



**AgEcon** SEARCH

RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

*No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.*

**DEVELOPMENT INITIATIVE OF MANUFACTURING AND SERVICE  
CLUSTERS IN THE REPUBLIC OF SERBIA CORRIDOR 10 ZONE***Srdan Nikezić<sup>1</sup>, Dragan Bataveljić<sup>2</sup>, Milutin Matić<sup>3</sup>***Summary**

*In this paper, the authors strive to indicate some great possibilities for further development of rural areas in the wider zone of Corridor 10 in the Republic of Serbia. The significance of manufacturing and service clusters, networks and co-operations formed in rural areas, creating a large number of small and medium enterprises as a manner of running the entire industry through accelerated development of entrepreneurial initiative, is also stressed. A special kind of attention paid to the development of SMEs is a document from June 2008, adopted by the EU under the title: "A Small Business Act for Europe", with established principles and actions for operating in the section of small and medium-sized enterprises in the EU. The aspect of joining agricultural production and processing with service industry that could be implemented along the Corridor 10 is dominant in this paper. Clusters are networks of companies and institutions that complement each other creating cooperative supply chains, where food-service supply chains are especially stressed in the wider rural area of Corridor 10 with obligatory appliance of the European Alert System for Food and Feed (RASFF) standard, reaching over 7,000 notifications. Those notifications are related to potentially dangerous food or animal feeding and are issued by RASFF system founded by the European Commission.*

**Key words:** *Corridor 10, rural areas, manufacturing and service clusters, small and medium enterprises, agriculture.*

**JEL:** *O13, O14, O15, Q18.*

- 
- 1 Srdan Nikezić, Ph.D., Assistant Professor, Faculty of Sciences, Kragujevac, Radoje Domanovića Street 12, Republic of Serbia, Phone: +381 64 58 04 810, E-mail: [srdjan\\_nikezic@yahoo.com](mailto:srdjan_nikezic@yahoo.com)
  - 2 Dragan Bataveljić, Ph.D., Associate Professor, Faculty of Law, Kragujevac, Jovana Cvijića Street 1, Republic of Serbia, Phone: +381 61 18 76 871, E-mail: [bataveljic@jura.kg.ac.rs](mailto:bataveljic@jura.kg.ac.rs)
  - 3 Milutin Matić, M.Sc., Administrative District of Šumadija, Kragujevac, Save Kovačevića Street 7, Republic of Serbia, Phone: +381 64 14 18 871, E-mail: [maticmilutinkg@yahoo.com](mailto:maticmilutinkg@yahoo.com)

## Introduction

Existing area in the Corridor 10 zone represents a very important element in joining production, first of all, agricultural products with service capacities along the Corridor 10. Connecting production, science and education is nowadays a necessary condition for enhancing competition thus providing conquest of new markets, new technologies and opening of new work places. In this way, a cluster networking becomes a necessity for sustainable industrial development in rural areas and in this case, the space beside the Corridor 10.

Precisely in small and medium enterprises, the clusters give an opportunity of forming network and cooperation that provides overall degree and capacity enhancement of total resources exploitation with high degree of flexibility and adaptability to new market conditions. [16] Their great vitality is often mentioned in theory and practice and it is frequently said in French literature: “A small enterprise – a small problem, a large enterprise – a large problem”. [2] Comparative data show that at the time of contractive phases (fall and recession) manufacturing and service clusters along the main high way in Quebec, Canada, create larger number of small enterprises, and shut down a smaller number of large enterprises. By the nature of economic activity, network clusters assume greater vitality than large corporations as a response to globalization. [15]

Criteria of sorting network clusters through small and medium-sized enterprises are different from country to country, and often big financial organizations (MMF, the World Bank, the World Trade Organization), design their own criteria of classifying enterprises according to their size. Most of small enterprises are founded in the primary and tertiary sectors of economy which represents a possibility for linking such network clusters on a regional basis. [17, 20]

In addition to this, it should be mentioned that in the Corridor 10 there is a spectrum of natural values and suitability, important industrial, agricultural, water, infrastructural, tourist and other potentials, also rich material culture and heritage of civilization, around 2 000 villages and more than 100 cities with 75–85% areas covered with agricultural space, inhabited by the 40 % of total Serbian population. [18]

In our country in the rural area of Corridor 10, there are great possibilities for production enhancement and healthy food processing (in husbandry, fruit growing, wine-growing, animal husbandry, vegetable growing and similar) which enables clusters creation as a network of enterprises and institutions that complement each other with their own cooperative competition and network its indented. Chains of supply are created with aim to satisfy needs of the Corridor 10 services users, and on the other hand to actualize new values, that is, profit for all enterprises in the chains of supply. In the first place, those are small and medium enterprises. The initial objective to increase food production, regardless of costs, is replaced with controlling the production surpluses and excessive costs. Redirection towards fulfillment of various social and ecological goals is also carried out through mechanisms which are in great deal separated from the production.

