ACHIEVING FOOD SECURITY THROUGH SUSTAINABLE AGRICULTURAL TRANSFORMATION IN SERBIA

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Olivera Pantic

INTRODUCTION

This paper should give us first view to diagnose the state of agro-industry, which is inevitably conditioned by certain historical choices, as well as a mission of Serbia's accession to the European Union. Keeping in mind serious social and economic changes that the country has faced in the last few decades, it leads to urgent need to create appropriate solutions for the efficient functioning of all market participants. Once recognized, the trends in the transformation of agriculture initiated by the transition of CEE, will help us to point out the countries that have implemented best practices that could be implemented in Serbia as well, with the aim of balanced and sustainable development. Special attention will be focused on the work potential of family farms- small producers in Serbia and possibilities of their association in cooperative production of organically grown foods, keeping permacultural approaches and ethics as a leading idea, which could affect the (local and regional) development and migration to rural areas.

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HISTORICAL BACKGROUND TRANSITION AND SIMILARITIES WITH CEE

The most important feature of all CEE is transition of economies. The transition process as defined by the World Bank includes:

- Privatization
- Restructuring,
- Price liberalization,
- Liberalization of foreign trade,
- Liberalization of interest rates,
- Conduct of competition policy,
- Reform of the banking system,
- Creation of financial markets and financial institutions.

Central and Eastern Europe (CEE) had begun the transition process approximately ten years before the Republic of Serbia. Policies that these countries implemented, were significantly different. All the countries were working a lot on the national level in order to modernize agriculture, because their infrastructure and organization lagged behind the countries of Western Europe, and because of that they were not competitive. Due to the socio-economic and cultural diversity of the countries, they had a unique experiences of transition with different effects. Common objectives of all CEE countries were reflected in: decollectivisation of land, leaving the centrally planned economy while reducing state intervention and price controls, the tendency toward a free market, creating new institutions and restructuring of the labor market. These paths from one social system to another have led to major structural changes, as well as the changes in ownership of the land. The characteristic of the initial phase of transition in all CEE countries is allocation of land resources, privatization and changes in the organizational and ownership structure which lead to: reduced production volume (almost all countries), unemployment and a rise of social conflicts, differences in income, often fall of investment, which is accompanied by a fall in exports, corruption, and ever-present gap between urban and rural areas.

Establishment of private land ownership, moved differently when it comes to the agricultural sector in CIE countries. In some countries, land were owned privately in the socialist period, next to government and social land. In connection with mentioned special attention should be paid to solutions made by those countries in terms of agricultural policy. The establishment of private ownership of land is usually performed by the: restitution, restitution model combined with the sale of land

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52 Hungary, Romania, Bulgaria, Poland, Czech Republic, Slovakia, Slovenia
(leasing) and restitution with the distribution of land to agricultural workers, in order to maintain social equality (Lerman, 2000).

Table 1. Models of land privatization in CEE

<table>
<thead>
<tr>
<th>State</th>
<th>Collective farms</th>
<th>State/ government owned farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hungary</td>
<td>Restitution, compensatory bonds, distribution.</td>
<td>Sales for compensatory bonds, selling/ leasing Restitution</td>
</tr>
<tr>
<td>Romania</td>
<td>Restitution, distribution.</td>
<td>Restitution</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>Restitution</td>
<td>-</td>
</tr>
<tr>
<td>Chech republic</td>
<td>Restitution</td>
<td>Sale/leasing</td>
</tr>
<tr>
<td>Slovakia</td>
<td>Restitution</td>
<td>Sale/leasing</td>
</tr>
<tr>
<td>Slovenia</td>
<td>-</td>
<td>Sale/leasing</td>
</tr>
<tr>
<td>Poland</td>
<td>-</td>
<td>Sale/leasing</td>
</tr>
<tr>
<td>Latvia</td>
<td>Restitution</td>
<td>Restitution</td>
</tr>
<tr>
<td>Lithuania</td>
<td>Restitution</td>
<td>Restitution</td>
</tr>
<tr>
<td>Estonia</td>
<td>Restitution</td>
<td>Restitution</td>
</tr>
</tbody>
</table>

Source: Swinnen, Mathijs (1997).

