable in the international markets from the aspect of the food quality.
- The processors started to integrate their suppliers. They give them technological advices about organic production, organise training, and in some cases pay the certification costs instead of the farmers. This in long term will help to develop a secure supplier basis for the processors and to strengthen the connection between the processor and its suppliers.

Domestic market is growing parameter and is open for organic foods. Organic fresh products are in favourable position since they are less imported to Serbia. Therefore domestic producers have the possibility of setting up prices. On the other hand with bigger import of foreign products and substitutes for domestic products, domestic consumers will turn to them. For example retail chain "DM" distributes a lot of German organic processed foods. Again, domestic consumer is a very price-sensitive category and fresh domestic organic vegetables and fruits are too expensive for average buyer.

4.5 Organic traders, retailers

Organic products are usually sold to wholesalers and processing companies. According to the statistics around 81% of farmers have contracts with processors and wholesalers prior to the start of the season. Direct sales on the green markets are practiced by 19% of them. Due to such a system, a mark-up in price they get for organic produce is very moderate (10-20% above the average) and confirms that added value is not generated on the farm level. Moreover, products are not readily available on the market. Due to lack of storage products can be found on the market only during peak periods, when the markets are flooded with the offer.

Most of the farmers sort produces according to the size, rarely according to the quality. Majority of organic products on the Serbian market came from abroad, nevertheless vegetables and cereal products are placed on domestic market and recently eggs, honey and dairy products joined this group.

Organic food can be found on green markets, specialized stores and couple of hypermarkets. Range of products in hypermarkets has increased in the last two years, but the labelling and distinction between conventional and organic products is not clear and appropriate-promotional campaign in the stores is missing.

Cereals and fresh vegetables are usually placed on the markets of bigger cities, like Novi Sad and Belgrade.

Organic crops produced in cooperation are mostly exported to the EU market as frozen and/or dried.

Livestock production is in its infancy and opens path for domestic and foreign market. Geographical position of the region ensures good and quick access to Bulgaria and other EU countries.

In July 2011 National Association Serbia Organica opened in cooperation with public company City Markets corners for organic products within Belgrade's green markets.

RETAILING OF ORGANIC FOODS

Although organic products are present in hypermarkets, not much was done on their promotion and better availability. It almost looks like consumers should find out by themselves organic food and test advantages in comparison to conventional ones.

According to the survey National Association Serbia Organica has done in 2010, average Serbian buyer of organic products is a woman of 25-40 years, educated and aware of food safety and is by buying organic food a promoter in her micro environment.

During the project, food retailers, green markets, organiser of green market (Green Network) and distributors (Serbian Organic Foundation, Alca Company) were visited and interviewed in order to learn the situation of retailing of organic products in Serbia.

According to the distributors the demand for organic foods is very different in the different regions of the country. There is high demand in Belgrade, Novi Sad and all Vojvodina but very low in other parts of Serbia due to the low standards of living. The international retail chains are open for healthy and organic foods so the producers can enter to the modern retail chains if they can offer enough quantity.

Serbian Organic Foundation distributes organic products of small farmers but also carries out promotion activities in order to develop the domestic market demand for organic foods hiring a time spot in the local TV channel. As distributor he collects the organic products of the farmers (they have contracts with them, but not an exclusive contract) and sell them on green markets. They collected their suppliers by arguing the farmers one by one, visiting them, talking with them about OF. Slowly the system developed and now it is working well. Distributors' great problem is administrative problem, since imports products need to be re-certificated by the national certification bodies. Good way of promotion of organic food is through tax allowances and lower tariffs distributors stated.

According to the personal inspection of the project team the assortment of organic food products is very wide in Belgrade, only meat products were missed. The price premium changes from product to product. For example it was moderate in the case of milk products, cc. 30%, while it was extremely high in the case of fruit juices and jams (200-300%). The imported products were less expensive than domestic products which represent danger for domestic food processors. The price premiums were high in the green market, too, though the product quality was not so good: the farmers did not grade their products.

Green Network in Novi Sad carries out promotion activities, provide farmers with information and also organised for them the possibility for selling their products in the green market. They think that organic farming is a good opportunity for the farmers as 85% of the local farmers are small scale farmers and they cannot earn enough money in conventional farming. But producing organic goods give them a chance and help to keep the young people in the countryside. The farmers in the greenmarket are usually small scale producers with typical problems arose because of their size: the cost of postharvest activities such as packing, transportation, distribution, and marketing is too complex for them and still there is no any cooperation between the farmers. But there is an intention to cooperate in the future. They also complained because of the high costs of input, the availability of different inputs, especially seeds, plant protection materials. Fertilisation is also a problem, only green manure is available and affordable, but it is not enough for more intensive production. Animal manure is expensive and it is not always organic. They can sell their products in the green market organised by the Green network but this occasion is only once a week, so they need alternative selling. Most of them sell their products in other markets or on

farm or have some contracts with distributors, processors, kinder gardens. But usually they have volume problems, they cannot supply their buyers in enough quantity.

Retailers:

- 1) Merchants/Distributors for the local market (fresh or processed): Biospajz, Beyond, Hema-Kheya-Neye, Lucar, Natura, Moj Salas, Bio & Organic, Fond OrganskaSrbija. Albox, Pretti-organica, General store;
- 2) Green markets: Kalenic Belgrade, Fish market Novi Sad, Liman Novi Sad, Block 44 market New Belgrade, Djeram Belgrade, Senjak Belgrade, Subotica's markets Subotica, Zeleniv-enac Belgrade, Palilula Belgrade, Mojsalas Novi Sad, City market Pozarevac;
- 3) Hyper markets: Univerexport, Mercator, Tempo, Metro, Maxi, Idea, DM Drogerie Market.

Still it is not defined what food standards regarding the quality class, corresponding price, packing, storage and hygiene regulations should be applied. Serbia is in the process of complying with EU regulations on food standards. Products on the market are not sorted by size and shape nor packed in adequate way. Distribution centre or wholesalers could solve this last issue, where products could be packed and sorted.

5.ROLE OF THE ORGANISATIONS, NGOS IN THE FUTURE DEVELOPMENT OF IN SERBIA

Organic sector in Serbia has a respectable level of several associations that are promoting and assisting in development of the organic sector.

Terra's association, one of the first in the region carried out a number of campaigns for promotion of organic farming according to IFOAM standards. There also exists Green Network of Vojvodina, Fund Organic Serbia, and Serbia Organica.

Governmental institutions and ministries, spearheaded by the MoA, monitor and take care of the sector's needs. About 20 academic institutes, faculties, several NGOs, R&D facilities and affiliated bodies help to design and propagate most appropriate farming and cropping systems (Table 10 and 11).

Table 9 Institutes in Serbia

INSTITUTE	WEB PAGE
Institute of Field and Vegetable Crops, Novi Sad	www.nsseme.com
Institute Tamis, Pancevo	www.institut-tamis.co.rs
Institute for Food Technology, Novi Sad	www.fins.uns.ac.rs
Maize Research Institute, ZemunPolje	www.mrizp.co.rs
Institute for Animal Husbandry, Zemun	www.istocar.bg.ac.rs
Fruit Research Institute, Cacak	www.institut-cacak.org
Institute for Vegetable Crops, SmederevskaPalanka	www.institut-palanka.co.rs
Institute of Agricultural Economics, Belgrade	www.iep.bg.ac.rs
Institute for Science Application in Agriculture, Belgrade	www.ipnco.rs
Institute for Plant Protection and Environment	www.izbis.com
Institute of Pesticides and Environmental Protection, Belgrade	www.pesting.org.rs
Institute for Research of Medicinal Plants "JosifPancic"	www.iplb.rs
Faculty of Agriculture, University of Belgrade	www.agrif.bg.ac.rs
Faculty of Agriculture, University of Novi Sad	www.polj.ns.ac.rs
Agronomic Faculty Cacak, University of Kragujevac	www.afc.kg.ac.rs
Faculty of Biofarming, Megatrend	www.megatrend.edu.rs/fbio
UniversityFaculty of Ecological Agriculture, Svilajnac	www.educons.edu.rs
Agricultural Extension Service of Serbia	www.psss.rs
Agricultural Extension Service of Vojvodina	www.polj.savetodavstvo.vojvodina.gov.rs

Table 10 Organic NGOs in Serbia

NAME OF THE ORGANISATION	WEB PAGE
National Association "Serbia Organica"	www.serbiaorganica.org
Terras	www.terras.org.rs
Fund Organic Serbia	www.organska.rs
Green Network of Vojvodina	www.zelenamreza.org
VitaS	
Association for biodinamic production of Serbia	www.biodinamika.org
Association for development of organic production Biobalkan	
Ekoland-Telecka	
Regional centre for organic production in Selenca, Valjevo, Svila-jnac, Leskovac, Negotin, Uzice	www.organiccentar.rs (Selenca) www.centarzarazvoj.org (Leskovac)

Terra's was founded in 1990 as a non-governmental and a non-profit association of citizens in order to protect, preserve and improve the environment and health. Work of this NGO is focused on education, advisory services, marketing and promotion, scientific - research, publishing and reporting. Main interests are organic farming, biodynamic, multifunctional and good agricultural practice and:

- rural development (agro-eco-ethno tourism and other fields that contribute to the development of the countryside),
- sustainable development,
- energy efficiency,
- waste management,
- the common ragweed and weed management.

Terra's is the organizer of the Biofest - festival of organic product and stakeholders that is organized once a year.

In 2009, a national association for development of organic production, Serbia Organica was founded as initiative of the Ministry of agriculture and interested parties within the organic sector as the umbrella association that will support organic development and promote organic agriculture in Serbia. Serbia Organica is independent, non-governmental and non-profit civil organization which joins entire organic sector thus stimulating interaction and promoting organic farming and processing both at home and abroad. The National Association "Serbia Organica" currently coordinates about 80% of the sector stakeholders from primary production, processing, trade, academic and other institutions. About 60% of producers are organised under the NASO umbrella organisation, either individually or through companies they have cooperation contracts with.

The Green Network of Vojvodina (GNV) is an independent, a non-governmental organization that promotes and supports protection of the environment and sustainable development at the local, regional, national and international level from 2004. Their mission is to establish the sustainable development principle in Vojvodina; boost involvement of the public in the issues related to environment protection and environment related decision making; create and support sustainable communities; contribute to sustainable agriculture and rural development.

This association organised farmers' market "Moj salas" where consumers can buy fresh seasonal organic products.

Associations are working on regional levels and are focused on projects on micro level. On the other hand, umbrella association has no capacity, nor human nor financial, to overtake the role of the lead player in sector.

Somehow there is a feeling that associations see each other as competitors and are not keen to work jointly in projects. But still, each association is working hard on organic development on micro level and contributing in own region.

Yet, promotional activities, educational seminars and publishing are main activities of associations. Members of those associations are lacking practical education and technical expertise as part of the services they are offering for the members through membership fee. National association has more important role and it implies communication with Governmental representatives and involvement in policy framework. Unfortunately often reshuffling in the Government hardens this task.

General opinion is that important principle of organic farming is somehow overseen and forgotten, - the principle of care toward the nature and people. Organic agriculture teaches how to treat the nature and environment we are part of, and how to interact and co-exist in the micro climate and micro location as part of global system. Therefore organic agriculture implies not only producing food with restricted use of plant protection products and fertilizers but also conservation of soil, flora and fauna in the ecosystem for the future generations. We can eat organic food, we can produce organic food and yet we can treat our nature better, as well as the living world around us. Organic farming is teaching us how to become better people - conscious, responsible toward ourselves and to the world, caring and initiatory in actions we can undertake.

On the other side, Ministry of Agriculture and its responsible departments are lacking capacities to steer wheel the organic development. Through partnerships with civil sector there have been several projects realised in the region where farmers received assistance in the certification process and educational seminars. Unfortunately feedback information on sustainability of the performed activities within the projects is missing. It would be beneficial if the MoA would have enough resources to follow up the results and sustainability of the activities performed. At the moment, some of the tasks of the departments in OF within the Ministry of Agriculture are overlapping (Department for organic agriculture and Inspectors for organic production). MoA should develop organisational scheme of organic sector appropriate to Serbian conditions fully functional and operational in their work.

Inconsistent policy and slow implementation of agreements due to often reshuffling within the country is slowing down organic development in Serbia.

6. SECONDARY EDUCATION IN ORGANIC AGRICULTURE IN SERBIA

Serbia has 33 public secondary high schools that provide agricultural education - agricultural technician profile. Upon completion, students can seek a higher education in one of the following agricultural institutions: Agricultural faculty of Belgrade, Faculty of Forestry of Belgrade, Agricultural faculty of Novi Sad, Faculty of Agronomy in Cacak, Biofarming faculty in Backa Topola, Faculty of eco-agriculture in Svilajnac and Faculty of Veterinary medicine in Belgrade. Educational programme on agro-economy is thought on the University in Belgrade, Subotica, Novi Sad and Nis.

Involvement of rural youth through an adequate secondary education curriculum in organic and sustainable agriculture, addressing the region's specific agricultural products, is considered among the major priorities.

Capacity development of actors in organic education is closely connected with capacity development of the major stakeholders in organic marketing chain such as farmers, processors, traders, farm advisors, scientists, NGOs, governmental structures. Improved capacity development should be based on participatory stakeholder involvement in upgrading the existing organic farming curricula for secondary agricultural schools, improving information supply, practical training and know-how exchange.

In school year 2002/2003 had started the new experimental curriculum where organic agriculture was introduced as the optional subject starting from the second grade of educational profile - agricultural technician. The new experimental curriculum was developed by three professors of agricultural schools and representative of the Institute for improvement of education.

In that time 6 schools applied for the implementation of this program. In most of schools two classes of agricultural technicians is being enrolled every year. In these schools one class of agricultural technician had regular and one class experimental curriculum. In 2006 three new schools introduced this programme and by the beginning of the school year 2009/2010 this curriculum was adopted by all schools.

Majority of schools have their own land which is cultivated by students and employed staff. Products cultivated are used for their own purposes and also sold outside schools where this extra profit is used for improvement of teaching methodology and teaching quality.

Main constraint of the schools in this moment is the lack of will of professors to boost interest of students for organic farming and lack of guidance in organic sector.

All courses are divided in two parts, theoretical and practical. Theoretical part is performed in the classroom or adequate cabinet, while practical part takes place in experimental organic fields on school's property - farm or field- at least it is designed to follow that pattern.

Theoretical part of the subject is performed in schools' classroom, and practical part should be out of the classroom. The problem in the optional subjects is that there is no practical part foreseen by the programme, and professors need to be innovative and find ways to provide on the spot training.