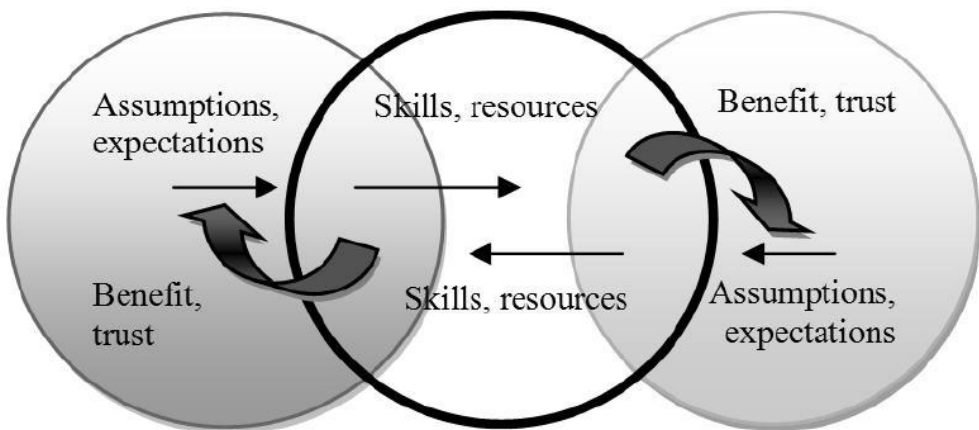
### Concept of co-operation clusters and network

Enterprises are not isolated entities but parts of complex network where they perform their economic activities. Internal and external factors influence the organizational structure of an enterprise, its size and interactions created with its direct and indirect environment. Buyers, suppliers, distributors and competition represent a constantly present need to question market position and final satisfaction of buyers.

Economic ambience in which they operate and which is conditioned by a type of socially-economic relations, technology development, legal and economic benefits in certain phases of social development, stakeholders and shareholders' influence and various other elements affect management decisions, that is, the leadership.

**Concept of cooperation** implies joint operation of at least two enterprises having for a goal to change the situation they are in. Through chains of supply, every participant in the cooperation contributes with its own skills (production of industrial products, meat-processing industry products, or high-quality service) to profit making, through cooperation, for every participant of the supply chain. This leads to enhancement of mutual business success, greater employment and profits for each and every participant in the trade. Therefore, synergy effect is created by the cooperation. (Picture number 1) [16]

**Picture 1.** Elementary cooperation model [16]



Cooperation is characterized through following basic distinctions:

1. **Benefit orientation.** Every participant in a cooperation chain expects a certain benefit that has to exceed the one that could be achieved independently. (This is why it is necessary to provide linking of manufacturing and service industries in rural areas, because only in this way synergy effect of cooperation is created)
2. **Orientation towards partner's strength.** In its mutual operation, cooperation partners are oriented towards strong sides of every participant. Quality represents a base for accomplishing bigger cooperation profit, because in this way more significant value is provided for final buyer. (In this case, service users in the Corridor 10)

It can be concluded that enterprises that mutually complement each other in chains of supply enter cooperation. It is started with primary production in rural areas and ending with services in motels, hospitality facilities, shopping centers and other forms of services in the Corridor 10. [4]

**Clusters** are groups of enterprises in chains of supply that enter cooperation with similar service providers that support them. Therefore, clusters are networks of enterprises and institutions that complement them.

Successful clusters are mostly consisted of combination of three types of enterprises that mutually complement:

- 1. Companies with significant market share and modern technology base doing business on the international market.** Hotel chains, gas station chains, liquor and food store chains, positioned along the Corridor 10 in Serbia.
- 2. Suppliers or manufacturers, those are most often small and medium enterprises.** Those are manufacturers of agricultural, meat and other products in the rural area of Corridor 10, linked by clusters and providing logistical support for companies having their capacities in the Corridor 10 itself.
- 3. Innovative and expert institutions that represent strategic support to clusters development.** Those are research institutes, institutions for professional training, specialized enterprises in the Corridor 10 and other institutions of similar profile.

Development of clusters has to be encouraged by economic policy, creation and promotion of clusters infrastructure. If there is a need, a cluster management can be formed for providing enterprises being components of clusters with services. Factors that affect the success of cooperation network (clusters) are: expected benefit for a cluster partner, readiness for knowledge exchange, information, organizational cultures, mutual trust and product quality of each partner.

Cluster management needs to provide active participation of all partners in managing network, internal and external linking and organization of mutual public and market appearance. [4]

### **Significance and advantages of small and medium enterprises clusters**

The cluster concept becomes a significant instrument of structural and regional policy in Europe. Although it sounds paradoxical, clusters represent a response to rapid process of globalization and also, complex and turbulent business conditions. Small and medium-sized enterprises are flexible with simple organizational structure most often run by the owner all alone. [20] Also, their vitality can be monitored on the example of various countries, especially Italy, where the smaller enterprises are more adaptable in periodic phases, similar to a Chinese proverb: "A smaller boat moves more quickly". [3] These enterprises have a possibility of specialization, also meeting needs of the local market or doing business upon request and they have long-term contracts and that is especially important for primary production in the Corridor 10 zone. It is for sure that large world company chains in the Corridor 10 can lean on small specialized enterprises as on their

additional advantage in enhancing competition and efficiency. An example is successful business of the McDonald's restaurant in Velika Plana in the Corridor 10 leaning on local resources of supply. Clusters of small and medium-sized enterprises need to provide selling of new and improved products, to proceed in quality and technology, to produce and market services under competition prices.