Approaches to privatization vary in relation to different ownership structure in the post-collectivist period. The pre-transition period of the Republic of Serbia was characterized by dual production structure. Even in the period of existence of the state of Yugoslavia, mass collectivization of land never took place.53 On one side there were state and social enterprises, and on the other small farms privately owned.

The characteristics of agricultural structure of Serbia in the nineties were:

- The existence of two sectors of ownership, different in terms of concentration of land, capital, organizational and technological solutions, intensity of production, productivity and market orientation, fragmented ownership structure of farms
- Prevalence of mixed ownership of farms and the high percentage of households with farms,
- A large overemployment in the public sector, with unfavorable age and educational structure of active and total agricultural population (Nikolic, 1994).

All the post-transition countries were found redundant labor force in agriculture. Leaving the policy of price support and high subsidies, led to the establishment of market prices of goods and labor, and this led to the reduced need for labor. Among the surveyed countries, only Slovenia and Poland had approximately the same percentage of land in private hands before the start of the transition and after as well. Also interesting to note is that these two countries

53 Yugoslavia was one of the first country of socialism, which introduced the principles of the market economy.
have exceeded GDP from 1990 in 2003.\textsuperscript{54} When it comes to privatization and transition in general, Slovenia had an experience that could be quite inspiring.\textsuperscript{55} Priority was given to eloquent decision makers, and the subsequent development of the companies was largely dependent on state support. Better results were recorded, in cases where the state has supported the privatization process with its measures (Stevanovic, Djorovic, 2009). Many CEE countries and current EU members have similar soil structure as the Republic of Serbia.

The structure of the land fund all of the surrounding countries belonging to the EU is such that small farms up to 3 ha prevail, which represent more than 60% of farms. Among the above mentioned countries, the largest number of farms up to 5 ha are in: Bulgaria 96.8%; Romania 93.8%; Greece 76.1%. Farms in the region, 5-10 ha, are represented insignificantly, above 10% in Bosnia and Herzegovina and in Greece, and in Serbia, 14% of these farms are represented in the total number. Farms larger than 10 ha, in the region and the countries which were observed represent around 5% in the total number of farms.

Table 2. Census of Agriculture 2012., Republic of Serbia

<table>
<thead>
<tr>
<th>Republic of Serbia</th>
<th>Without land</th>
<th>Do 2 ha</th>
<th>2.01–5.00 ha</th>
<th>5.01–10.00 ha</th>
<th>10.01–20.00 ha</th>
<th>20.01–50.00 ha</th>
<th>50.01–100.00 ha</th>
<th>More than 100 ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of farms</td>
<td>9486</td>
<td>29367</td>
<td>18467</td>
<td>89749</td>
<td>32486</td>
<td>12922</td>
<td>4243</td>
<td>1365</td>
</tr>
</tbody>
</table>


According to the census of 2012, we can see that the number of farms up to 5 ha is 424304, which represents the percentage of 76% of the total number of farms where the schedule is such that farms up to 2 ha in size, represent 49% of the total number of farms. According to the group of authors, the three key problems of agriculture in rural areas of transition countries are:

- size of the farm,
- low level of labor productivity,
- poor connection between the agricultural and manufacturing sectors (Stevanovic, Djorovic, 2009).

The markets of Serbia and neighboring countries are characterized by a large number of small family farms with low labor productivity on the verge of profitability. However, the

\textsuperscript{54} In addition to these countries, it happened even in Slovakia, Czech Republic and Hungary.

\textsuperscript{55} The Republic of Slovenia is independently developed efficient project development, relying on the knowledge of their experts. The idea was not to allow the decay of any state enterprise, the former socialist economy, but help them to adapt to new conditions! So in Slovenia they decided to expertise, knowledge and competence put to the fore, in the process of restructuring.
complete situation of agroeconomy, was not caused by poor transition. From the period of the SFRY, the attitude towards agriculture was the decades-long negative.