Every year around 30 students is being signed into educational profile of agricultural technicians in every school. Some schools have more students and in that case they have 2 classes every year.

The same for all schools is that in the second grade students are divided into three groups, where each group consists of 8-10 students. Every group has to choose the optional subject from the curriculum. It means that one class will have three different optional subjects.

In case if only 2-3 students have applied for one subject, professors will assign those students to one of the groups that have majority. Each group of 8-10 students will take lessons of the optional subject

Following subjects were introduced: organic horticulture and crop farming, organic fruit growing and organic livestock farming as the optional subjects within the programme for 4-year educational profile - agricultural technician.

PROBLEMS IDENTIFIED:

1. lack of interests of professors in some schools

Professors need to prepare themselves for the new subject, which requires more time for research, preparation and literature review. This extra work is not paid and professors are not challenged to make the new subject interesting and susceptible to students. Implementation of the new curriculum in regard to optional subjects is on a voluntary base and always presented to students by their professors. In order to take lessons in organic farming students need to be motivated and interested in this subject by their professors.

2. lack of textbooks

Currently for schools' are available some manuals and two books on organic agriculture that provide readers with general information, but more specific information is still missing and cannot be easily found online. Textbooks already in use in some neighbouring countries could be modified and introduced as textbooks for the new curricula, which is again hard work on voluntary base and no one wants to take it.

3. professors' knowledge

In cooperation with Agricultural faculty of Belgrade and the Institute for improvement of education within the Ministry of Science (who accredited the programme) National Association completed an educational programme of teachers from secondary agricultural schools on the topic of organic agriculture in 2011 and 2012. The follow up program would have organic processing as the topic but there are not enough resources to realize it.

Professors are experienced in conventional farming, but organic principles are different and should be thought through seminars and practical excursions.

4. lack of inputs for the on-spot training in schools

Plant protection treatments are not so easy to find on the market. Combined with insufficient knowledge on preventive measures and treatments, lack of inputs is considered as a risk factor for introduction of the new type of production on school farms.

5. lack of knowledge on organic agriculture among students

Organic agriculture as an optional subject starts from the second grade, and in the first year of school students are being introduced to a wide range of agricultural lessons for the first time. Therefore most of the students chose as the optional subject the one that is thought by the professors they like the most.

Students rely on their personal feelings when choosing additional subjects for the second year. There are children who heard about organic production, but if only 2-3 among them choose this subject, professor will direct them to take other lessons, since group needs to have 8-10 students per optional subject.

6 .lack of promotion

Organic agriculture should be more promoted in schools. Students would be encouraged to take lessons in organic agriculture if they were more familiar with advantages and benefits of organic farming.

Visits to fairs, to organic households should be arranged and boosted via organized seminar in schools.

7. lack of resources in education

Some of schools lack resources to initiate organic farming, like costs for certification.

At the moment in some schools there is a good response to organic farming, like in school in Svi-lajnac where 60 students are taking course in one of the offered organic lessons. In some schools there is not even one group taking organic lessons.

Professor from secondary agricultural schools are generators who are main influence factor on students when choosing organic farming as the optional subject.

If professors would have been more interested in organic production then the interest among students would grow as well.

Promotion of organic production should be done in all schools and boosted through all means of support.

Schools' resources are land, machinery, students and in some cases dormitories which all can be used and taken as advantage in making organic farming favourable subject for students.

After the secondary school half of the students will seek education in colleges or faculties, but other half could stay on family holdings and practice agriculture.

For students who express wish to start organic agriculture, support could be provided in terms of expert advice and perhaps partnerships between farms and school where future students could have practical lessons.

Domestic market is able to absorb more than the current production is, and the fear of over flooding market with organic products does not exist.

7.NEEDS OF CAPACITY DEVELOPMENTS IN OF SECTOR

This report dealt with a various organic stakeholders and organisation in order to comprehend the whole situation in OS and triangulate data, also it is important to stress out that findings are not used to pin point an individual or institution.

A lot of data has been collected during this research, which has been summarised, categorised and used for giving certain recommendation:

1) Institutional capacity on OF are in place - need to be empowered and strengthened

- OF in Serbia from ecological and resource abundance aspect has a great potential, nevertheless the strategic plans containing measurements and activities for organic development on the national level are still in the procedure of enforcement. Government authorities have inconsistent view upon the direction of the organic farming. This can be due to the often reshuffling within the Government but also due to the lack of interest of the decision makers, seeing OF as less viable in comparison to the conventional agriculture.
- OS's situation shows that the small scale farmers make the majority of organic farmers whose main resource of income is organic farming. Hence, it appears that versatile policy of the MoA is preventing more farmers to start practicing OF and to rely on some sort of support at least in the first year of production especially due to the high investments costs and inability to sell products as organic ones in the beginning of production.
- Strong decisions and appropriate strategy, particularly adoption of the strategic plans already in procedure, would lead to involvement of certain number of new farmers, on the north and southeast part primarily.
- to build capacities of staff the MoA, especially of the extension services who are in direct contact with farmers and of inspection service.

2) Reorganisation within the MoA should be explored

- activities within the different departments are duplicating in some cases and resources are being lost. Inspectors from the Inspection service within the MoA lack training, particularly on the spot training.
- lack of cooperation of departments within the MoA and the dislocation of some of them slows down the information flow and activity compliance.

3) Producers' capacities are poor - need to be strengthen

- farmers in cooperatives are poorly trained, have low awareness on OF, principles and agrotechnical operations allowed to practice - to raise it with more training.
- lack of instruments of control of monitoring farmers in cooperatives and in case of necessity - inability of prescribing adequate penalty measures for them.
- lack of cooperation among small scale farm - farmers see in each other competitors - marketing skills and knowledge is lacking.
- lack of cooperation between farmers and MoA authorities.
- lack of interest of farmers in cooperatives in new technologies.
- lack of diversification of crops on the farm - farm diversification alleviate risks of cultivation of just few crops.

4) Uneven demand on the domestic market

- main markets are in Belgrade and Novi Sad.
- besides in north Serbia and Belgrade, it is evident the lack of market demand and lack of awareness of consumers, especially in the south where farmers are incapable to organise themselves and more likely are expecting “third person” to do it for them. Lack of demand is a great problem for producers who are dependent on processors or wholesalers since alone they cannot sell their product. The market is a sensitive part and also the access of the market for the farmers. In some cases they are successful but in a lot of things they would need improvement: selection, cleaning, packaging of the product, organise the transport, transporting, finding the market, pricing, or processing in order to increase the value of the product.
- lack of common sense in putting price on products - products offered on the green markets are poorly sorted and prices are formed freely - up to 300% more expensive than conventional products.

5) Post-harvest operations and processing capabilities are limited

- low level of processing capacities among farmers, and low awareness on their possibilities - quite often farmers are not apt to find ways of finalising their product even if there are option, the easiest way is to sell it directly after the harvest.
- main exporters are exporting frozen, dried and in concentrates raw material - lack of financial support and/or own capital for further processing of the product.
- domestic raw material is more expensive than it is the case in abroad - processed products therefore are not competitive in prices in Serbia and elsewhere - to explore option of emphasising quality of the product.
- farmers' surreal price expectation - particularly in raspberry case where it should be regulated on the national level to hold “traditional protest” every year regarding the price (last year the price was from 1.63 to 1.90 EUR/kg).

6) Low level of infrastructure and migration of youth to urban areas

- except in Vojvodina, farmers poor living conditions are unattractive for youth to start families in their villages - to explore possibility of setting local action plans and local strategies on OF and rural development as the measurement of economic development on micro level.

7) Insufficient organic inputs on the market and lack of control of PPP

- PPP easily found and available for everyone in farmers pharmacies - no control in selling nor applying those, there should be introduced a book of records in every pharmacy on quantities and entities who purchased PPP.

8. CONCLUSION AND RECOMMENDATIONS

After this survey there is a strong impression of characteristic opposites between regions and values organic farming is promoting. The majority of interviewed farmers have put the biggest accent on the price of organic produces. The financial aspect of the production was the steer wheel for producers. There is a feeling that organic principles are left behind the economic aspect. Principles of ecologic awareness, health, well fare and equality are being neglected on the way.

The livelihood conditions vary from region to region, and it depends on the local communities and their financial resources. General impression after conducted visits is that rural areas, particularly in the south, southeast and western parts are underdeveloped and less populated. Young population is migrating to urban areas abandoning family households and villages. While in Vojvodina, farmers are equipped with all commodities and infrastructure for normal and socially rich life, in the south Serbia situation is quite different. Lack of infrastructure, asphalt roads and bare necessities prevent population to stay on own farms and live from agricultural activity. Some areas in the south Serbia are lacking water supply in their households, and electricity cannot even fulfil demands of the appliances. Nevertheless, farmers in these areas are aware of the benefits their colleague farmers in other areas have but are already used to the poor conditions and are coping very well with them.

As a country with a good perspective in organic farming more farmers are expected to join and increase the supply, and it would be ideal if farmers would have developed marketing and managerial skills by that time. Agriculture in rural areas is still recognized as the only steer wheel of income provision mostly unattractive to young generation. On the other hand traditional agriculture is not the only type of business available. Organic agriculture along with eco tourism, gastronomy and handicrafts would prevent further migration of youth and improve the quality of life. Therefore local community and Governmental institutions should work on prosperity of rural population through popularisation of the measures of new technologies like organic farming.

Also, not all areas are in the same development level, hence different systems and measures of support should be introduced and adjusted to them.

In the moment of poor industrial growth in Serbia, farmers should be supported to continue practicing organic farming and to advocate among their neighbours advantages of organic farming. Strong support and consistent policy will attract more farmers and the fear of overwhelming of the market with organic products does not exist. This is the industry that has certain growth even in the time of economic crisis. However, the overall impression that cannot be disregarded is low awareness of both, producers and consumers. Unrealistic expectations of producers and their perception of self-sustainability could come back as a boomerang. The fact is that small farms with surface under 10 ha in organic farming can provide economic independency in case of cash crop cultivation, especially if the farm has any kind of processing throughout a year. Then the final, ready to eat product would have an added value on the market. Nevertheless, assistance in entering organic farming should provide Ministry of Agriculture and its relevant departments, NGO sector and relevant institutions. Regrettably farmers are usually left to themselves to find solutions to their current problems. Extension services are free of charge and usually understaffed and not apt to provide suitable assistance to farmers who are then experimenting with treatments in pest or weed control in order to find adequate measures of control. Unfortunately some regions are not so successful in organic farming due to the misinterpretation of organic principles. Lack of appropriate pest control decimated yield. Other common problem is lack of

water, either due to the unavailability of springs or high costs of setting up irrigation systems especially in the west and south Serbia. Farmers in cooperative relationship are in somewhat better position since they have appropriate private advisors that are consulting them and giving lectures during the winter time.

Of course managerial skills and marketing knowledge is better developed among producers dealing with direct trade. In order to overcome syndrome of poor livelihood in rural areas, farmers will have to diversify farm activities especially on small and medium size farms. In producing organic food, added value is already achieved, but finalisation of the products, promotion and offer to consumers would attract tourist and gourmet.

However, more knowledge and practice on representation and market requirements would make the difference, especially in presenting the added value of the produce to the consumer. Although numerous seminars and training were organised over the years, practical knowledge and even theoretical knowledge applicable on big farms was somehow missed. Science and practice are essential in production of healthier and safer food, however without practical experience, traditional and indigenous knowledge are lacking good solutions explored and tested in time.

Personal impression is that farmers tend to cooperate in regions where they cannot offer produced food as such to the market (berry and stone fruits) or are far away from the market and they see advantage in collaborating together. Exchange of experience and practical knowledge is common and usual for those farmers. On the other hand when farmers are present on the market and see competitors in others, they are more reluctant in sharing experience and knowledge with fellow producers or potential new farmers. In this situation the number of organic farmers moderately changes in years.

Moreover, lack of competition on the market at the moment is in favour of farmers. They can offer all their quantities to the green markets and/or hyper markets and specialized shops and be satisfied with the price and demand.

Livestock production in the southeast region relies on feed produced in local area. Local population endeavours to produce quality protein feed unfortunately climatic and geographic conditions are rather limited factor. Therefore farmers suffer from the lack of their own produced feed and need to find supplements. The same problem is related to the cultivation of land. Steep slopes and lower soil quality increases costs of tillage and machinery use.

Without subsidies or any support from the government, organic livestock production in this region will perish.

Currently subsidies are given per hectare, or per head of an animal, but regional bonus should have been taken into the consideration. Farmers dealing with organic animal production are facing a lot of difficulties from the start. Only pedigree animals can receive subsidies although organic farming encourages indigenous breeds. Also, medical treatments and cures expand costs for animal breeding. These farmers besides support in keeping animals need strong support in market and processing of animal produce. They lack their own capacities and organisation for doing it by themselves. Despite all the challenges and constraints family household in 85% are sure their future is in agriculture and are guiding children in that direction.

Challenges that should be addressed on the higher, state level in the near future regarding farmers are: capacity development on the level of agricultural holdings, encouraging cooperative relationships, improving rural infrastructure, promoting organic farming and tourism in the area,

implementation of projects aimed at environmental protection, etc. Joining farmers in cooperation and setting up measurements for agricultural, rural and market development is decision that should be raised by decision makers.

Unfortunately the channel of communication between the representatives of the Ministry of Agriculture and farmers is dampen. But if there is no feedback from any of the interested parties, future actions would depend on the minority and will have tendency of popularisation of the interests of the small groups. Inconsistent policy and often changes in the Government led to distrust of farmers and their despair when planning production cycle.

Farmers are the most risk averse which makes them a sensitive social group to governmental development investments. Rural development comprehends more than investing in the agriculture. Support measures should be aimed at improvement of the lifestyle of the holdings in the rural areas. Besides subsidies for agriculture activities, country should invest in measures that would improve quality of life of rural population. Investments in infrastructure, education of local population, promotion of traditional customs and handicrafts, tourism should be part of national agricultural plan in the region.