In that way, through network creation and cooperation with international companies, clusters of small and medium-sized enterprises have a chance to profile their image and enter the international labor division upon large world companies, of course. [1] Advantages of cooperation in clusters for small and medium enterprises, and by that the community in a larger sense, are:

1. enhancement of production and employment in wider area of the Corridor 10,
2. innovation and technology progress,
3. expert degree enhancement and new knowledge acquirement,
4. product quality improvement, advanced satisfaction of buyers and increased degree of efficiency and effectiveness.

A final goal of cooperation is to create possibilities inaccessible to each partner individually. In this matter, almost all domains of a company's business can be an object of co-operation: joint supply, separation of the same jobs from several enterprises and their unification (ADP – automatic data processing), cooperation in the field of physical distribution, mutual appliance of marketing mix elements, market segmentation, new markets penetration, mutual development of human resources, research work coordination and so on.

The following is necessary for successful cooperation: mutual trust, willingness, flexibility, cooperation and competition, independent management and satisfaction of each partner in the chain through larger profit realization by means of synergy effect. [8]

### **Production potential and non-exploited possibilities in the area of Corridor 10**

In the rural area of Corridor 10 zone, there are significant production potentials for creating small and medium enterprises clusters, especially in agricultural production, such as:

1. Production in husbandry (wheat, corn, other cereals, forage plants etc.),
2. Production of sugar beet, soya, sunflower, edible oil and similar,
3. Production in fruit growing (apples, pears, sweet cherry, sour cherry, apricot, peach, raspberry, blackberry, strawberry and the rest),
4. Production of plums and products made of plums (marmalade, jam, fruit preserve, stewed fruit and other),
5. Production of grapes and vine, that is, development and promotion of wine-growing and vine production,
6. Production in animal husbandry (beeves, sheep, pigs, horses, goats),
7. Production in vegetable growing (cabbage, tomato, paprika, potato, garlic, onions, carrot, melon). [18]



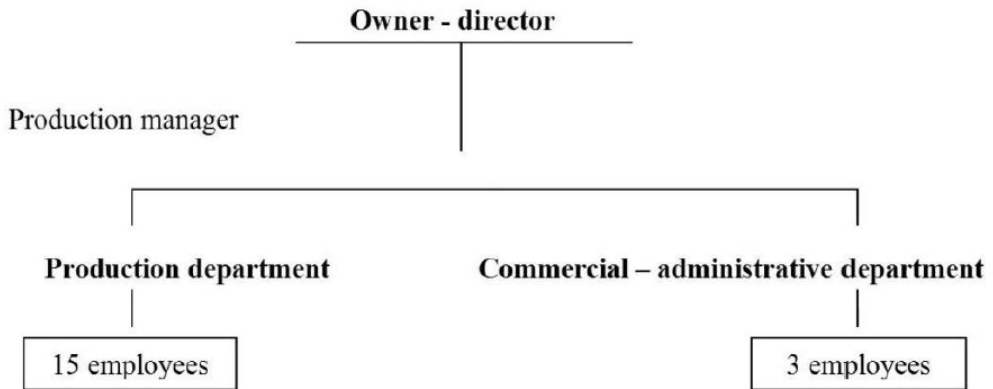
Numerous researches show and confirm that local advantages can be significantly better exploited through small and medium enterprises clusters (in this case the road Corridor 10) and also the resources we mentioned could be used and valorized. According to statistic data, dynamism in local development manifests in the best way in areas that are not urbanized or are exclusively agricultural. In the world also, areas that had the largest number of clusters of small and medium enterprises realized the highest growth rates. [9] Owing to clusters development of small and medium enterprises, particular areas accomplished outstanding results and because of this positive names are linked to them as: “The Third Italy” (Prato and Modena) [5], “Miracle” (Boss and Boys – Quebec, Canada) [11], “Golden Oases” (Languedoc – Roussillon, France) [14].

Similar to those examples, in following several years it is of crucial importance for Serbia to form one or more brand clusters of small and medium enterprises with production of characteristic, agricultural products above all in the Corridor 10 zone.

### **Characteristics of small and medium enterprises cluster networks in the EU**

For the realization of local development of small and medium enterprises cluster networks in the EU necessary dispositions are provided such as: presence of information network and adequate bodies for support that will take needs of entrepreneurs into consideration, handle the team of professional advisers and experts competent to help in solving problems, carry out selection of entrepreneurs’ projects and organize promotional and other activities. Also, during the village industrialization, for clusters demand, economic, geographic, social and physical support is provided. In this way through human resources management they are being exploited in the whole in an innovative manner, bringing education closer to contemporary needs, revalorizing economic resources until investment, exploitation of local incomes and savings are being significantly increased and various reliefs of participation come into realization. [12]

In such small and medium-sized enterprises, decisions are made in a narrower circle which makes the managing easier. (Picture number 2) Problems are such that one person can easily handle them and when this is not possible one can find a specialist for helping this problem to be solved. In this picture a management mechanism of an Italian company specialized for brand cheese production having perennial cooperation with mega-markets from the region is shown. There are 50 employees in the company and the owner pays attention especially to major buyers. It is interesting that for 15 years of cooperation with companies from our region nobody was ever at the lunch with guests except the owner. All the expenses are under the owner’s control, and fewer employees personally take care of justification of expenses they make. [10]