At the expense of the contribution to this sector, it was invested extensively in the industry, which is now also devastated, and as a result of technological progress outdated. Although according to George Shultz's opinion Yugoslavia, among all Eastern European countries, was best prepared for the transition process during the nineties\textsuperscript{56}, the circumstances that took place in the nineties shifted the countries of the former Yugoslavia in the tail (except Slovenia).

"We never put you in the same category with the countries of real socialism. You are something else, you developed capitalism without capitalists, your employees are at the same time, producers, managers and owners. If you overcome your internal problems peacefully, you will be at the forefront of the countries in transition, as you used to be at the forefront of the reformist countries." (Ibid.). Unfortunately, history shows us that we did not make the best moves and that are actually completely badly "played". This led us to the position that twenty years later, we "swim" in the sea of transition (Kocovic, Radovanovic, 2014).

**AGRICULTURAL SECTOR IN SERBIA**

In the last decades of the twentieth century transformation of agriculture has been very rapid because of technical and technological progress and its application in agroeconomy. Mass production, chemical treatment of soil and plants, global warming and decades of "wasting the planet", led to a review of globally adopted principles. Today, it is necessary to work on adopting the decision on all fronts concerning the sustainability of poverty reduction, adverse impacts on the marine environment, while ensuring economic stability. Given that the meetings of the UNFCCC have definitely established that the climate change happen, and they are human-induced, finally, on the global level it is insisted on sustainable development.\textsuperscript{57} "Green Revolution" - initiated the need to restart the traditional forms of agriculture pushing the limits of its imagination. Understanding of agriculture in the long journey of its transformation changed. Breadth of understanding of agriculture is determined by the level of general development of the country. According to the production and technological point of view

\textsuperscript{56} Hyperinflation, recession, civil war, NATO bombing

\textsuperscript{57} Climate change related to the change of environment, that are directly or indirectly attributable to human activity, by changing the composition of the global atmosphere. Consequently, sustainable development is emerging as the only solution to the respect of environmental and social issues with economic development.
agriculture is a very complex system, which is based on the unbreakable bonds and mutual relationships of a series of activities. The Republic of Serbia is a country of great potential in agroeconomy. Taking into account the structure of the soil, geo-political position and methods of soil treatment, with a focus on finding good solutions at the macro and micro level, we believe that it is possible to achieve sustainable growth in this large agro-industrial area. Agroindustry poses a most important industry in the Republic of Serbia. In addition to agricultural production, we should mention food industry as a closely related industry, which uses primary agricultural products as a raw materials and processed them into consumer goods. The share of agriculture from 10.6% of GDP was recorded in 2013 while the share of the food industry in the same year was 6.4% (Republic Institute for Statistics, 2014). However, the indirect benefits of agricultural production could be measured by contributions in many other industries, particularly for producers and processors of raw materials and inputs. If we look into the all benefits of this industry, it is estimated that the share of agricultural production is much larger and it is 40% of GDP (Serbian Chamber of Commerce, 2014). Although the macro-economic situation is still unstable, one of the possible ways to overcome it, is to improve the quality of rural areas with adequate incentives for the development of entrepreneurship and the small and medium-sized enterprises in the agricultural sector. In recent years a number of documents, aimed to improve the development of the agricultural sector, has been adopted. Transition period in Serbia formally begun in 2001 and it has been followed by a large number of policy adjustments and an increased urgency to re-align its economic policies to adapt to the new economic order. The reforms have been carried out by the government to support their development as well as many other measures in order to improve the business environment in Serbia. This refers to the creation of adequate infrastructure for the operation of small and medium-sized enterprises. Despite certain improvements, the SMEs development has not had such a favourable trend nor has it resulted in improving entrepreneurship activities in a desired manner, due to a negative macroeconomic environment in the country and the recession that hit the national economy (beginning with 2008). Namely, the private sector failed to perform its role as regards absorbing the unemployed workforce that was left redundant as a result of privatization of state-owned companies. Furthermore, no satisfactory results have been achieved as regards new employment, nor is there any increased interest among the unemployed in trying their chances in the private sector of industry (Radovic, Kocovic, 2014).