ANNEX I STRUCTURE OF ORGANIC AREAS

Table 11 Structure of organic areas in 2012

VOJVODINA					
		Conversion		Organic	
	Type of crops	Surface (ha)	Number of stakeholders	Surface (ha)	Number of stakeholders
FRUITS	Apples	2,2037	4	1,8149	4
	Aronia	5,2573	3	0,8557	1
	Hazelnut	12,1870	2	0,0074	2
	Peaches	/	/	3,9873	5
	Pear	/	/	9,5189	3
	Other	7,3142		13,7434	4
	TOTAL	26,9622	24	29,0719	17
CEREALS	Wheat and durum wheat	469,6643	19	20,6844	10
	Buckwheat	19,00	1	13,300	5
	Maize	1.240,5929	26 (feed majority)	231,9786	11
	Barley	239,0315	6		
	Other	61,7345		9,0958	5
	TOTAL	2.030,0232	32	275,0588	17
INDUS-TRIAL CROPS	Soybeans	326,5404	8	61,8411	10
	Pumpkin	16,8502	9	2,0000	1
	Other	74,1852	9	8,834	5
	TOTAL	417,5758	25	72,6751	16
FODDER		422,5463	16	206,5111	7
	TOTAL	422,5463	16	206,5111	7
VEGETA-BLES		36,4027	20	56,8155	31
	TOTAL	36,4027	20	56,8155	31
OTHER		5,9291	7	15,0150	2
MEDICINAL PLANTS		1,5605	3	10,9033	5
	TOTAL	7,4896	10	25,9183	7

TOTAL		2.930,6707	84	665,9967	63
PASTURES		503,1860		180,7100	
LIVESTOCK		2852 livestock: 1052 sheep/95 cattle/1684 poultry/21 goats/		1272 livestock: 1198 cattle/45 sheep/10 pigs/60 chickens (8 producers)	
WESTERN SERBIA					
		Conversion		Organic	
	Type of crops	Surface (ha)	Number of stakeholders	Surface (ha)	Number of stakeholders
FRUITS	Raspberries	68,4908	300	117,5500	381
	Blackberries	74,6800	84	42,4200	135
	Plums	54,2048	22	14,0732	15
	Other	16,8817	25	10,662	17
	TOTAL	214,2573	456	184,7052	522
CEREALS				14,9303	2
	TOTAL			14,9303	2
FODDER		6,5920	2	0,6300	2
	TOTAL	6,5920	3	0,6300	2
VEGETABLES		5,4079	2	5,3376	4
	TOTAL	5,4079	2	5,3376	4
OTHER		2,1422	1	/	/
WILD COLLECTED CROPS				350,00	200 t
HONEY					2
	TOTAL	2,1422	1	350,00 / 200 t	2
TOTAL		227,8618	457	210,4661	528
PASTURES		13,1529		3,9453	
CENTRAL SERBIA					
		Conversion		Organic	
	Type of crops	Surface (ha)	Number of stakeholders	Surface (ha)	Number of stakeholders
FRUITS	Raspberries	30,8419	14	53,89	113
	Sour cherries	9,9440	1		

	Blackberries	0,18	1	22,63	43
	Apples			271,0775	1 (Nectar-juice processor from Vojvodina)
	Other	6,6171	4	7,1028	11
	TOTAL	47,5830	20	354,7003	159
CEREALS		9,9346	7	127,7876	7
	TOTAL	9,9346	7	127,7876	7
FODDER		1,7437	4	/	/
	TOTAL	1,7437	4	/	/
INDUS-TRIAL CROPS		0,300	1	52,3809	3
	TOTAL	0,300	1	52,3809	3
VEGETA-BLES		3,0145	6	4,2094	4
	TOTAL	3,0145	6	4,2094	4
MEDICINAL HERBS & OTHER		1,800	1	13,5625	5
WILD COL-LECTED CROPS				(600.100,00 - surface of collection)	3 processors' companies Mushrooms and forest fruits
TOTAL		68,5147	26	524,4958	176
PASTURES		7,8168		1,0202	
SOUTHEAST SERBIA (PIROT, PCINJA, BRANICEVO, ZAJECAR, BOR, JABLANICA REGION)					
		Conversion		Organic	
	Type of crops	Surface (ha)	Number of stakeholders	Surface (ha)	Number of stakeholders
FRUITS	Sour cherry	22,0400	1		
	Grapes	7,0179	7		
	Other	9,207	11	0,3513	1
	TOTAL	38,2649	19	0,3513	1
CEREALS		61,0720	14	1,5885	2
	TOTAL	61,0720	14	1,5885	2
FODDER		22,9362	17	1,1534	3
	TOTAL	22,9362	17	1,1534	3
VEGETA-BLES		9,4164	6	2,3563	3

	TOTAL	9,4164	11	2,3563	3
OTHER		0,7300	1	13,0628	2
WILD COL- LECTED CROPS		` 240 t	4	150 t	6 processors' companies Mushrooms and forest fruits
TOTAL		158,7966	45	6,2286	12
PASTURES		245,5145		10,4030	
LIVESTOCK		1526 livestock: 57 cattle/49 poultry/145 goats/horses, donkeys 71/1434 sheep/131 pigs	21	270 livestock: 21 cattle/34 pigs/2 horses/ 213 sheep	3
SOUTH SERBIA					
(TOPLICA, NISAVA REGION)					
		Conversion		Organic	
	Type of crops	Surface (ha)	Number of stakeholders	Surface (ha)	Number of stakeholders
FRUITS	Plums	28,1843	18	414,1319	207
	Sour cherry			50,5000	80
	Grapes	7,7310	1		
	Other	14,7057	8	13,6377	18
	TOTAL	50,6210	22	478,2696	300
CEREALS		24,3072	4		
	TOTAL	24,3072	4		
OTHER		12,7640	1	13,0628	2
	TOTAL	12,7640	1	13,0628	2
WILD COL- LECTED CROPS				70 t	2 processors
TOTAL		89,6338	25		304
				490,6024	
LIVESTOCK		229 livestock: 51 cattle/80 sheep/28 pigs/70 poultry	3		

ANNEX II LIST OF STONE AND BERRY FRUIT PROCESSORS

List of processors producers of stone and berry fruits have contracts with are marked with asterisk (data from 2012)

NO	ORGANISATION	WEB PAGE	TYPE OF PROCESSING
1.	Agropartner, Lucani	www.agropartnerfruit.com	Frozen berries
2.	Aronija Vita Ltd, Surduk		Juice from aronia
3.	Belis Top, Kursumlija*		Frozen fruit
4.	Berry frost, Loznica*	www.beryfrost.rs	Fresh and frozen fruit
5.	Beyond, Niš	www.beyondhealthfood.com	Macrobiotic products, soy-based (tofu)
6.	Biosil, Ugrinovci	www.biosil.rs	Pasteurised vegetables, fruit juices
7.	BMD, Arilje	www.bmd.co.rs	Mushrooms
8.	Cojapromet, Aleksinac	www.coja-promet.com	Dried fruit, mushrooms
9.	Confido group Int. Ltd, Zemun	www.confidogroup.com	Frozen sour cherries
10.	CPA Organic, Bajina basta	www.cpa.org.rs	Wine, brandy
11.	Den Juro Organic, Belgrade*	denjuro.co.rs	Frozen, dried and chocolate-coated fruit and vegetables
12.	Ekozlatar, Nova varos		Buckwheat and buckwheat products (flour, pillows and mattresses)
13.	Foodland, Beograd*	www.foodland.rs	Fruit jams, preserves, ajvar, juices
14.	Forest Food, Krusevac	www.forestfood.rs	Boletus, chanterelles, wild blueberries, dried and frozen
15.	Frikos, Belgrade*	www.frikos.rs	Frozen products of berry and wiled collected
16 .	Hemija Commerce Ltd, Novi Sad		Spelt flour
17.	Herba, Belgrade	www.herba.co.rs	Medicinal and aromatical herbs, essential oils
18.	Janos Farago, Orom		Teas, herbs
19.	Josip Mamuzic, Subotica		Flour, ground peppers
20.	Marni, Krusevac	www.marni.co.rs	Mushrooms
21.	Menexd.o.o. Krusevac	www.menex.rs	Fresh and frozen fruit, elder-berry flower
22.	Midi Organic, Blace*	www.midiorganic.com	Frozen and dried fruit
23.	MN Ltd. Loznica	www.mn.co.rs	Frozen raspberry
24.	Mondi Food Company, Kraljevo	www.mondiserbia.rs	Frozen fruit
25.	Nectar, Novi Sad	www.nectar.rs	Fruit juices
26.	Pamin, GornjiMllanovac	www.pamin.rs	Frozen products of berry and wiled collected fruit
27.	Repro Trade, Novi Sad	www.reprotrade.co.rs	Pastas
28.	Strela Ltd, Leskovac		Mushrooms, ajvar
30.	Sumsko blago, Bresnica		Jam od sipurka
31.	Suncokret, Hajdukovo	www.suncokret.rs	Plant-based spreads (butters) products
32.	Vallis Organica Ltd, Belgrade		Wild collected apples

NO	ORGANISATION	WEB PAGE	TYPE OF PROCESSING
33.	Van Drunen Farms Evropa doo, Banatsko Karadjordjevo		Dried strawberries
34.	Varvarin voce d.o.o, Varvarin	www.voce-varvarin.ls.rs	Concentrates and aromas of grown and collected wild fruit
35.	Voce produkt d.o.o, Brus		Fresh and frozen fruit, elder- berry
36.	Zadrugar Ljubovija*	www.fruit.rs	Frozen berries and other fruits
37.	Zdravo ORGANIC d.o.o, Selenca*	www.zdravo.rs	Juices – fruit and vegetable, pasteurized products

ANNEX III DETAILED SURVEY RESULTS

Detailed results of the survey conducted in the four selected region:

Findings in Vojvodina

Vojvodina with 2934,9699 ha of arable land in conversion and 663,6666 ha in organic status makes the biggest share in the overall organic production in Serbia (data from 2012). Typical farmer in Vojvodina is a small scale producer of vegetables.

Serbia has favourable conditions for cultivation of the most vegetables. Just couple of farmers use glasshouses for cultivation and even then most of them use it as nurseries or for production of lettuce and leafy vegetables. Vegetables grown in open fields are semi early, mid, semi late and late season vegetables.

Vegetable production is practiced by family holdings and produced crops are sold on the green markets or delivered to consumers personally or by post. This production has a positive trend of growth due to the fast turnover of the money (sale for cash) and generated profit.

Vegetables production can ensure enough profit and farm sustainability even on smaller holdings in comparison to any other agricultural production. On the other hand promotion of organic vegetable production can attract more farmers in rural areas and boost development of the region indirectly. Likewise covered production and irrigation systems on open field enable crop rotation and harvest at least two times per year if carefully planned and in the same time an optimal use of resources.

As for the price, it depends on the market. During this research it was shown that the prices were different in Belgrade and Novi Sad green markets. Higher prices on Belgrade's green markets and good sale despite those prices show consumers and buyers are ready to pay for food they trust in and that the offer is still less than demand hence farmers can set up prices freely.

Trend in organic vegetable production is to offer fresh and seasonal crops on the market where prices are slightly modified from year to year, and do not follow prices of conventionally grown crops, organic products are sometimes even 300% more expensive. There are several processing units in the area (Annex III), nonetheless produced quantities are insufficient for any serious processor and rather expensive that almost the whole production usually ends up on the green markets and hyper markets.

Relation between the number of producers and market size often leads to instability and seasonality in offer. Consumers are looking for wider range of products, better quality, fresh products throughout the year and for guarantees promised by the organic label and by the upsurge in the paid price. Farmers are making plans for the future seasons based on the price achieved in the precedent season. Organic vegetable market is still underdeveloped and relies on couple of dozen of farmers in the area with an average surface around 5-10 ha (Chart 8).

Unfortunately organic farmers in the region are not planning cultivation of bigger areas, mostly due to the fact that the earnings from organic farming at the moment cover expenses of the holdings and provide sufficient income without need of farm expansion and introduction of diversified products and services. However, Serbian farmers at the moment have alternative, niche market. Small quantities and products with an added value have their target group.

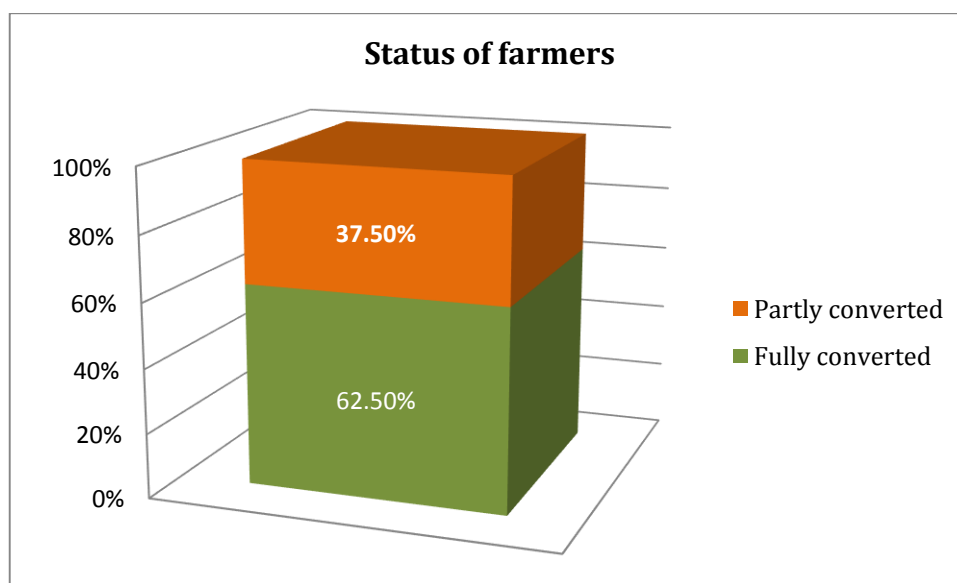
Through this survey were investigated following parameters:

- surface, crops and average yield, natural conditions, year of entering organic production, channels of sale, processing, extension services (accessibility and relevance), need for further education, changes after conversion, age of farmers and labour force (seasonal and full time employee), future plans, income (generated from and off farm) and future development.

Findings of the research showed that:

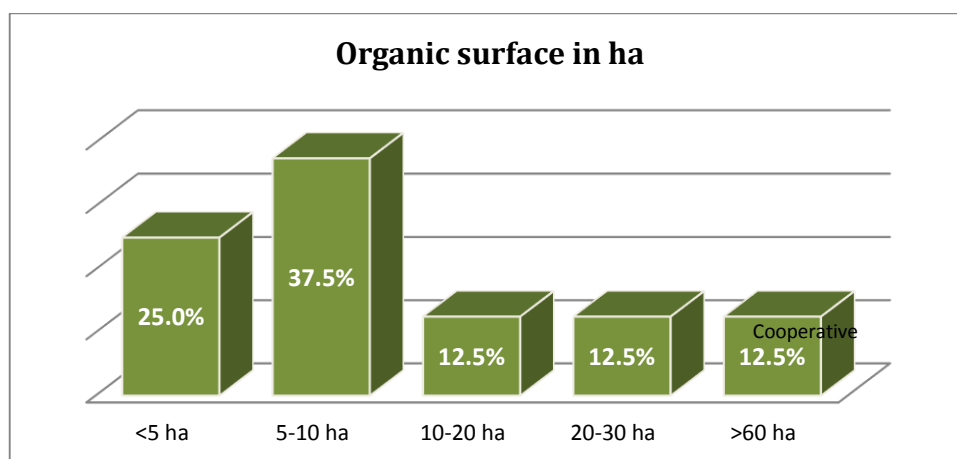
1) 3/8 interviewees are partly converted and 5/8 have fully converted their farms (Chart 8).