**Picture 2.** Management of small enterprises for brand cheese production [10]

For realization of this kind of profiled economic structure, there is a necessity for stable pillars of economic development that will not only carry the main weight but also provide favorable position for network development of small and medium enterprises clusters. A typical example is Italy in which even until today not complete but only partial privatization has been carried out. It is estimated that only one half of Italian industry production comes from the private sector. [13]

A few people, even the experts, really do know what Nobel Prize nominee John Kenneth Galbraith states: “No industry is as uniquely Swiss as watch industry. However, it should be mentioned that almost half a century one and only company has produced mechanisms of almost entirely all Swiss watches, and its patron at the beginning was the state itself. Only boxes, bracelets for watches, package and commercial are the act of a private entrepreneurship. It is thought in other countries that this kind of state arrangement is in a conflict with thorough principles of free entrepreneurship, but the Swiss do not deal with those trifles”. [6] Also, in France, particular banks (Societe Generale) and car manufacturer (Renault), regardless of a change of owner (state, shareholders, the rest) functions as universal European subjects. [22]

### **Strategy for entrepreneurship cluster development in the Republic of Serbia**

In January 2003 the Republic of Serbia adopted the Development strategy for small and medium-sized enterprises in the Republic of Serbia for period from 2003 – 2008. In that period the most important government document determining a policy for supporting small and medium-sized enterprises is “Plan for development promotion of small and medium enterprises 2005 – 2007”. The European bill on small and medium-sized enterprises from June 2000 is accepted as starting point of both documents in which significance of small enterprises and entrepreneurs is pointed out regarding growth, competition and increase of employment in the EU. It is pointed out in the bill what should be done in order to improve business environment of small enterprises. [7]



And beside the existence of all those documents, the policy of development promotion of small and medium-sized enterprises has not been carried out sufficiently enough, but merely came down to unadjusted activities of particular ministries and institutions in charge of this field.

Based on a document from June 2008, adopted by the EU and named:

“A Small Business Act for Europe”, the Republic of Serbia issued a new development strategy for small and medium-sized enterprises for period from 2008 to 2013, with basic cause for Serbia to get strong, developed, and internationally competitive and export oriented sector of small and medium-sized enterprises. Also, the Ministry of economy and regional development in cooperation with Deutsche Gesellschaft für Technische Zusammenarbeit from Germany creates “Project for initiative of clusters development in 2007”. [7]

However, the implementation of these documents has implied providing with certain means through adequate ministries, agencies and funds from the country and abroad, which has not happened completely in the practice. Until now, the biggest progress has been accomplished in the realization of principles for faster and cheaper enterprises financing and financing and taxation, while the weakest results have been achieved in the realization of principles of knowledge and skill availability and in providing stronger support of interest of all enterprises, that is, their clusters in the public sector. [19] In the paper, we did not stress some special risks that have caused inefficient implementation of adopted strategies and documents, but we can list some of them: political instability and absence of consensus on important questions, insufficient development degree of human resources, inability of public sector institutions to fulfill demands of efficiently servicing entrepreneurs, incomplete institutional infrastructure, sluggishness in the process of decentralization and reforms of administrative structures, lack of financial resources, feeble sector organization of small and medium enterprises, lack of management knowledge in small and medium enterprises on challenges considering coordination with open market economy, insufficient willingness of entrepreneurs to acquire new knowledge and skills and insufficient capacities of public and private sector to completely exploit the EU access and development funds as well as funds of other international organizations. [21, 22]

### **The influence of the world tourism market and the need for synergy of tourism and food industry of Serbia on the Corridor 10**

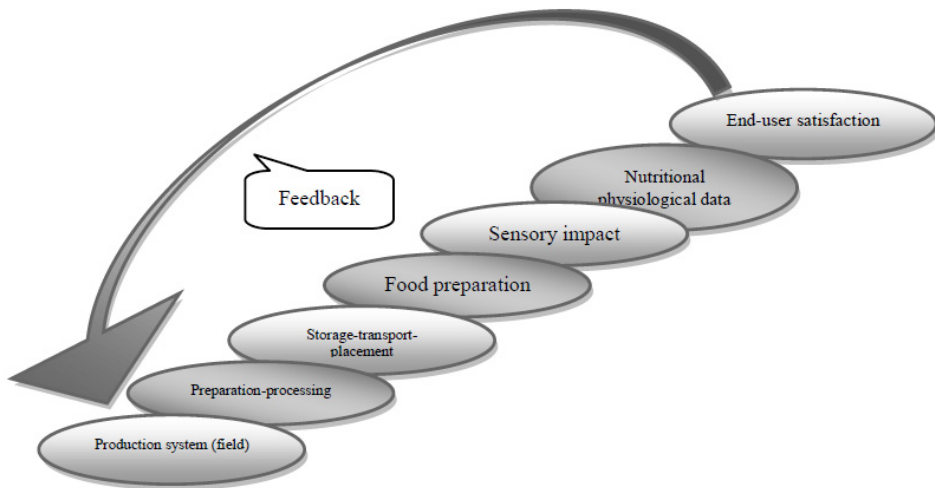
World trends in tourism directly affects the establishment of coherent links and closer cooperation between Serbian production and service of economic agents: Internationalization Gastronomy (national, regional, local and etno-kuhinja); Second Gastropotrosnje growth in the world:

1. Internationalizati of Gastronomy offerings (national, regional, local and ethno kitchen);
2. Growth of Gastronomy in the world;
3. Ethical consumerism, which includes product selection for end users that respects

their human rights, social responsibility, caring for the environment and animals, and Strengthening information systems by linking all partners in the supply chain of the end-users. [23]

New processing of agricultural habits has the biggest needs for the food to be safe, healthy and to be good quality, with regard to environmental and ethical considerations. Customer satisfaction is a prerequisite in shaping whole identity of destinations around and strengthening the positioning of Serbia as a country on the Corridor 10.

**Picture 3.** Contemporary trends in food production [23]



Gastronomic offer should add a new trend dimension which will contribute to the strengthening of the market in above mentioned destinations. For user of the goods it is particularly important:

- a) Healthy food
- b) Lack of time due to transit passage through our country, and
- c) Variety of offers that depends on the origin, age, habits and interests of consumers.

The world, in transit, expresses great curiosity for different forms of cuisine and active eco-rural tourism. Serbia, with its climate characteristics and the intact nature has an significant corporative advantage for rural eco-tourism and eco-gastronomic offer. In Figure 3, it is necessary to observe the feedbacks over what kinds of food or finished products that are recognizable and authentic as Balkan flavor. It is not only necessary to produce food, but to protect its geographic origin and constantly to emphasize it in commercial messages to consumers.

By 2015, 40% of the total value of European food trade will be used in the gastrointestinal (foodservice) market segment. The term gastro in Corridor 10 includes the preparation and consumption of food in the hotels, motels, restaurants and bars, as well as alternate channels (gas stations and auto services). [24]

Users of Corridor 10 that are passing through our country encounter with other culture and come in direct contact with the local population, and in doing so often ask the ethical question:

- a) What are the working conditions of the restaurants and hotels in the transit highway?
- b) Are the local people and the local companies involved in the realization of tourist packages so tourist can get to know Serbia in the short period of time?
- c) Are the groceries in the hotels and restaurants menus homemade and natural origin?
- d) How are the hygiene conditions in the restaurants, hotels, gas stations and car services?

Is it on the road ensured absolute safety for tourists that are in transit pass?

Tourism has become a global industry and has a great impact especially in the rural areas along the Corridor 10. It directly has an impact on people and their well-being, and it is expected to modify the approach towards meeting the strict requirements with respect of ethical principles and sustainable development.

### **Accommodation capacity, the importance of human resources for the development of the hotel, catering, achieved touristic trade and tourist spending**

*Accommodation capacity* (in addition to traffic and capacity for food) constitute the basic factors of tourist offers on Corridor 10, from their size, structural characteristics and dynamics of construction can be seen and can reach the level of development and the overall quality of the tourist offer of Serbia. In Serbia there are 235 active hotels (without hotels that are in the process of adaptation and those which the time for categorization expired). The most common are buildings with 2 and 3 star (93 and 76), and the least represented with 5 stars hotels. Total is 13,641 rooms and 23,551 beds. Most rooms and beds are in hotels with 3 stars (5126 rooms and 8923 beds). The least are in 5-star hotels (1,103 rooms and 1482 beds).

The total number of graded accommodation facilities in Serbia according to clusters is following:

- Cluster of eastern and western Serbia participates with 60% of accommodation capacity,
- Cluster of Vojvodina with 24% of accommodation capacity, and
- Cluster of Belgrade with 16% of capacity. [25]

*The importance of human resources* for the successful implementation of development policies on Corridor 10 in the part of determining the tasks related to personnel can be classified into several groups, which by its contents constitute separate units. The main areas related to human resources include:

- Recruiting personnel,
- Orientation of personnel,
- Positioning and promotion of personnel,
- Education and Workforce development,
- Salaries and other means of financial compensation for the work,
- Benefits, and
- Protection of personnel. [26]

By analyzing elements of details related to human resources, we can conclude that the hotel catering facility as a representative object of the Corridor 10 should combine all the features of this activity reflecting on them in the process of implementation of an integrated product. Work technology, organization and management techniques, shaped by the specific characteristics of the staff which depend on the type, capacity and category of hotel may be more or less pronounced. Authentic blend of hospitality and non-hospitality service, defines the need for diversity and heterogeneity of human interest profiles, creating conditions for the individualization of the labor process, and the relative independence of each position. In the hotels there is a time discontinuity in the work that is manifested in the form of annual, monthly, weekly or daily imbalances. This is particularly prominent in certain occupations, primarily in the diet sector.