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58 Some of them are: the Law on Agriculture and Rural Development (Ministry of Agriculture, Forestry and Water Management, 2008), the Law on Food Safety (Ministry of Agriculture, Forestry and Water Management, 2009), the Law on Organic Production (Ministry of Agriculture, Forestry and Water Management, 2008), the National Rural Development Programme 2011-2013 (Ministry of Agriculture, Forestry and Water Management, 2011), the strategy of agriculture and rural development of Serbia from 2014 to 2024 (Ministry of Agriculture, Forestry and Water Management, 2013) and others.
ORGANIC PRODUCTION AS A NEW INCENTIVE TO THE DEVELOPMENT OF AGRO-INDUSTRIAL SECTOR

Incentives with aim to develop any sector of the economy requires simultaneous work on all levels of the country. At the macro-level, this can be achieved by proper choice of public policies, and as well as encouraging desirable behavior and the adoption of the principle of the micro-level. Conditions that have to be fulfilled in agricultural areas include: structural problems, harmonization of internal market regulations, as well as many other issues that need to be harmonized with the laws in force in the EU. Special help in the transformation process, the EU has provided by some funding through a number of programs for interested countries for accession. Special attention is given to issues of funding, harmonization and uniformity of the law. This is provided by programs: CAP, Agenda 2000, SAPARD, IPA, etc. In order for the economy to function in accordance with the modern requirements of the world market it is necessary to educate people about the possible use of EU funds at the disposal for the countries that are in the process of accession (Pantic et al, 2013). New potentials of development are reflected in the synergy of inter-sectoral action which assume connection and parallel flow of: rural development, organic agriculture, crafts, eco-tourism, cultural-tourism generally all the special forms of tourism, and the association of small producers through cooperatives. Having regard to the shortcomings of post-transition countries we mentioned in the paper, the reforms would include: training of all participants, education for the new possibilities, the use of new technologies with the active implementation of the marketing concept. Serbian agriculture is based on small family farms with low productivity and low labor surplus in production.

Rural population lacks of:

- Organization,
- Entrepreneurial spirit,
- Market access and education

Since the small farms are most common, there is a possibility of directing towards organic production. Organic production stands out as one of the factors of the future economic growth of Serbia, whose market has the same economic principles as in any other market goods. Considering that demand is growing much faster than domestic supply, the Serbian economy could convert the potentials of organic farming into export opportunities (Organic farming in Serbia 2013, The National Association for

59 Based on the Labour Force Survey RSO 23% of the rural population in the active age are self-employed, 14% work in the household, and 62% have a formal zapoislenje with other people. Small business which is engaged in the work of others has 20% of the rural population.
the development of organic farming Serbia Organica, 2013). With abundance of agricultural land and agro-industrial tradition, which represent the strengths of the agricultural sector, it is expected to have in future new export opportunities, improved quality of living standards and improved position of farmers. Comprehensive management and food production based on environmental practices, a high level of biodiversity, conservation of natural resources and application of high standards of animal welfare and production methods using natural substances and methods is called - organic production (Low on Organic Production, 2010). In order to distinguish these products on the market, they are indicated with the special logo, symbol or code that is assigned only when it is found that all the proper ingredients are natural, and that all the legal requirements for its sale are achieved. Tight control of these product categories gives possibility to achieve greater safety of food sold in the market. Agricultural products classified as organic are natural, without pesticides or powders that can impair human health, they have met the requirements of environmental protection, they are also multifunctional useful for consumers. In Serbia, most of the land is still in the process of conversion, the procedure that ensures the achievement of the quality of land which meets the requirements for organic production.

Table 3. Area under organic crop production in Serbia in the 2012th and 2013.