Chart 8 Status of farmers



2) According to the total surface farms are divided accordingly: 2/8 farms have <5 ha, 3/8 have between 5-10 ha, 1/8 have 10-20 ha, 1/8 has between 20-30 ha of land, and 1/8 has >60 ha (farmers in cooperative, chart 8). Organic surface reflects almost the same situation. 2/8 farmers have <5 ha, 3/8 has between 5-10 ha, 1/8 has between 10-20 ha, 1/8 has between 20-30 ha and 1/8 has more than 60 ha (farmers' cooperative) in organic status. Farmers in cooperative have on average 8 ha. It means that 62,5% of interviewed farmers have less than 10 ha in system of control.

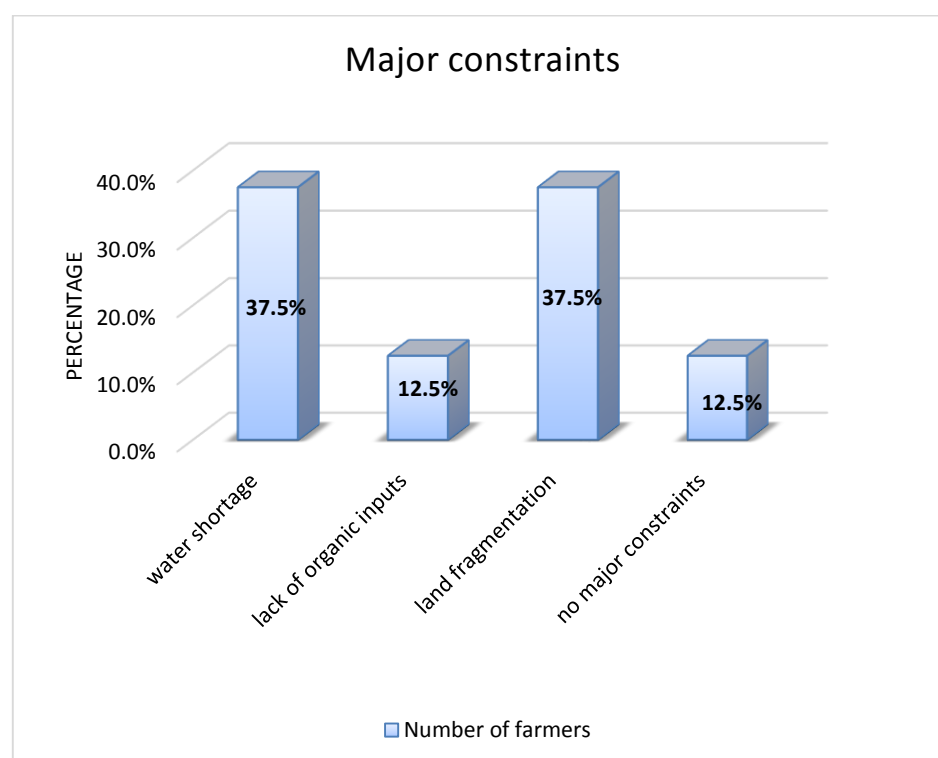
Chart 9 Organic surface in ha



3) All eight farmers are vegetable growers. Besides vegetables, 6 of them are also producing cereals, 2 are alfalfa producers, 2 produce sunflower, 2 are also fruit producers and 1 farmer is a field poppy producer. Average yield of the most popular vegetables of these farmers are according to the following: tomato - 65 t/ha, pepper - 42.5 t/ha, cabbage - 13 t/ha, carrots - 22 t/ha, onion - 14.5 t/ha, potato - 27 t/ha, hot pepper - 11 t/ha, beet root 16 t/ha. Average yield of poppy is 1 t/ha, cereals - 4 t/ha. The biggest difference in the yield of producers is in the data they gave for cabbage, carrots, pepper and onion. In the example of cabbage the difference is the most extreme - yield varied from 3 t/ha, over 10 t/ha to 26 t/ha. The reason of such yield difference lies in the natural conditions, soil quality and possibility of irrigation as well as in the adequate application of the all agro technical measures.

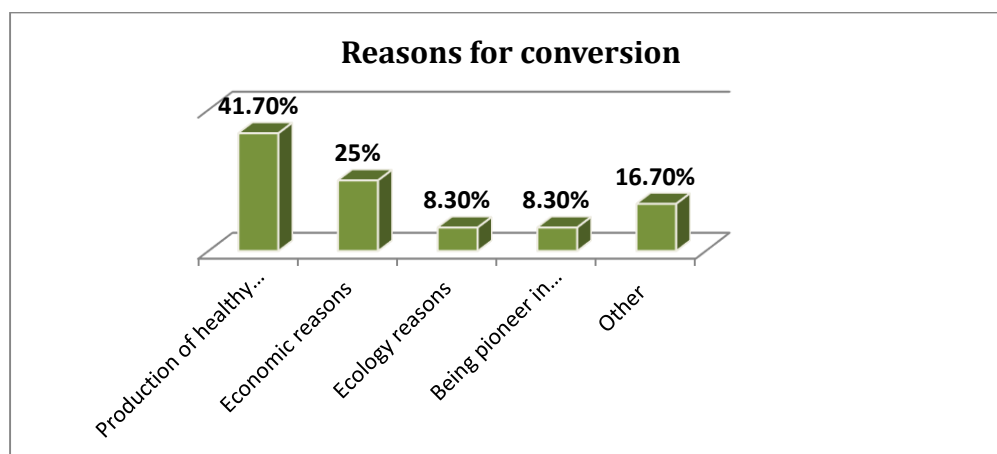
Response on the question on natural condition varies from farm to farm, from 8 respondents 4 thinks that the soil cultivated is of good quality, 2/8 estimate natural conditions as favourable, and the rest work in the average natural conditions. Water shortage represents constraint in the vegetation period, and 3/8 farmers suffer from the lack of irrigation. 1/8 interviewers cannot find plant protection products and fertilizers on the market. Land fragmentation is problem for 3/8 farms, since spatially dispersed parcels increase costs of time and resources in moving machines, labour etc., 1/8 has no major constraints (Chart 10).

Chart 10 Major constraints according to farmers' personal opinion



4) The main reason for starting organic production was the production of the healthy food. 41.7% indicated it as the reason for conversion. On the second place is economic factor-organic food is more expensive and brings more profit to producers, 3 out of 12 respondents indicated economic reasons as the main reason to convert to organic farming. Other reasons were: ecological reasons, common sense, religious reasons, development of a local community and possibility of becoming a pioneer/leader in something (Chart 11).

Chart 11 Reasons for conversion



5) Survey shows that the main constraints in organic farming lie in lack of organic inputs (plant protection products, seeds, plant material) and distance from the market with the same score- 3 out of 21 respondents. After follows pest management, lack of competition in the area - 2/21, low demand for organic food, certification costs, lack of labour, lower yields, lack of capital, lack of awareness of consumers, lack of adequate machinery, lack of qualified labour force, time of payment when selling to retail, lack of knowledge by producers and no constraints at all -1/21 answers (Table 12).

Table 12 Main constraints in OF

MAIN CONSTRAINTS	SCORE
Lack of organic inputs (plant protection products, seeds, plant material)	3
Distance from the market	3
Pest management	2
Lack of competition in the area	2
Low demand for organic food	1
Certification costs	1
Lack of labour	1
Lower yield	1
Lack of capital	1
Lack consumers' awareness	1
Lack of adequate machinery	1
Lack of qualified labour	1
Time of payment when selling to retail,	1
Lack of producers' knowledge	1
No constraints at all	1
TOTAL	21

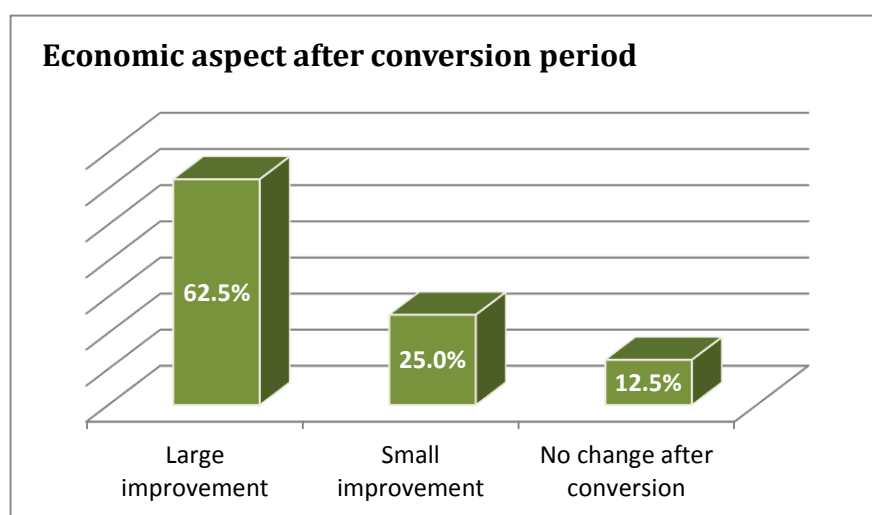
6) In 2005 started expansion of organic farming in the region and in that time 2 farmers joined the organic process of farming. In 2006 2/8 started organic farming. Slowly more farmers joined: 1 in 2007, 1 in 2008, 1 in 2012 and 1 in 2013 (Table 13). After the conversion period the majority, 5/8 felt large improvement within their economy, 2/8 felt small improvement, 1/8 experienced no change at all.

Table 13 Start of OF

YEAR OF ENTERING OF	NO OF FARMERS
2005	2
2006	2
2007	1
2008	1
2012	1
2013	1
TOTAL	8

7) The most common place where farmers are selling their organic products is on the green market - 7/20 respondents stated this, in the retail shop - 3/20 respondents, sale on-farm is practiced among 3/20 respondents, and by post delivery in 2/20, 2/20 respondents said they are selling to processor, home delivery - 1/20 respondents named home delivery as a channel of sale, other respondents indicated following channels of sale: via Internet, on stand by the local road, to wholesalers. In organic status farms in 4 cases experienced large improvement of economic prosperity. Small improvement happened on 2 farms and 2 farms had no change in economic status (Chart 12).

Chart 12 Economic situation in organic status according to farmers' personal opinion



8) Processing activity is done on 3 out of 8 farms, and the common operation is grinding of pepper and milling of cereals (on 2 farms), processing to juices and pasteurized program (on 1). All the quantity is sold in the country.

9) Extension services are free of charge and in the most cases their role is rated as not important or the quality of information was not helpful 5/8 answers, and 3/8 interviewers said they are important in their communities and advices coming from them are helpful.

10) Professional training in agriculture - Agricultural faculty has two farmers, 6/8 farmers have other secondary professional school. Farmers in the cooperative are mostly graduates from the secondary professional schools.

11) When the need for further education is in question, 3/8 farmers there is no need for further education. The rest 5/8 farmers would like to participate in training on: organic farming in general, raising workers' awareness, on farm management, vegetables and fruit growing, on farm processing, wild collection & processing, agrotourism, new varieties and new technology.

12) After conversion, farms did not change the focus on the farm. 7/8 farmers continued to practice organic vegetable and field crop production. On 1/8 farm's focus is conventional animal husbandry.

13) Labour force is employed on 8 out of 8 farms. On 3 farms employees are full time engaged, on others seasonal workers are employed.

14) As for the age of farmers 3/8 are in the group between 41-44 years old, 3/8 are in the group between 45-54 years and 2/8 are below 40 years of age. All farmers are family members and on average each family has 5 members. Statistically 3/8 farmers have families with 5 members, 3/8 have families with 4 members, 1/8 farmers has 8-member family, and 1/8 has tree members of the household.

15) Future plans of the farms are aimed at increase of the surface. 7 out of 8 farms expect to increase the surface in the following 5 years, 2 of them will even start animal husbandry and/or increase the animal stock.

16) As for starting new activities, 3 out of 8 farms expect to start animal husbandry on their land, new activities involve fruit growing (1/8), on farm processing (freezing - 1/8), processing of vegetables (2/8), seed purifying and packing (1/8 farms).

17) Additional income comes from different activities on farm or outside the farm: 3/8 farmers live from the resources coming from organic production, 3/8 farmers have income from conventional husbandry and OF, 2/8 farmers have additional job in the private/public sector and income from OF.

According to the respondents future challenges to be dealt with are:

- 1) lack of qualified labour, (3/19)
- 2) lack of credits at favourable interest, (2/19)
- 3) lack of awareness of consumers and buyers,
- 4) lack of governmental support,
- 5) lack of diversified offer and lack of quantity,
- 6) legal constraints in buying land and unfair competition among producers in the local community,
- 7) risk of GMO,

- 8) less fertile soil in the region,
- 9) complicated procedure when applying for subsidies,
- 10) lack of organic seeds,
- 11) difficult to access MoA,
- 12) lack of irrigation,
- 13) lack of seasonal workers,
- 14) high costs of organic inputs,
- 15) lack of organic markets in the region.

Processing facilities in Vojvodina

Processing units are dealing with different types of raw material. Farmers on their units can process smaller quantities and usually are processors of their own raw material.

From 9 processors registered in the database, 2 are farmers. Neither one legal entity/processor is solely organic processor. Their main scope of work is production and processing of flour, fruit juices, pasteurised products and paste of plant origin.

3 processors were interviewed for this study and findings are:

1. **Repro trade, Novi Sad:** 11-years old company, producing organic cornflakes, pasta. The firm prepares hand made products, in small scale, and in small quantities, this is why its products are not marketable in the international markets. The domestic market is very limited. The main problem of the firm is that the raw material is too expensive, the owner cannot import because he can order only small quantities. Under these circumstances the firm cannot make profit at the moment.

Processor is missing support in technical aspects of doing business. Processor is not familiar with the organic market abroad and has no opportunity to enter one, therefore assistance of the associations, organisations and market research would be of great help. Unfortunately this is not the service Serbian organic sector is providing.

2. **Zdravo Organic, Selenca:** The firm processes juices, canned vegetables, jams from both organic and conventional vegetables. At the moment 20% of their products are organic but they intend to increase the share of organic products in the future. At the moment company base its work on temporary contracts with farmers of the neighbouring organic farms. Contract is composed according to the previous sale and cannot foresee real demands in the future period or the prices. For this type of contractual obligations farmers would need to produce more than they can sell currently. Cooperation with companies brings less risk if farmers have bigger quantities to offer. Still, offer on Serbian market is still lower than demand and is easily absorbed by local consumers.