Corridor 10 is ideal for recruiting labor force from marginal areas with the obligation those applicants must have a clear picture of the activities and responsibilities of the job for which they are applying for. Catering is the largest part of the total purchase of tourists. It gives the possibility of hiring a large number of people and the creation of competitive advantage in the market because of cheap labor. Competitive advantage can be seen in the diversity and variety of tourism products to certain clusters in the Republic of Serbia on Corridor 10

***Tourist traffic and tourist spending*** shows the real picture of the situation in the Republic of Serbia. According to the data of the Statistical Office of Serbia for the period 1979-2007, the results and numbers of domestic and foreign tourists and the number of nights they spent in Serbia shows a downward trend from 1979-2007. For example in 1985 there were about 4 million domestic tourists and over one million foreign tourists. In 2007 number that domestic tourists accounted was around one and half million and regarding foreign tourists that number was about 600,000. [27]

Tourist spending of local and foreign tourists wasn't shown at the real conditions since 1990. The dissolution of the country, war and its effects reflected negatively on tourism and the industry. This is primarily regarded to a drastic decline in foreign tourist traffic particularly going around our country and bypassing Corridor 10 on the way to certain tourist destinations. The lowest foreign currency income from tourism was achieved in 1993. Since 1994 and with the stabilization of the exchange rate led to slight increase of foreign exchange earnings. Task of tourism and hospitality workers in the Corridor 10 is the development of strategic planning: increase market share of users, profit, and development of new tourist destinations and connect supply chains from farms to consumers.

**The development of agricultural machinery in the Republic of Serbia as a factor for improvement of agriculture**

Without proper development of agricultural machinery the Republic of Serbia in the future will not be able to adequately provide arable land to allow profitable production of food, including land in the region of Corridor 10. The Republic of Serbia has 5.1 million hectares of agricultural land which is 4.2 million hectares of fertile fields. With modern and high quality technology, this area can produce food for about 50 million people. Age of today’s machinery is 15 to 30 years, and they represent a key factor in producing food. With modernization of the domestic factories of tractors and combines and with usage of the latest mineral resources for the protection of agricultural production to the Republic of Serbia, each year could be saved € 291,737,929. The potentials for food production in Serbia are presented in Table 1 [28]

**Table 1.** Potentials for food production in the Republic of Serbia (2010)

No.	Types of land use	Surface area	
		ha	%
1.	Agricultural land	5.093.000	100
1.1.	Arable	4.221.000	82.88
1.2	Pastures	833.000	16.36
1.3.	Marshes, fishponds, land covered in reed	39.000	0.77
Food production estimates: in Serbia, food for over 50 million people can be produced.			

In the last 20 years the Republic of Serbia is facing with complete devastation of production of agricultural machinery. In order to achieve major tasks such as the production of food for 50 million people it is necessary urgent revitalization of this sector. [29] If Republic of Serbia wants to achieve optimal agricultural production it is needed in the next 10 years to provide the new structure of the domestic production of tractors which would be able fully to meet the demand for the domestic market and for the exports. This would ensure better conditions for a much higher production in the whole sector of Corridor 10 and at the same time develop manufacturing industry of agricultural machinery. The entire supply chain would initiate the development of rural areas by linking agriculture, industry, tourism and hospitality. In Table 2 are given the numbers of tractor that are needed for the next 10 years. In the table are not given the needs for combines but range is from about 750 units per year of which 650 would be produced in Serbia and 100 would be imported. [30]

**Table 2.** Needs for tractors in 2010-2020 [31]

No.	Tractor category (kW)	Required (pcs/year)
1.	Two axle	11.000
1.1.	Light (30-60)	8.800
1.2	Medium (31-130)	2.000
1.3.	Heavy>130	200
2.	Mini tractors (15-30)	300
3.	Single axle (5-15)	10.000
4.	Moto tools (up to 15)	15.000

For development of agricultural machines it should be used potential of companies such as IMT, IMR, Dragon, IPM, DMB, Flag, and the potential of their subcontractors, to re-establish again industrial production in the Republic of Serbia as a basis for the provision of agricultural production and creation of clusters not only on Corridor 10 but on the whole territory of the Republic of Serbia. We should not neglect the participation of small and medium-sized enterprises which are the basis of cooperative coalition of industrial production as well as the basis for the commencement of production from farm to fork or the beneficial purchaser in hotels, restaurants and other tourist facilities offer.

### **Clusters as a stable basis of market design in Serbia**

The first cluster initiatives in Serbia were launched around 5 years ago. However, even after this time there was no definition of a minimum of common interest. This is necessary because of the gathering companies and associated institutions but there are small numbers of success cases. Therefore it is necessary to build a new model for promoting territorial association of companies of particular sector and the inclusion of a large number of development institutions. Of course, we should point out the fact that in Serbia exist examples of association which resemble to clusters such as the concentration of plastics manufacturers in Stara Pazova, gathering together garments and knitwear like Arilje did, merging of information and communication technologies in Belgrade and Novi Sad and many others. Significance of these concentrations is that in these areas the number of companies and employees in the clusters is much higher than the national average. This type of concentration of firms and employees are referred to the regional cluster although they are often used as terms like “natural” or “statistical” cluster.