<table>
<thead>
<tr>
<th>Categories</th>
<th>The surface of the conversion period (ha)</th>
<th>Surfaces with organic status</th>
<th>Total (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crop production</td>
<td>2.973</td>
<td>2.360</td>
<td>5.333</td>
</tr>
<tr>
<td>Fruit production</td>
<td>357</td>
<td>1.527</td>
<td>1.884</td>
</tr>
<tr>
<td>Vegetable production</td>
<td>115</td>
<td>123</td>
<td>238</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3.445</td>
<td>4.010</td>
<td>7.455</td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crop production</td>
<td>1.734</td>
<td>2.850</td>
<td>4.584</td>
</tr>
<tr>
<td>Fruit production</td>
<td>1.091</td>
<td>4.054</td>
<td>5.145</td>
</tr>
<tr>
<td>Vegetable production</td>
<td>233</td>
<td>296</td>
<td>529</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3.058</td>
<td>7.200</td>
<td>10.260</td>
</tr>
</tbody>
</table>

Source: Serbian Chamber of Commerce and the National Association for the Development of Organic Agriculture "Serbia Organica"

* Also included period January-September 2013th

Table 3. shows the area under organic crop production in the 2012 and 2013. In 2012 largest part of the area was under organic production of fruit growing, while in the period from January to September 2013 that number decreased twice. This situation
may be explained by bad weather and poor marketing of organic fruit in the domestic and international markets, which affects decline in the interest of farmers for this type of production. The area under organic vegetable production recorded a slight decline, and one possible reason is the lack of the information which the home buyers do not have.\textsuperscript{60} The growth in the areas under organic production in the period 2012-2013 is recorded only in crop production, which spread from about 4,500 ha in 2012 to 5,333 ha. The growth of interest in this type of production may be found in the opportunities for export marketing of agricultural products, especially grains and corn, which can make a significant inflow of funds to the farmers.

Table 4. Organic livestock production in Serbia, 2012-2013.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Period conversion Number of livestock and poultry animals</th>
<th>Organic status Number of animals and poultry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large livestock (cattle, horses, donkeys)</td>
<td>481</td>
<td>2,972</td>
</tr>
<tr>
<td>Small livestock (sheep, goats, pigs)</td>
<td>3,473</td>
<td>708</td>
</tr>
<tr>
<td>Poultry (chickens, ducks, geese, turkeys)</td>
<td>1,432</td>
<td>183</td>
</tr>
<tr>
<td>Beehives</td>
<td>764</td>
<td>1,273</td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large livestock (cattle, horses, donkeys)</td>
<td>2,164</td>
<td>230</td>
</tr>
<tr>
<td>Small livestock (sheep, goats, pigs)</td>
<td>3,404</td>
<td>983</td>
</tr>
<tr>
<td>Poultry (chickens, ducks, geese, turkeys)</td>
<td>4,276</td>
<td>3,600</td>
</tr>
<tr>
<td>Beehives</td>
<td>2,610</td>
<td>4,394</td>
</tr>
</tbody>
</table>

Source: National Association for the Development of Organic Agriculture "Serbia Organica"

* Also included period January-September 2013th

Organic livestock production in Serbia is becoming more represented. Food safety and food security have been called into question in recent years, and by the organic production any doubts regarding the quality of food that is produced are eliminated. Table 4. provides an overview of the current situation in organic livestock production, it showed a significantly higher number of livestock and poultry in conversion than those with organic status.

\textsuperscript{60} Those information are concerned with all the benefits of this type of plant production
Table 5. Area under organic farming in the neighboring countries, 2012.

<table>
<thead>
<tr>
<th>Country</th>
<th>Area in%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
<td>0.8</td>
</tr>
<tr>
<td>Croatia</td>
<td>2.4</td>
</tr>
<tr>
<td>Romania</td>
<td>2.1</td>
</tr>
<tr>
<td>Slovenia</td>
<td>7.3</td>
</tr>
</tbody>
</table>

Source: Eurostat

Table 5. shows the area under organic production in neighboring countries, where this indicator implies a share of utilized agricultural land under organic production. They include the areas that are in the process of conversion and those that have already received the organic status. According to Eurostat, Slovenia is intensively engaged in organic production, because 7.3% of its agricultural land is under organic production. In Serbia, 0.3% of the total cultivated area is under organic production, which is insufficient keeping in mind the natural resources and opportunities for its development and improvement.