Processor sells to both domestic and export market, cc. 60% of their products is sold in export markets, 40% in the domestic market. In order to avoid complexity in export and distribution they work with one distributor. Their main export markets are Russia, Ukraine, Croatia, Italy, Austria, Slovenia, Montenegro but even far markets, too, like Canada and Australia. Unfortunately, company is not attractive abroad due to the high prices, and prices are high due to the higher costs of raw material in Serbia (due to the lack of subsidies and the low demand), partly because of the small scale of their processing facilities. Yet, company cannot purchase raw material from abroad, since their organic production is modest and costs of the transport, logistics would not cover final price of the product.

Wide range of products keeps busy their processing lines throughout the year. In the season they process mainly tomatoes, paprika, out of the season carrots, beet root, apples etc. Company launched a premium product (without added sugar, water, preservatives) made of cheaper conventional raw material where high quality and lower costs make the product attractive at favourable consumer prices.

Farm “Jovanjica”, Stara Pazova: Farm is producer and processor of organic vegetables. They are one of the rare farms with fully equipped glasshouses. Farm has tendency of increasing production and intensifying marketability of their products. Currently products of this farm can be found at shelves of the bigger hypermarkets, green market in Belgrade and as part of their e-purchase, on their web site.

Farmer has reasonable prices of the products at the moment, and controlled production in the greenhouse can give him this comfort. Modernisation of production facilities and equipment is high investment but in climatic changes and inability of controlling external factors a necessary measure. Small scale farmers will not be able to bear the costs, therefore governmental financial and technical support should be offered.

Findings in Western Serbia

Western-Serbia has 235.1936 ha of arable land in conversion and 198.9355 ha of arable land in organic status (data from 2012). The major part of the surface is under berry fruits - 66% of land in conversion and 91% of land in organic status. Typical farmer in western Serbia is a member of cooperative with a cold storage-processor of berry and stone fruits. Research covered 6 typical representative farmers of around 500 (data from 2012), 2 processors out of 4.

Fruit growing is one of the most productive agricultural sectors. Wide fruit varieties planted in climates most appropriate for each one of them ensure optimal use of resources of the geographical and climate parameters. Production of fruits and its derivatives can be very successful business moreover by investing in irrigation systems of orchards, protection nets, planting material and processing facilities especially in the region that is relying on agriculture should be necessary measurements of MoA to support and popularise agriculture. The market for organic fruits exists abroad and can absorb all the quantities Serbian farmers can produce. Serbia exports berries as raw material intended for foreign processors or wholesalers and distributors for further handling, usually as frozen. There is no one in Serbia who prepares small packs of organic frozen berries for final buyer. For export oriented companies transport of frozen raspberries in big bags or boxes is the easiest way for safe and cheap delivery. Otherwise companies would be forced to invest in promotional campaign and additional technology lines if considering new lines of products. Major constraint at the moment is lack of financial support like credits and loans with favourable interests for buying new lines for packing and for investing in additional material according to the survey. Likewise in the case of a new product on a foreign market, without good promotion of the brand and fruits, it is rather difficult to sell small packs of berries to foreign buyers.

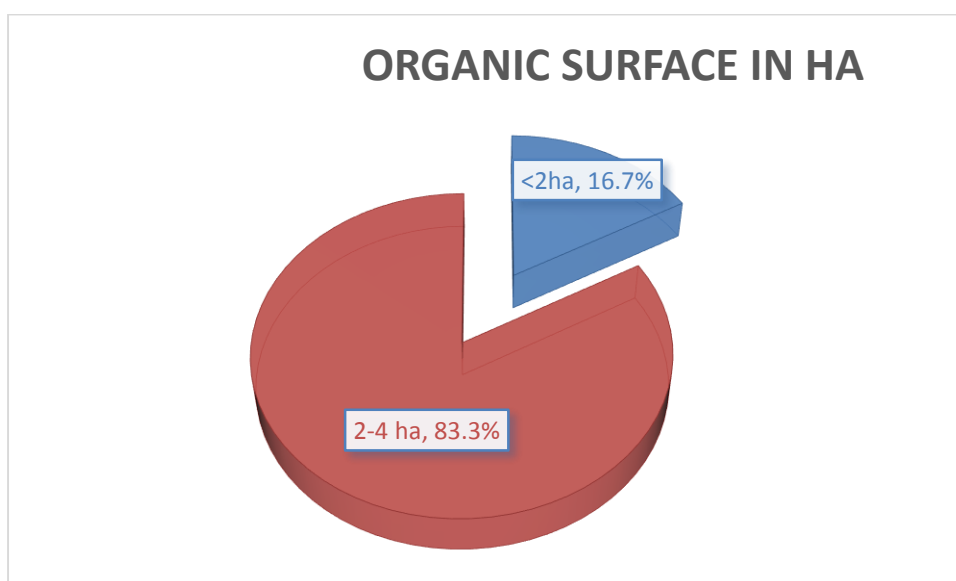
On the other hand it is necessary to make a thorough marketing research before putting the new product on the market. Based on the research new product should be adapted to the needs of the target audience by its size, shape, etc.

Of the total berry production the major part, 90%, is exported frozen to the market of the EU (Germany, France, the Netherlands, and Austria) and some to the USA market and Japan.

Results of the survey:

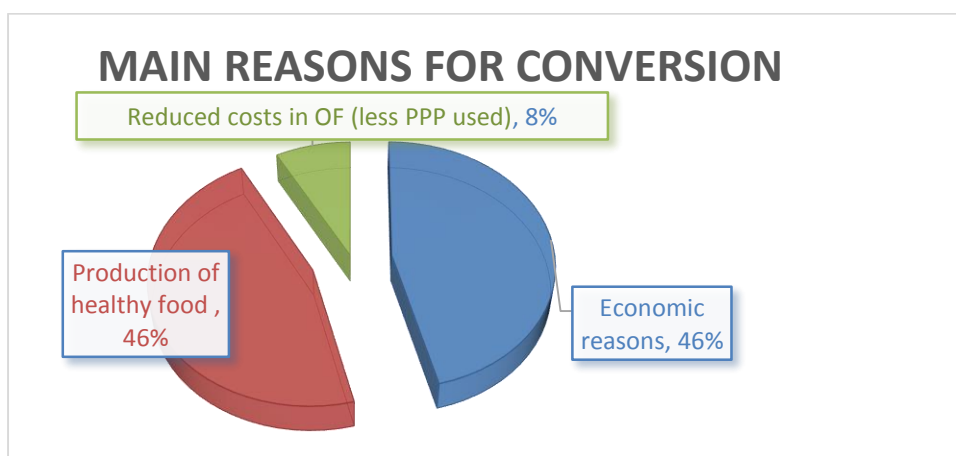
1) Although expectation was for these farmers to have smaller plots (0.15-0.30 ha) in organic status, survey proved that the situation changed. Farmers' practice to wait and see how the new system will show up on the neighbour's example and in case it proved to work then it would attract the new farmers to organic farming and led to the increase of organic surface. Apparently organic producers built trust in the area and drew more farmers willing to enter OF. Survey showed that 1/6 farmers have less than 10 ha of total land, 3/6 have between 10-15 ha, and 2/6 have more than 15 ha. Areas under organic status vary from 0.8 ha up to 3.35 ha. 1/6 has less than 2 ha, and 5/6 has between 2-4 ha (Chart 13).

Chart 13 Organic surface in ha



2) Main reasons for conversion to organic status are economic reasons. From 13 respondents 6 stated that due to the better price of the organic produce they entered OF, production of healthy produce said 6 of 13 respondents, and from 13 respondents 1 said the reason was reduced costs since there are less treatments in OF (Chart 14).

Chart 14 Reasons for conversion to OF



3) Main crops are raspberry-6 of 6 farmers produce it, blackberry 5/6 farmers produce, strawberry produce 2/6, plums produce 4/6 and sour cherry produce 1/6. Average yield (average of the 6 surveyed farmers) is 4.9 t/ha for the raspberry, 12 t/ha for the blackberry and 10 t/ha for the plums. Farmers are facing inconsistent yields and unpredictable in the same time due to the lack of irrigation and investments in the orchards. Main input of all surveyed farmers is the manure coming from own farms. Farmers are not well informed about organic agro technical operations allowed in the organic farming and organic principles. Therefore the average yield is rather low while it could be doubled if the irrigation would be introduced and preventive measures of disease control respected.

4) Natural conditions in the region are average according to 6/6 farmers, from water shortage suffers 6/6 farmers, while land fragmentation is problem for 5/6 farmers. Land on steep slopes has 4/6 farmers and average soil quality is identified by 2/6 farmers. Soil quality is maintained by using on farm manure originating from cattle and sheep. Quantity of manure often correlates to its availability on the farm and rarely to the real needs.



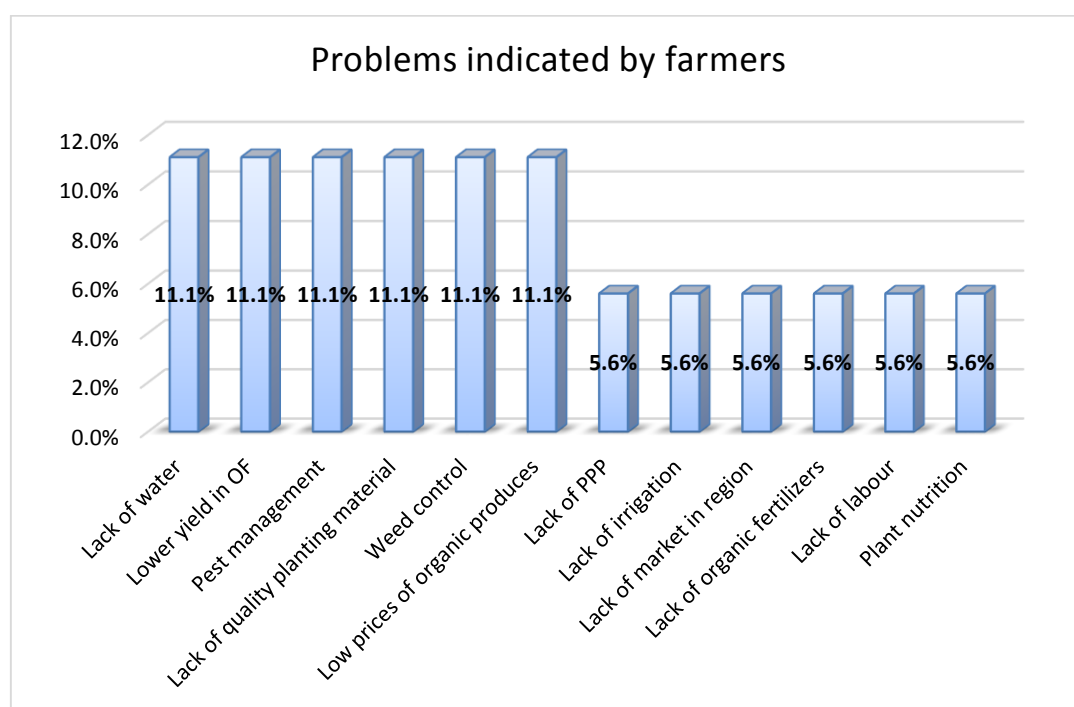
Hilly area of western Serbia



Family farms

5) Main constraints according to the survey are lack of water (2/18 respondents), reduced yield in organic farming (2/18), pest management (2/18), lack of high quality planting material (2/18), weed control (2/18), low prices of the organic produce (2/18), lack of plant protection products (1/18), no irrigation systems (1/18), lack of market in the area (1/18), lack of organic fertilizers (1/18), lack of labour (1/18), plant nutrition (1/18 respondents) (Chart 15).

Chart 15 Main problems indicated by producers



6) 66.6 % of farmers started organic production in the 2007, 16.7 % started organic production in 2008, and 16.7 % in 2011.

7) Farmers in this region are subcontracted with cold storage/processor that is setting new contracts on a yearly base. This means organic fruits are delivered to the cold storage and then farmers have no need to go to the market. Their concern is related to the price of the berries. Price of these fruits is every year's discussion. Harvest of berries is done manually unfortunately plots are isolated from the infrastructure, near dirty roads severely damaged where delicate crop like berry easily crumbles and brakes. Nevertheless in 2013 farmers got around 2 EUR/kg (without sorting on farm). Farmers in cooperatives tend to believe that the price difference between conventional and organic crops should be more than 20% they at the moment get

8) 0/6 farmers are having processing facility on the farm

9) Extension service is present in the region and covers Macva and Kolubara district. Extension services are free of charge as well as the soil analysis that can be done according to the annual program of the Ministry of agriculture. 6/6 interviewees highly appreciate and consider advisors from extension service helpful and important in farming

10) Agricultural education has none of the interviewed farmers, 1/6 has only elementary school, and the other 5 have other professional secondary school. Training in organic farming is organized by the extension service and contracting company. Last year each farmer spent on average 2.5 days on training. Regarding the future needs 50 % would like to have more training on organic farming in general, 16.7 % on organic livestock production, and 33.3 % see no need for further training.

11) Change after conversion did not happen on any of the farms from the survey. 3/6 declared conventional animal husbandry and 3/6 conventional fruit growing as the main focus on the farm.

12) Labour force is employed on 2 of 6 farms in the period of berries' harvesting for 3 months per year. 3 farmers out of 6 are under the age of 40, 2/6 are between 41-44, and 1/6 is in the group between 55-64. Each of them live with a family on a farm where one household consists of 4 members in 2/6 holdings, 5 members in 2/6, 6 members in 1/6 holdings and also in 1 holding of 9 members.

13) Future plans would depend on the resources available on the farm and generated income. 1/6 farmers would continue the production on the current surface, 2/6 are unsure about the future changes in the production, and 3/6 farmers is considering increase in the surface for the maximum of 1 ha. On the other hand, new activities are not attractive for the farmers. 66.6 % farmers are not considering any changes related to the introduction of the new activities. 16.7 % of farmers are still not sure, and 16.7 % of farmers see agroutourism as the new activity.

14) In respect to the future 5-year long investments, in irrigation will invest 3



Improvised water tanks

farmers. Renew of the machinery is important and 4/6 farmers will invest in the new tractors and additional equipment. 1/6 farmers will invest in the storage facilities, and increase in the surface leads to the investment into the purchase of land for 1/6. One farmers not sure about any future investments.

15) For the all interviewed farmers agriculture is the only source of income. 3/6 has additional income deriving from: 2/6 farmers sell woods for fuel to the households and 1/6 farmers provide transport services and tillage services.