What is characteristic for Serbia and the Balkans is the fact that the first mapping of local and regional concentration of firms and employees sectors in this area is done in 2010. This is done in the framework of the EU project which is known as SECEP (Support to Enterprise Competitiveness and Export Promotion). The importance of this mapping is because it identified clusters in Serbia in 38 different categories but this study is unfortunately unnoticed among the holders of public policy as well as between domestic and foreign development agencies. This is because these subjects have not paid sufficient attention to the development of clusters as geographic concentrations, but the center of its activities was dedicated to the development of so-called cluster initiatives. Initiatives like this this are established in Serbia in sectors and areas that do not have significant concentrations of companies as opposed to the practices in the world. Cluster initiatives are established where already exist concentration which can become cluster.

These cluster initiatives in the Republic of Serbia are established as legal entities with the Agency for Business Registers mainly as an association. However there are cases where these initiatives are registered with this agency as companies or foundations. Currently according to official data of the registry associations there are 63 registered cluster initiatives and three are still in the registration process. Certainly to this number should be added seven initiatives which are registered as companies and four initiatives which are registered as a



foundations. Total number is 77 cluster initiatives in the country. It is interesting to note the fact that these cluster initiatives are mainly established in big cities like Belgrade, Novi Sad, Nis, Kragujevac and Subotica, while the number of clusters initiatives in smaller towns and villages is much smaller. Examples of such clusters in the smaller communities can be found in Kraljevo, Loznica, Rumi, Vrnjacka Spa, Knjaževac Arandjelovac, Raca and in the other cities and municipalities in Serbia.

What can be called one of the biggest problems in the business of most cluster initiatives is the fact that their capacities (both operational as well as financial) are at the very low level. The normal functioning of most cluster initiatives hinders their financial viability given that the main result of this their financial instability is lack of full-time employees (their work is performed by volunteer employees of certain members of the cluster). Even where there are employees their number is negligible and does not exceed two except for Vojvodina metal clusters which employs about a dozen workers and associates (women mostly dominated among employees within this cluster).

Also a very important fact about cluster initiatives is the number of companies that are participating in their work and it is 917 with a total of 36,000 employees. Intra-dominated are entrepreneurs, micro and small enterprises, while the share of medium and large enterprises is significantly less. Most states have Sumadian flower from Kragujeva total of 170, then Dunder from Nis with 89 and the Vojvodina metal cluster with 74 members. Although the members make supporting institutions (institutes, faculties, schools, research centers and the like) but their participation in the initiative is formal and negligible. Few initiatives have more than three supporting institutions which represents the minimum requirements according to the criteria of the Government of the Republic of Serbia.

When it comes to turnover of newly created clusters, the financial data for 2011 shows that the highest record had a Member of the Vojvodina metal cluster (270 million euros). On the second place regarding height of the turnover were members of the ICT (information and communication technology) sector (ICT NET with around 87 million euros and Vojvodina ICT with 44 million euros), while a significant turnover of 45 million euros was made by the members of the cluster initiatives FACTS textile industry. In addition to these sectors and within the tourism and construction industries it has been done a considerable turnover. Thus in the tourism sector by members of the Initiative PRO VITA was achieved over 32 million while the members of the construction industry of Nis (Dunder and BRICK BRICK) recorded a turnover of around 15 million euros. Of course the amount of the income is usually followed by adequate export. Members of Vojvodina ICT had earned 20 million euros and they had been signed to the group of the biggest exporters. Also to this group of the largest exporters we can add FACTS which achieved 11.5 million net exports and ICT which achieved exports of 10 million [32].

It is important to emphasize that the cluster initiatives are very important to its members because they provide many services as the organization of seminars, conferences and training, joint marketing, visiting fairs and advocacy. Also just to a much lesser extent these cluster initiatives mediate in the joint procurement of raw materials as well as developing



new products while other services are mostly sporadic (they are related primarily to external funding). Pointing to the provision of services by the cluster initiatives it is important to mention that users of these services can be not only just members of the initiatives but also other companies that deal with the same or similar activities.

Projects funded by the Government of the Republic of Serbia, Autonomous Province of Vojvodina and international donors (the major international donors are European Union, GTZ, USAID and LEDIB), provide the greatest opportunities for cluster initiatives in Serbia so that they have the most experience in the work, precisely on these projects. Given this fact the Government of the Republic of Serbia in 2007 launched a program to fund projects of cluster development through the support of cluster initiatives. What is important to note here is that through these program they support cluster initiatives which gathers together at least 9 companies and at least 3 associated institutions which are making a total of at least 12 businesses subjects. Cluster initiatives have to be entered in the Register of Associations in Business Registers Agency. Between members of the clusters must be at least 60% of small and medium enterprises and entrepreneurs and at least one scientific research organization.

When it comes to financing projects submitted under this program it should be noted that the cycle lasts one year and that it implemented by the Ministry of Finance and Economy in cooperation with the National Agency for Regional Development. The amount of funding varies significantly over the years. The amount from the budget of the Republic of Serbia in 2007 was 260,000 euros, 2008 was 375,000 euros, 2009 was 330,000 euros, 2010 was 300,000 and in 2011 the amount was 200,000 euros (funds received under this program must be co-financed by the cluster members in the amount of 50%) [32]. Of course, it should be noted that there is a difference between initiatives in the amount of attracted funds so in the first place according to this criteria of the initiative comes Vojvodina metal cluster, ICT NET, Vojvodina ICT, FACTS, Cheese Cluster South Sumadia flower cluster ‘and sub regions Subotica-Palic.