AGRICULTURAL COOPERATIVES AS A KEY FOR ACHIEVING AGRICULTURAL SAFETY THROUGH SUSTAINABLE TRANSFORMATION

The reasons for the underdeveloped organic production in Serbia are manifold (“Organic farming in Serbia 2014”, The National Association for the development of organic farming “Serbia Organica”, 2014). Small producers in Serbia are faced with a set of problems in manufacturing. First of all, farmers usually point out the lack of financial resources in order to intensify investment in machinery, storage and distribution. Insignificant part of the farmers is creditworthy and can obtain funds for investment from external sources, while most of them depend on the current market conditions, the intensity of competition and the demand for their products. Although they produce on small farms that are predominantly 2ha to 3ha in size they are intensively trying to survive on the market and stay cost-competitive. In addition to financial problems, manufacturers are facing a problem of logistics, transport, storage etc. The arrival of large retail chains in Serbia has further intensified competition, considering that the ability to import organic products, for which there is demand, is always present. Therefore, about 70% of organic producers decided to make long-term cooperation agreement with them, while a smaller percentage still sells directly to
consumers, at the green market. The producers are therefore faced with: poor infrastructure, limited access to services and information, markets and finances. Access to loans for all the needed inputs might be a huge problem for small producers. But small producers’ costs could be reduced if they are allowed to purchase and make an offer together in groups. It is mentioned also in FAO work in brochure for *Worlds food day* that: *accumulated research and experience show that while small farmers acting alone did not benefit from higher food prices, those who are acting collectively in strong producer organization and cooperatives were able to have advantage of market opportunities and mitigate the negative effects of food and other crisis.*

In order to make the organic form of production optimal for all participants, it is recommended to make organizations and joint actions on the market as voluntary organization of cooperatives in order to benefit from better retail prices for inputs. In this way, there could be a diversification in organic production, so that the cooperatives cover all the necessary marketing activities of production of various crops, promotion, logistics and adequate prices for regular clients. Similar to the former *vertical systems*, in modern economy new forms of cooperatives could be economic drivers on the local level. As already mentioned, in favor of this idea goes experience of Slovenia, which used know-how approach and engaged experts to overcome the transition hazards and barriers at the start. Today’s modern forms of association of cooperatives, in addition to traditional activities, could have a function of educational centers to acquire new knowledge and skills necessary in the modern turbulent conditions of free market. Small producers are strongly vulnerable and feel every market change. The essence of the model is to make a cooperation, be a link between small producers (sometimes state owned enterprises), all market participants, to the final consumer. Earlier, this relationship allowed the transfer of technology and knowledge with transformation of production, income and food chain. The model of cooperatives in the seventies and eighties in synergy with other factors contributed to the impressive growth of agricultural productivity. In the post-transition period, there were examples of new forms of association of agricultural producers. (Nikolic, Katic, 2006: 204)

A cooperative is a social enterprise that balances two main goals:

1. satisfying its members’ needs, and
2. pursuing profit and sustainability.

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62 Production on the example of Bulgarian cooperatives were based primarily on the production of annual crops. And the average size of the associated arable land amounted to up to 7.000ha.

Cooperatives are not limited by anything if we compare them to other organisations, they can:

Last in time, get bigger, generate income; Could be organized in any sector place, by different people and reasons. Cooperatives are owned by members, which have rights and responsibilities. Voting for decision making is democratic - governance with direct democracy. Members can also delegate authority to an individual or a committee, also they can elect, if needed, a board of directors for representative democracy. By voating members can solve any situation. Share of net income is equitable, positive and negative also. If net income is generated by employees it is profit, and if it is collected by members it is surplus. Surplus could be refunded as patronage. Members can hire employees. Startup financial assets are provided by members equity, buy-in or capital contribution. Even if some of them put more money then others, they still have one vote! Financing possibilities they choose mostly from: banks, funds and other credit options (investitors, individuals). Some of most famous American cooperatives lasted more than 50 years, from totally different sectors.64

The direction in which the Republic of Serbia could have a serious growth and development would include a large number of small family subsistence producers, who could in joint action initially supply the community on the local level. Respecting the market and permaculture principles, knowledge, innovation, use of technology would help them to make the connection between manufacturer and customer. One of necessary steps to achieve food security is to support and invest in cooperatives, producer organizations and other rural institutions. This will allow producers to reduce costs, increase production, create jobs, make their goods, improve livelihoods on local level, and this will also mean increasing food security in the world.65

The internet era, and technological advances allow constant revolutionary approaches to work. Based on the data from the Business Registers Agency, Ministry of Agriculture and SBS, it would be possible to make the internet platform where, small farmers from the surrounding rural areas would be mapped near each city. In addition it would be possible to see information about the planted crops, time of ripening, harvest and further placement.