Processing facilities in Western-Serbia

Two processors: *Frikos* and *Zadrugar* are among four cold storages which are dealing with organic fruits. With surface of 206 ha under organic production they entered 6. year of organic farming. All processors try to make the contracts with farmers by the end of the year or in the very beginning of the year long before the vegetation period – this is unique rule for all. Once the contract is signed, cadastral data is sent to the certification body. All farmers are subjected to the growers' group certification and controlled by companies' internal control system as well as by authorized CB. Both companies employ agricultural engineers specialized in organic farming who are monitoring production process of farmers. During the winter season they organize winter schools (2-3 days of duration) where farmers are introduced to principles of organic production and allowed treatments. All farmers are given plant protection products in the very beginning of the season for the necessary treatments. Employed engineers are local people familiar with farmers which make cooperation easier, but it also brings certain doubts in their relationship. Engineers know how to approach farmers and how to communicate, but they can also predict possible problems in the production cycle. For example if some farmers are prone to using pesticides not allowed in OF, engineers will control those plots more frequent.

Due to the work of these two companies 310 people found full time employment and 60-70 people are employed in season. Reasons for entering organic production lies within the geographical potential of the region, which with slight alterations was possible to convert easily to organic farming, as well as to widen the product range and generate more income. Both processors have certificates for Serbia, EU, USA, Biosuisse and Zadrugar has JAAS (for Japanese market) certificate as well.

Challenges identified by them:

- a) lack of education of the inspection service of the competent governmental authority,
- b) lack of education of producers,
- c) lack of good, quality plant material,
- d) lack of organized control within the state,
- e) non-regulated market of the plant protection products- uncontrolled sale and use of pesticides,
- f) elderly farmers make most of population in the region,
- g) impossible to approbate producers in case of infringements,
- h) lack of organic inputs on the market,
- i) high and often non-realistic prices of berries.

Subsidies were given by the Serbian agency for the promotion of the export for the certification. Companies could have been reimbursed 40% of the total costs.

In order to improve organic fruit growing MoA should work on improvement of planting material, establishment of good nursery which would deliver virus free basic material, setting up irrigation systems in orchards, increasing surface under organic fruits, regulation of the purchase of the pesticides and plant protection treatments, education of competent inspectors for control of organic certified operators within MoA, raising awareness of farmers regarding the price expectation and principles of organic farming, influencing on prices possibly through Policy document.

Findings in South-Serbia

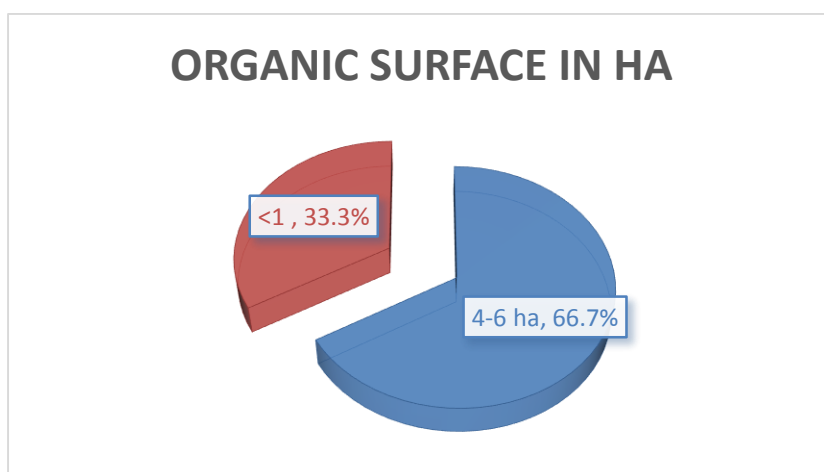
Stone fruits, plums and sour cherries are important organic crops in Serbia by their production and exported value. Still most of plantations are old and in extensive use with lower yield than it would be if cultivated properly. Average yield of plums is 14 t/ha.

Farmers are investing in spring plant protection treatments and the soil is kept as a lawn or is ploughed. Varieties spread are Pozegaca and Stanley mostly for drying and freezing.

Sour cherry gives on average 13 t/ha. Variety spread is industrial variety - Oblacina sour cherry. Cherry is exported frozen pitted or with stone, and as concentrated juices.

1) South Serbia has majority of farmers that are working in the cooperative with processors. From the six interviewed farmers two have between 5-10 ha of land. 1/6 has 10-15, 0/6 has between 15-20 ha, and 3/6 have more than 20 ha. When organic surface is in question 4/6 have between 4-6 ha, and 2/6 has 1 ha or less, on average 3.3 ha (Chart 16).

Chart 16 Organic surface in ha

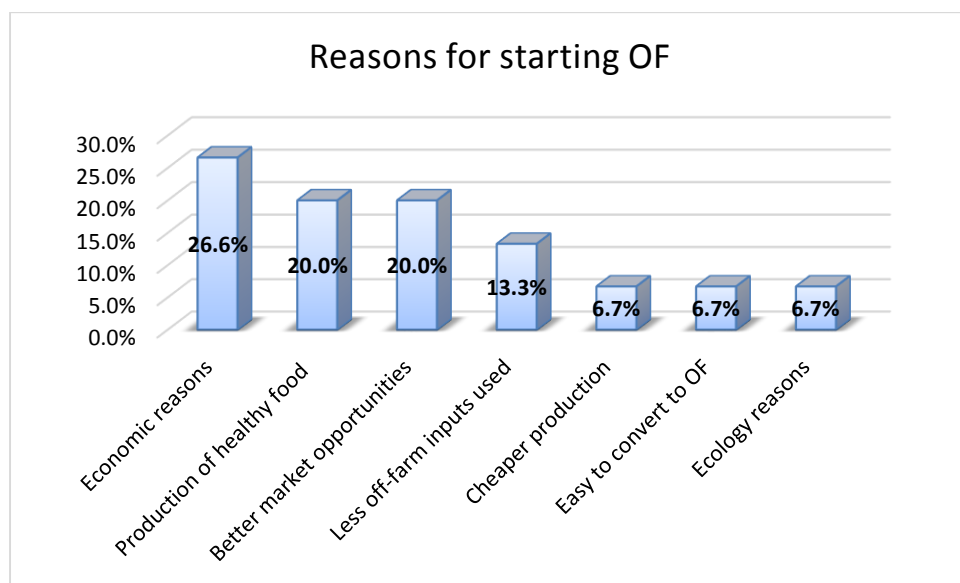


Traditional way of growing - converted to organic status

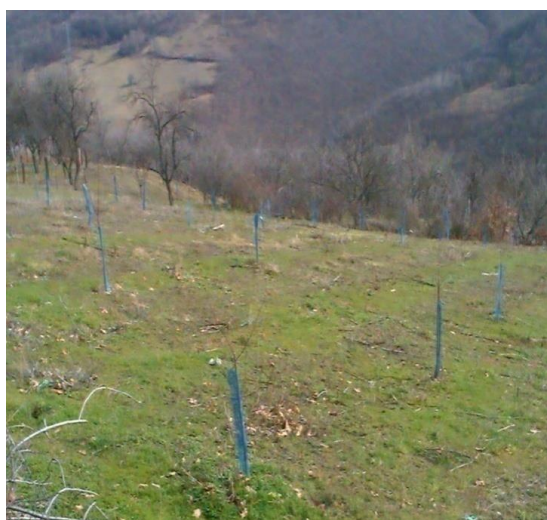


Main reasons for converting to organic farming are: bigger price of organic products 4/15 respondents, production of healthy food 3/15 respondents, better market opportunities 3/15 respondents, in organic farming less inputs are purchased outside of farm 2/15, organic farming is cheaper than conventional 1/15 respondents, easy to convert to organic production 1/15 respondents, ecological reasons 1/15 respondents. Farmers in this region are already producing in the way they ancestors did in the past. For those farmers low level of use of pesticides is part of their tradition. Majority of producers rely on the manure coming from their conventional live-stock production and reduce any other use of off farm inputs (Chart 17).

Chart 17 Reasons for starting OF



2) Main crops are traditionally grown fruits like plums, sour cherries, apples, pears, berry fruit and lately quince has a tendency to be more present and attractive for farmers. The most spread crop is plum 4/6 farmers grow plums on 11 ha with average yield of 14 t/ha. Sour cherry is grown by 3/6 farmers and is on the second place according to surface. Average yield is 13t/ha. Later follows apple grown by 5/6 farmers but on less surface and usually as the old trees planted long time ago on the borders of the property or in the places with no specific order. Average yield of apples is 10,5 t/ha. This is due to the above mentioned reasons.



Young plum orchard



Pruning of plums

Trees are planted wherever it was convenient; apple trees are old and are not managed in a good agricultural way. Blackberries, raspberries and strawberries are grown on smaller plots although average yield tend to be rather high, 21 t/ha for blackberries, 17 t/ha for raspberries on average. Natural conditions of the region are favourable for fruit growing, hilly area enables wind to run and circulate through orchards and reduce fungal diseases. But south Serbia often faces lack of water, especially in the phenophases of intense growth of plant and fruits. Answers given by the farmers are in favour to this fact, 6/6 farmers indicated water shortage as the main constraint of the increase of the production. Lack of infrastructure and lack of good roads is considered as a major constraint. Many of the local population seeking better life conditions migrate to urban areas. Farmers are not unique in their perspective of the natural conditions of the region. 3/6 considers the region as favourable for fruit growing, 2/6 as an average and 1/6 as the unfavourable region from the aspect of natural conditions. Land fragmentation is problem for 4/6 farmers, steep slopes for 2/6 and poor soil quality for 1/6 farmers interviewed. The area is hilly but percentage of inclination varies from one to another micro location. Bigger problems are small parcels and inability of buying plots surrounding farmers' farm. Farmers depend as less as possible from the off farm inputs, manure comes from their extensive conventional livestock production and plant protection products are provided by the processors with who farmers have contracts on cooperation. As in the case of berry fruits, processors in this region are making the same contracts with farmers who want to produce according to the principles of organic farming. All farmers are getting advisory services from the processor/cold storage and are controlled by their internal control system. All of them are yearly invited to attend the winter school on organic agriculture. At the end of the year all farmers need to paid for the products they have gotten from the contractor. Certification costs bear the contractor.

3) Main constraints in the region are lack of qualified labour 4/17 respondents (local population is decimated), lack of subsidies and governmental support 4/17, lack of infrastructure 3/17, bureaucratic procedure when applying for subsidies and incompetent staff employed in the MoA/Payment Agency, in addition to fees for validation of the documents which are rather high 2/17 respondents, lack of available land for increase of production 1/17, high costs of labour force 1/17, lack of capital 1/17, lack of irrigation systems 1/17. Subsidized production is important for farmers and would be of great support, but farmers cannot rely on it and are planning production according to their own resources.

4) 66.7% farmers started organic farming in 2006, and 33.3% in 2004. After the conversion 16.7% experienced large improvement in the economic situation, 50% experienced small improvement and 33.3% faced no change at all.

5) All the farmers from the survey are contracted by the cold storage/processor and all products are delivered directly after the harvest to them or the processor comes to collect produce. Either way the market challenges and post harvest operations are processor's task.

6) 0/6 farmers are dealing with the processing operations.

7) Farmers are not aware of the extension service in the area, they are relying on the engineers employed by the processor. This service is free of charge.

8) Farmers spent on average 3-4 days in 2013 participating on seminars organized by the contractor. Based on their answers farmers would like to participate in future seminars related to organic farming in general 5/10 respondents, then follows market and marketing 1/10, growing of organic raspberry 1/10, agrotourism 1/10, organic livestock production

1/10 and processing technology 1/10. Due to the lack of literature farmers would appreciate some kind of organic newsletter that would be provided monthly but free of charge.

9) The change in the main focus on farm did not occur after the conversion period. 3/6 farmers are fruit growers, and 3/6 livestock producers.

10) Five farmers employ labour force during the harvest season and if needed for planting of new orchards. On average during the season 20 seasonal workers are employed on 5/6 farms. Age group of producers vary, 2/6 are in the group from 55-64, 1/6 is in the group over 64 years, 1/6 is in the group from 45-54 years, 1/6 is in the group 41-44 and 1/6 beneath 40 years old.

11) Farmers' 5 years long future plan will depend on the resources and market possibilities. At this moment 50% of farmers are not thinking of any change on their farms. 33.3% will increase the surface under organic crops for less than 1 ha each, and 16.7% farmers are still unsure what the future holds. In respect to the new activities 33.3% farmers would like to start organic animal husbandry, 33.3% will not have any of the new activities, 16.7% would start rose hips production and 16.7% is not sure.

12) Income from the agriculture generates 6/6 farmers. 3/6 have only these resources on farm, 2/6 additional income coming from the sale of wood for the fuel, 1/6 has pension. Family members contribute to farm sustainability with off farm jobs on three farms.

13) Future investments on farms are mostly for the renew of the machinery 3/8 respondents, 1/8 respondents would set up irrigation system, 1/8 respondents would invest in the facilities for machinery storage, 1/8 respondents in building mini cold storage, 1/8 respondents in flock purchase, 1/8 for building stables for cows.

Processing facilities in South-Serbia

One interviewed processor/contractor Den Juro ltd (Lion Foods ltd - formerly) has contracts with farmers on organic production. This contractor deals only with organic fruits which ease up the control and certification process. Farmers in the region have written agreements with the company that is freezing or drying organic produce. At the moment the group certification of the company covers 300 ha of surface. All farmers are in the processor's internal system of control. Every farmer is being visited and monitored by contractor's staff. Each one of them gets at the very beginning of the season plant protection products they will use against diseases. All farmers are using their own farm manure. In case of infringements farmers should bear consequences. Problems processor has are similar to farmers' since he has indicated pest management and lack of water as the main problems in the area.

The manager of the company is in the age group from 55-64. He started organic production in 1989 in cooperation with farmers and later with the Dutch company. The Den Juro ltd has 20 full time employees and around 15 seasonal workers.

Main markets for this company are wholesalers and food industries in the EU and in the US, therefore they have both EU, NOP. Economical issue for this contractor is lack of own resources and lack of available bank loans. Future plans could involve increase of surface therefore more quantity of organic fruits, but it is still in the planning phase. On the other hand the contractor would like to install the new line for processing to become able to offer the final product to the market.

Livelihood of the farms in some areas is extremely bad. Lack of asphalt roads, lack of infrastructure, lack of water supply network and connections with municipality makes life of these

farmers hard. On some farm, electricity power could not even start TV. Lack of communication with local authorities holds back the prosperity of the region. Disadvantages of the local communities in the region could be turned into potentials. Great potential lives in tourism, organic food production, tracking through nature as the way of tourism recreation.