The platform would include small manufacturers and a number of manufacturers joined in a cooperative. In addition the information on agricultural production of small manufacturers will easily and quickly be made available to any individual or a legal person. In this way, they could create and secure customers and the market. In addition

64 Some of those cop. collected more then 40 mion dollars, and have from 100 to 1000 members. www.americancoop/map.com Internet approach 20.06.2014.

to the primary activities of agriculture, small family farms could expand its activities in the direction of ecological and cultural tourism, so as to offer interested parties the workshops on agricultural activities.\textsuperscript{66}

All the mentioned changes should implement permaculture ethics and principles.\textsuperscript{67}

Figure 1. shows elements of permaculture principles and ethics. The main idea is the connection of and care for: people, society and fair share. This is actually a real method to achieve sustainability. Process of providing needs for people within ecological limits, requires cultural revolution. It is very important to keep in mind these principles mind in this historical context. Because of their universality, principles should be seen as slogans of checklist which should be considered in addition to support new ecologically correct systems. All the principles are applicable to our personal, economic, social and political fields – to be reorganized.

Speaking of principles, design and permacultural ethics, Holmgren points out that ethics are culturally evolved mechanisms for more enlightened self-interest, more inclusive view of what constitutes »us«, and a longer-term understanding of good and bad outcomes (Holmgren, 2014, internet approach 25.05.2014).

Figure 1. Permaculture principles

Source: Essence of Permaculture

\textsuperscript{66} Collecting medicinal herbs and mushrooms; Accommodation in environmentally constructed buildings, work actions, etc.

\textsuperscript{67} Permaculture is relatively new discipline, started in late 70s. Permaculture is a creative design process that is based on ethics and design principles. It guides us to mimic the patterns and relationships we can find in nature and can be applied to all aspects of human habitation, from agriculture to ecological building, from appropriate technology to education and even economics.
CONCLUSION

The position of the farmers was the decades-long negative. Only individuals were able to boast good material well-being, but most of them were on the verge of poverty. The low level of literacy and education of the population in rural areas, migration from rural to urban areas in search for better living conditions and a lack of funding resulted in lagging of Serbian farmers compared to those in the European Union.

The development of industry at the expense of agriculture led to underestimation of the possibilities of this industry and its contribution to economic growth and development. In recent years in our country we cannot notice slight changes in economic policy and national documents which subsidizes agro economy, especially its particular categories.

The common agricultural policy implemented by the EU in particular has highlighted the importance of agriculture for the environment, food safety and quality, working conditions and benefits of living in rural areas, ie. priority is given to non-economic measures of agriculture, with an emphasis on sustainable concept. New reforms related to ecologically clean agriculture and strengthening of rural development measures. And this can be achieved by respecting the ethics and principles of permaculture, along with the associating in cooperatives.

In 2012 Serbia became a candidate for EU membership. It takes a lot of work to strengthen agricultural markets at the local, regional, national level, the harmonization of the common agricultural policy of the EU member states. More than 76% of the total arable land of the country is segmented in a number of small producers- "These are households that have no realistic chance not only in agriculture, but "connected to agriculture". Application of the concept of integrated rural development, such as that which is practiced in the Western market economy, to enable efficient operation and small agricultural holdings based on the "family business", which involves dealing with different industries (tourism, trade services, trade, etc.). Within rural households. " (Zakic, 2003).

Of particular importance is the identification of opportunities, and timely response. The role and willingness of the state as a stimulator of the process of association of cooperatives is of utmost importance.
REFERENCES

18. www.americancoop/map.com Internet approach 20.06.2014.