Majority of farmers have agriculture as the only business. It is a part of tradition in the region, to continue agriculture and manage farm with own family. Despite living conditions, farmers stay on their land and practice agriculture. This is an advantage GIs need to recognize and award. State and local authority have to intensify and improve connections with local farmers. Keeping local population and preventing migration by enabling local prosperity and local economy can be achieved through measurements of support of organic farming and organic tourism.

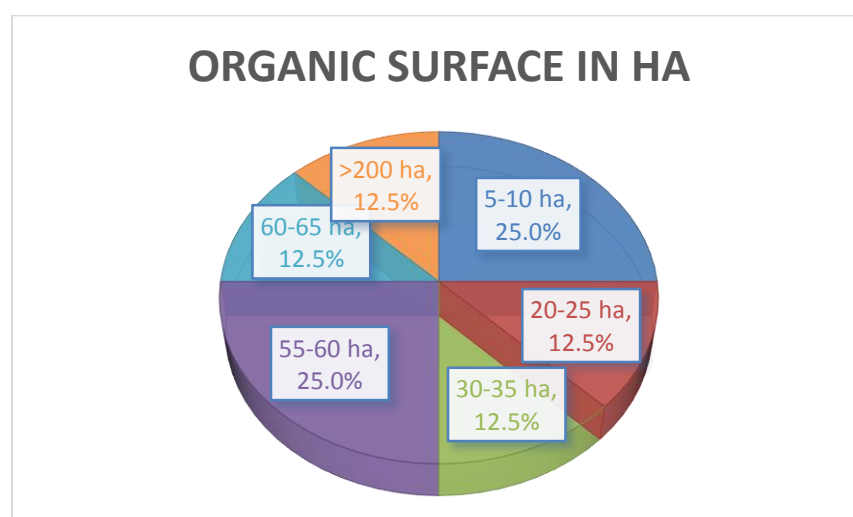
Organic farming is based on principles of fairness and care, and somehow the focus is put on health and ecology as the most important. This is what makes organic farming an outstanding practice, care for all living beings and fairness in their relationship. We are responsible for ourselves and for others as well.

Farmers in the region are sensitive category lacking knowledge and assistance in their future development. Local community has either no capacity or motive to provide any measure of support to the local population.

Findings in Southeast-Serbia

1) In the area of Pirot, Jablanica and Pcinja district 8 farmers were interviewed. Five out of eight are fully converted to organic status. From the aspect of the surface of the farms 2/8 are between 5-10 ha. 1/8 is in the range between 20-25 ha, 1/8 in the range 30-35 ha, 2/8 has between 55-60 ha, 1/8 is in the range between 60-65 ha and 1/8 above 200 ha (Chart 18).

Chart 18 Organic surface in ha



Together farmers have in the total 461.5 ha and all their land is in organic status. The most of the land is used for growing forage crops and cereals that would be used as feed and green areas as pastures and meadows. All the farmers have organic livestock production. Reasons to convert are

as follows: 5/20 respondents said that farmers wanted to produce healthy food, 2/20 respondents indicated ecological reasons as the turning point for starting OF, 4/20 of respondents said it was easy to start OF since farmers already kept livestock in the extensive way, 2/20 respondents named economic reasons (better price for OP), then 2/20 respondents started OF due to subsidies given in 2010 for OF farmers, also a great motive was lifestyle (2/20) as well as environmen-

Livestock production



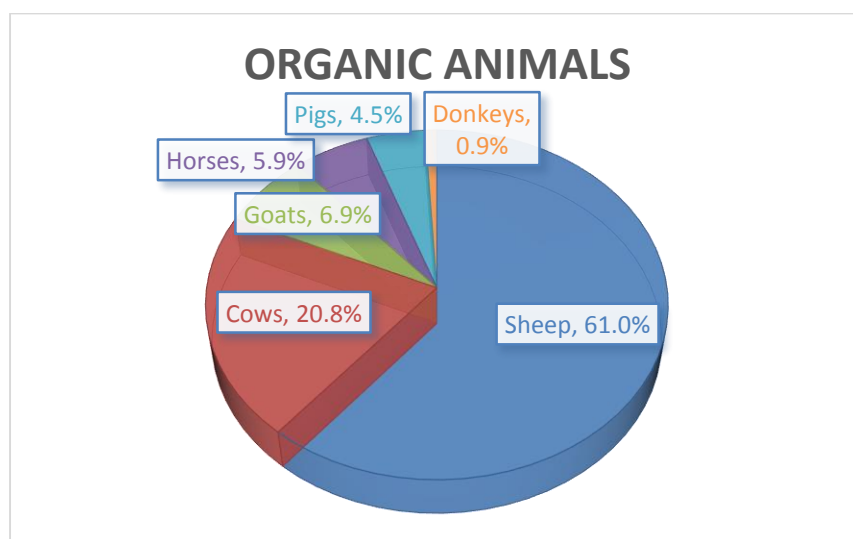
Stara Planina mountain



tal and social reasons (2/20), while excellent natural prerequisites and additional income from OF make 1/20 respondents.

2) Farmers in this region are traditional animal breeders; most spread animals are cows due to their multipurpose like pulling plough and harrowing land, giving milk and meat. Horses and donkeys are of mountainous breed, and used to be kept free and wild in herds. Nowadays there are breeders who are keeping those animals on their farms not for soil tillage but as on-farm animals and donkeys for milk and as on-farm animals. 18.8% farmers breed cows, 25% farmers breed horses, 25% breed sheep, 18.8% farmers breed goats, 6.2% farmers breed pigs and 6.2% of farmers breed donkeys. Most of the farmers are keeping 1 or 2 Balkan donkeys on farm, just to keep the indigenous breed from extermination. From the total of 1796 animals of organic farmers, 62% are sheep, 20.8% are cows, 6.9% are goats, 5.9% are horses, 0.9% are donkeys and 4.5% are pigs (Chart 19).

Chart 19 Organic animals by breed



Milk producers, 5 of them have on average 35 l/milk per sheep per year, 2.500 l/cow/year. One producer has donkey's milk in limited quantity. This milk is being used as the supplement in nutrition, especially for reconvalescents and respiratory problems. The price for milk is extremely high since donkeys do not give a lot of milk, around 2 dl per day, and the milk is packed and sold in emballage of 0.5 l per price of 2000 RSD (17 EUR).

4 farmers are manually milking, and one producer has own milking pipes. 6/8 farmers are producers of organic milk and organic cheese, the other two have pigs and horses. These six producers were forced to sell organic produce as conventional always 1/6 replied, often 2/6, sometimes 2/6, and never 1/6.

3) All farms are in the Park of Nature "Stara Planina". Interviewed farmers agree that this area is ideal for animal breeding 7/21 respondents, average quality for field crops' production 7/21, suffering often from water shortage 6/21, low soil fertility 1/21 respondents. The region is ideal for the livestock production since it has plenty of graze land and animals are

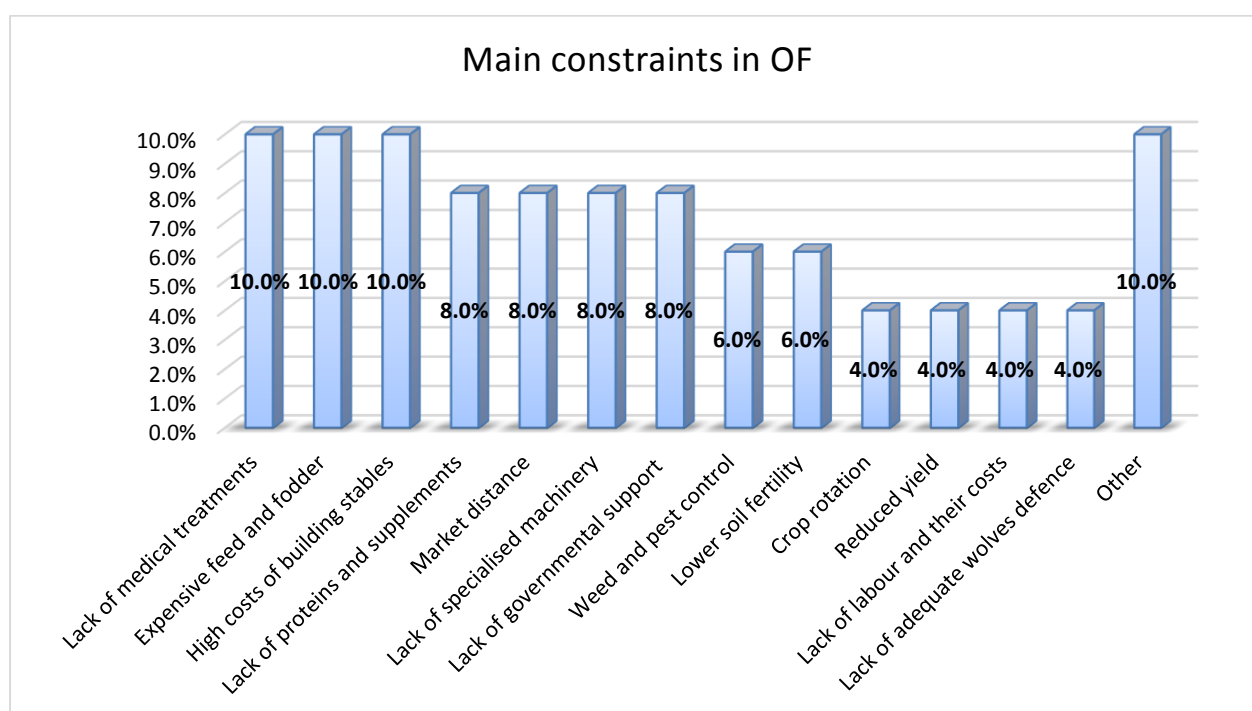


On-farm manure

kept mostly in the extensive way. With good natural prerequisites farmers were easily converted to organic farming. The problem of the area is average yield of field crops. There are technical problems farmers in areas on lower altitudes are not facing-like cultivation on very steep slopes which increases the fuel consumption and percentage of working hours. Subsidies given for farmers in the plain and in the mountain are the same although their costs are for the same surface doubled and the yield is lower comparing to fertile and plain area.

4) Main constraints for farmers in this region is lack of medical treatments and inability of providing medical help for animals according to 5/50 respondents, expensive feed and fodder for livestock production 5/50, high costs for building stables 5/50, lack of proteins in feed and supplements 4/50, farness from big markets 4/50, lack of specialized machinery (harvester, etc.) 4/50, lack of governmental support and subsidies 4/50, weed management and pest control is difficult to maintain 3/50, lower soil fertility 3/50, optimisation of the crop rotation 2/50, lack of labour and their high costs 2/50, reduced yield 2/50, lack of adequate defence against wolves 2/50, and one answer got each of the following: indigenous varieties give less milk (those varieties are encouraged in organic law), lack of buyers and processors in the area, lack of land for forage production, underpriced organic produce, lack of credits with favourable interest, disorganized and unstable market (Chart 20).

Chart 20 Main constraints in OF according to farmers



5) 25% of interviewed farmers started organic production in 2009, 37.5% farmers joined in 2010 and the rest 37.5% entered OF in 2011. Farmers' economic situation in 4 cases got worse in the period of conversion, small improvement sensed 3 farmers, and 1 farm had no change. The small improvement is in correlation with subsidies in that year.

6) As for the sale of their organic produce, the most common way of selling is on the farm, and one farmer has found a buyer in the local restaurant. Dairy products are only certified and even then not by all farmers, for meat certification none of the farmers fulfil the standards as there are no meat processing units that would deal with organic meat (too complicated for meat processors to perform this service for farmers). For now milk and cheese are only products sold with organic certificate by farmers who obtained it. The main constraint is the distance from the market, main markets are in Belgrade and Novi Sad, and farmers are not able to cope with the strategies of the market. Farmers are not able to organize themselves and enter market together. They are missing managerial skills and business ideas. Now their major concern is to survive and keep livestock in organic status. In the years when subsidies were missing farmers struggled to find resources to keep the livestock. Due to the lower yields of the field crops and necessity of buying additional protein feed, farmers spent own resources although they were not able to sell animal products as organic and there are no processors of organic products in the region that would be interested in their raw material. Land is used as pastures and meadows for animals mostly, of field crops are grown oat and barley.

7) Certified processing facilities do not exist there. 6/8 farmers are involved in certain processing, they are producing cheese, while meat or slaughtered animals are sold as conventional to individual buyers, due to the food safety standards farmers would have to comply with, they cannot sell to the legal entities. 2/8 farmers are breeding horses that are not being sell or pigs while meat is not certified and cannot be sold as such.

8) Extension service is for 4/8 farmers important in their work, easy accessible and helpful. For 2/8 farmers extension service has no importance and their work is not adequate, 1/8 describes the service's assistance acceptable but not sufficient, more expertise was asked from another external source. 1/8 farmers see no relevance of extension service and grade them as not qualified enough. Farmers have the opportunity to benefit from the association BioBalkan established in the region. DVMs and experts in OF within the association are educated to assist new and old farmers in starting and/or maintaining organic production. Some of the farmers founded agricultural cooperative 5 years ago and competed for the subsidies given for the environmental projects in the region. Although this cooperative is operative and functional, its' essential purpose is not achieved – to have productive and sustainable members. Serbia Organica organized courses on OF and provided resources for certification of dozen small scale farmers in the area. Unfortunately, after that first year and with lack of financial support for the certification, small number continued to organic certified production.



Land preparation

9) From 8 interviewed farmers only 1 has elementary education, 2 are veterinarians, 1 farmer has university degree in other field than agriculture, 1 farmer has master degree in Economy 3 farmers have finished professional secondary schools. Except two DVM professionals, other interviewed farmers have no professional education in agriculture. For further business they would like to receive training on: 4/20 respondents would like to learn more on - animal breeding, 2/20 - on mar-

keting, agrotourism, on farm processing, plant technology, farm management and veterinary treatments, 1/20 - on environmental protection, pest control.

10) All 8 farmers interviewed are animal breeders and their focus on the farm has not changed during the conversion period or later. Economic situation in comparison to conventional farms in the region reflected differently on farmers' holdings during the conversion period. 2/8 did not experience any change in conversion period, while 3/8 stated their economic situation had even gotten worse, and only 3/8 experienced small improvement while 1/8 felt even small deterioration. After the conversion period 5/8 farmers said their economic situation did not change, for 2/8 it even got worse, and only 1/8 experienced small improvement. 4/8 farmers said that since entering organic certification they had no years with positive economic benefits unless the governmental support was given, and 4/8 could not answer this question. All farmers agree that without the governmental support it is impossible to produce animals in the region that is unfriendly when production of feed and cereals is in question.

11) With regard to the staff employed and family members, 100% of farm interviewed employ additional staff. Although 62.5% farms have households with 4-7 members, they need labour force throughout the whole year. 75% of farmers employ on average 2 persons throughout the year. And 25% employ 1 persons during the season (milking and as shepherd). Usually farmers have one house in the city where they family live and work and a house on a farm they live alone. Six farms employ workers throughout the whole year between 1-3 full time staff. 2/8 farms employ 1 worker-each according to the needs (between 2-6 months).

The age structure of the interviewers is following: 3/8 farmers are between 41-44 years old, 2/8 are between 45-54 years, 2/8 are younger than 40, and 1/8 is in the group from 55-64 years.

12) Future plans of farmers depend on the governmental support and national plan of the MoA. 3/8 declared decrease or even stopping OF in case of cancellation of governmental support. 2/8 will continue with the same capacities, 1/8 will increase animal stock, 2/8 will increase the surface under organic crops for more than 10 ha. New activities are planned on 6 farms. 3 farms are considering starting milk and/or meat processing, agrotourism is interesting new activity for 2/8 farms, 1 farmer would like to start organic sheep breeding and 2/8 will continue with activities they are already involved in.

13) Future development and future investments will be allocated for buying new machinery either for tillage or milking according to 5/12 respondents. Following investments will be: adaptation and renovation of the house for agrotourism 2/12 respondents said, for land purchase 1/12 respondents, investments in renovation and building new stables 1/12 respondents, in storing capacities of machinery 1/12 respondents, some resources will be used for employment of new staff 1/12 respondents, and one farmer will not experience any change in the future.

14) Income of all farmers come from other types of services or work besides the one generated from the organic activities. 4/8 farmers earn less than 30-40% of the total amount in one of the following services: veterinary surgery, conventional milk production, conventional animal husbandry, agrotourism, off-farm jobs, retirement remuneration. Other 4/8 farmers acquire more than 60-70% of total income from the organic farming. General opinion is that farms are still not self sustainable and rely on governmental support 100%. Lack of the local market, disorganization of farmers, lack of appropriate machinery and knowledge on market possibilities and trade led to it. Governmental support partly covers costs of feed especially of high protein feed. Farmers are producing some cereals for feed, but the majority use hay and graze as the main feed.

Processing facilities in the Southeast-Serbia:

This area lacks processing sector, especially in meat and dairy production. Local small processors are not willing to pursue organic certification due to the rules and regulation they would have to comply with and the quantity of the processed food could not justify extra costs made for adaptation of facility and reorganisation of the work. Farmers, 62% of them are processing organic milk into cheese and selling it on the local market.

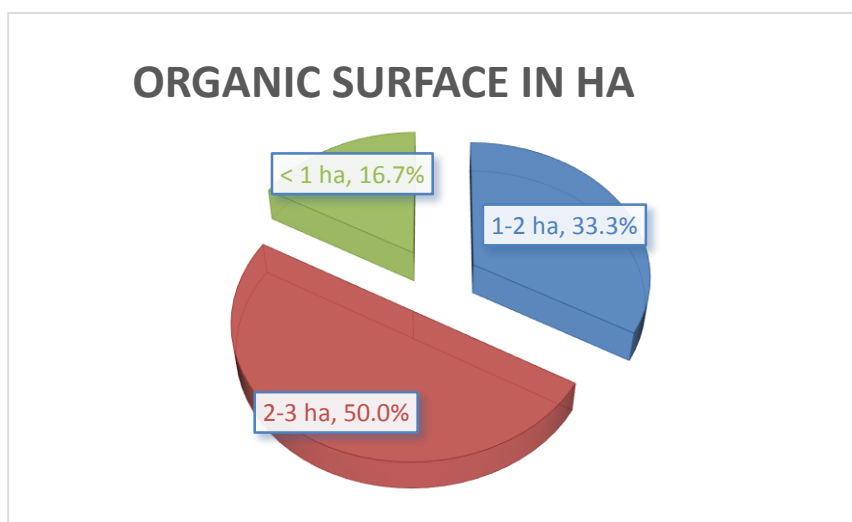
Southeast Serbia is suitable for the livestock production. Local tradition is cheese production made from mixed milk of cows, sheep and goats and processing of meat into their famous "peglane" ("ironed" - meaning flat) sausages these farmers tend to maintain.

Farms in the region as well as the area are slowly being depopulated. Closed industries, unpopularity of agriculture, attractive offers from Bulgarian Government drawn youth from the region. Regardless to the modern trends more than half of the interviewees are up to 45, and living on their farms with their families. Nevertheless, local population has a good cooperation with local authorities and is supported by them, like through organisation of several training for farmers on OF. Good practice of cooperation is association they formed through which they apply for projects (Cross border programme since Bulgaria is close) and jointly approach to the EU market. Several farmers adapted their houses for local tourists. Unfortunately foreign tourist can come only via organised tours or private car. If the promotion would be done properly and on the international level, region would have tourist during the whole year, not just two months in summer, as it is the case now.

Findings in Central-Serbia:

1) In the region around Brus and Kopaonik 6 farmers involved in organic berry production were interviewed. Average surface of farmers is following: 5/6 farmers have between 3-4 ha, and 1/6 has 2-3 ha in total. Organic surface takes less, 2/6 farmers have between 1-2 ha in organic farming, 3/6 have between 2-3 ha, and 1/6 has less than 1 ha (Chart 21).

Chart 21 Organic surface in ha



2) The most surface of interviewed farmers is under organic plums 4,6 ha, under organic berry fruits 3,2 ha, under apples and pears 2,4 ha, strawberries and nuts make 0,6 ha. In the neighbourhood there is a cold storage where farmers are shipping their crops (Annex 2). All of them are contractually bonded with the processor and all the crops are given to the contractor. Farmers are lacking labour force for harvesting of the berries therefore are reluctant in growing more of these crops.



On average each interviewed farmer has around 0,25 ha of blackberries and 0,31 ha of raspberries. Average yield is: for blackberry 17.33 t/ha, for raspberry is 11 t/ha. Farmers with little investment in the production traditionally grow apples and plums. On average every farmers has 0,77 ha of plums and average yield for this crop is 21 t/ha. As for the apples, on average each farmer has 0,4 ha with an average yield of 11,5 t/ha.

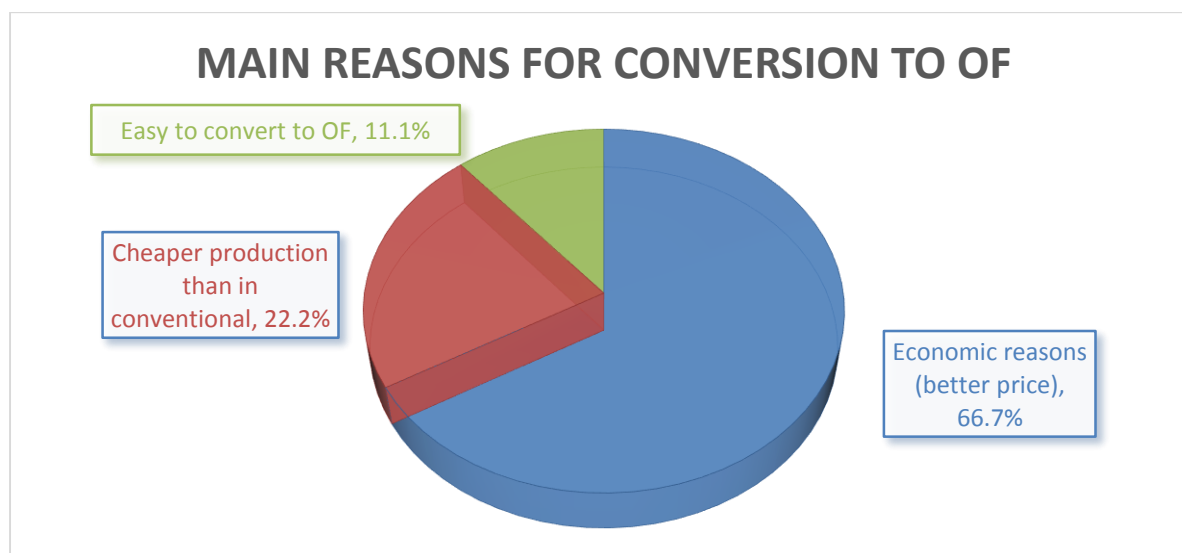
Raspberry plantation

3) Natural conditions are typical for mountain region, with lack of springs and on steep slopes. 6 from 34 respondents identified land fragmentation as problem, 5 farmers evaluated the area as the one with average natural conditions for fruit growing, 1 farmer consider it favourable, all 6 farmers identified problem of water shortage during the vegetation, and only

1 farmer identified low level of soil quality as a problem. All six farmers have their own manure and the plant protection treatments they get from the contractor and its staff.

Reasons for conversion into organic farming are generally related to the economic aspects of the production. 6/9 respondents named economic reasons- farmers converted to OF due to the better price of organic produce. 2/9 respondents said due to the cheaper production they chose to enter organic farming. 1/9 respondents said it was easy to enter organic farming (Chart 22).

Chart 22 Farmers' reasons for converting to OF



4) Main constraints according to 24 respondents are: 6 - lack of financial support (government, municipality), 4 - lack of credits with favourable interest, 3 - lack of water, 2 - lack of competition in the region (more processor and buyers), 1 - low price of organic produce, easy access to plant protection products on the market, lack of cattle, problem of weed control, lower yield, low level of infrastructure, lack of own capital, unstable prices on the market, lack of suitable land for organic farming. Although all farmers identified lack of financial support as the problem in production, also all 6 of them stated they will continue own production even if the governmental support would be terminated.

5) Six interviewed farmers replied that organic farming is something they have always practiced since traditional plant production is similar to organic farming. Therefore 3/6 farmers stated that they have entered organic production before 2000 - 2 in 1993, 1 in 1998, while 3 others said they started in 2007.

As for the economic situation in the period of conversion in comparison to the conventional farms, 4/6 farmers declared they economic situation stayed as the one of conventional farmers. 2/6 farmers experienced improvement in the economic situation.

6) Channels of sale: farmers are not in direct relationship with the market. They are not market oriented since their produces are subject to the previously contracted production with local processors (List of processors in Annex III). All of them have contracts with processor and processor is the carrier of the organic certificate. Contractor/Operator has set an internal control system that is managing all activities related to the production and postharvest operations.

7) The operator process products, farmers are not directly involved in this operation. Cold storage process raspberries and blackberries into the categories of frozen goods, and plums are partly being frozen as pitted, whole and cut category, while one part is being dried.

8) Extension service exists in Krusevac but farmers are monitored and controlled within internal control system contractor has set up. Processor employs engineers who are advising farmers and monitor production process. As already explained in these type of co-operation processor is providing experts who give advice and plant protection treatments that are later deducted from the amount for the crops.

9) As part of the contract, processor has obligation to give lectures during the winter period on organic farming. Still farmers would like to learn more and acquire new knowledge on organic farming in general (4/10 respondents), on-farm processing (2/10), agrotourism (2/10), plant protection (1/10) and two farmers consider they are already trained enough. Farmers spent approximately 1,5-2 days on training last year.

In regard to their personal education there is a feeling that majority of the mid aged and older population had tendency to finish secondary professional schools and employ themselves in the local industries, and to continue with agricultural production with their families after the work. According to this statement 4/6 farmers have finished professional secondary schools, 1/6 farmer has elementary education, and 1/6 farmer has college education.

10) Changes after conversion did not occur. Farmers kept focus as follows: 3/6 on organic fruit growing, 3/6 on conventional fruit growing. All farmers keep livestock and use this manure for the fertilization. Without own livestock OF would costs more and farmers would not be able to practice it, according to their opinion.

After conversion period 5 farmers felt small improvement in their economy, 1 farmer had no change. Nevertheless, farmers are unique in their reply that their profit in the previous 5 years had always been positive.

11) Labour force is present on 2/6 farms only during the two months of the harvest period, usually 2 persons are employed for two months.

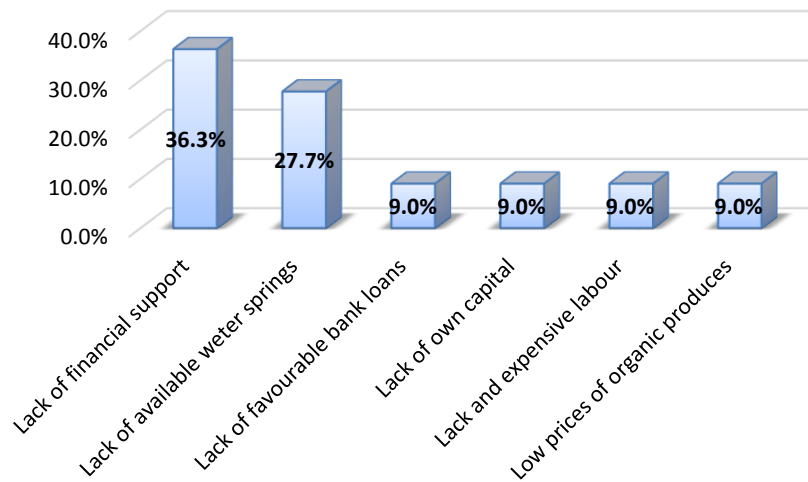
Farms are family households with children, 3/6 farmers are in household with 3-4 members, 3/6 are in households with 5-6 members.

Age group of interviewed farmers is following: 3/6 is in the group younger than 40 years, 2/6 is in the group from 45-54 years, and 1/6 is between 41-44 years old.

12) Future will depend mostly on the water availability farmers identified as one of the major constraints in the future. Namely 6 problems were identified where the most

Chart 23 Main problems in OF

Main problems indicated by farmers



respondents (4/11) pointed at the lack of financial support from the government for subsidies or investments in the region, 3/11 answers pointed at the lack of water and available springs, 1/11 answer is given equally to lack of bank loans at favourable rate, lack and expensive labour force, lack of own capital and low prices of organic products (Chart 23).

According to the respondents 4/6 farmers are considering increase of berry fruits on their own land on area less than 0.5 ha. 1/6 farmers are not taking any changes on his farm, and 1/6 farmers are not sure about his future developments.

13) Future investments of the farmers will be in machinery 4/6, in land will invest 2/6, and 1/6 will not have any investments.

14) Income farmers are relying on comes from organic agriculture for 2 farmers out of 6. Other 2/6 generate 31-60% of total income from off-farm jobs, 1/6 relies on more than 60% of income from off-farm job, and 1/6 generates between 11-30% from off-farm job. Due to economic declining in the region, more farmers see job opportunity in OF and organic fruit growing.

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