Thus as was mentioned from above, it can be concluded that cluster development in Serbia began at 2006, while the implementation of the program to support cluster development was achieved in 2007. The name was “Programme for Business Incubators and Clusters in the Republic of Serbia 2007-2010.” Norwegian government has helped financially the implementation of this program. However, until now there are a large number of obstacles in the development of clusters in our country, and the main reasons are:

- 1) lack of connection between members within the cluster;
- 2) lack of connection of the clusters in the country and abroad;
- 3) poor management development and engagement in the creation of cluster development strategies [33].

In order to overcome these obstacles and to achieve better results in cluster business it is necessary that state and the private sector get more and more seriously involved in the work on the improvement of the cluster in the country. In doing so it is very

important for the state to establish a general micro-economic stability of the country's own efficient investment and foreign investment as well as to achieve certain macroeconomic and political stability which can achieve the fulfillment of the three key roles in the economy including:

- 1) establishment of stable state institutions;
- 2) providing legal and economic framework;
- 3) the cration of healthy macroeconomic policies.

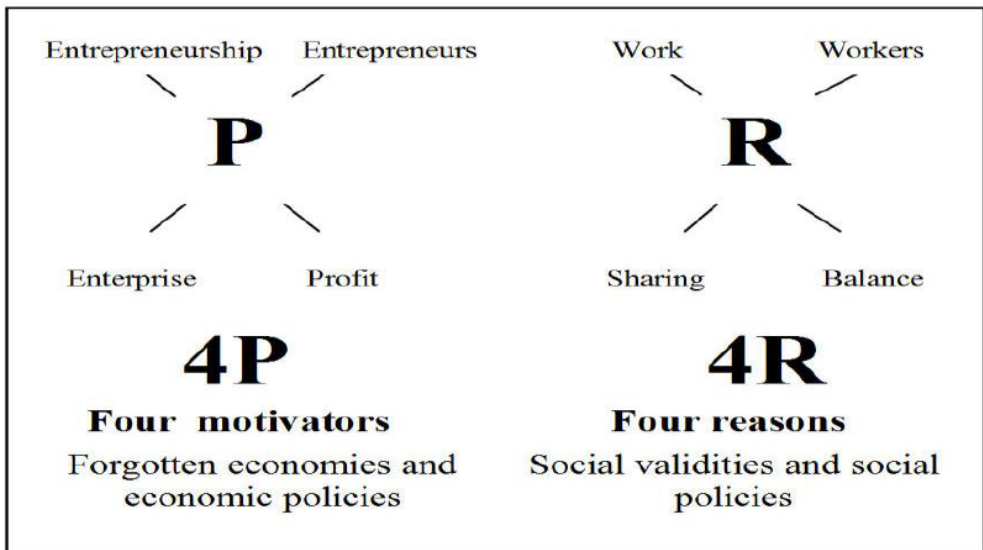
### Conclusion

All areas in the Republic of Serbia in the zone of Corridor 10 have a number of its characteristics and specificity. It is primarily expressed in its richness of natural and human resources, and through various economic activities, with significant material and cultural goods with distinct characteristics, trends and diversity in some areas.

For total realization of cluster's contents and quality it is necessary to enhance synchronization between economic efficiency and social optimum (Picture 4).

The synchronization includes a new way of business and action and a new way of understanding the essence of work and sharing the work results. The optimum among profit, entrepreneurs and shareholders and just share of executive work among employees is a paradigm of new equilibrium in industry.

**Picture 4.** Economic efficiency and social optimum [34]



Small and medium enterprises clusters in the wider zone of Corridor 10 in rural areas should be an instrument for further development of current regional, that is, entrepreneurship advantages. They are not the answers to short-term solutions, but strategy for deep structural

changes. An assumption for successful cluster development in the Corridor 10, especially in the agricultural production, includes presence of a sufficient number of complement and active enterprises that have to strive for the European competitive level in order to realize co-operational access to large world companies that do business in the Corridor 10 or will be doing it.

In clusters, it should be focused on key fields that are practically predictable and that form firm synergy of joint capacity.

Clusters in the Corridor 10 should have adequate and professional structures of management and leadership. Cluster management together with adequate public organs should provide promotional programs, partnerships and innovative models of services.

Problems that can emerge are: minor compatibility of structure and business culture of partner enterprises, lack of legal and financial possibilities for cooperation, lack of long-term entrepreneurship spirit and absence of experts, low level of mutual co-operational trust among partners and other institutions, lack of knowledge considering partners, not including all partners in the network and unclear and unreal expectations from the cooperation.

### Literature

1. Belaud, J. F. (1990): *La nouvelle politique européenne en faveur des PMF*, Club de Bruxelles, Bruxelles.
2. Bizaguet, A. (1993): *Les petites et moyennes entreprises*, PUF, Paris.
3. Boldizzioni, D., Mariani, M., Signorelli, S. (1993): *Strategie di sviluppo dell'impresa minore*, Angelo Guerini, Milano.
4. Cvijanović, D., Simonović, Z., Mihailović, B. (2011): *Focus and objectives of the recent reform of cap and EU regional policy*, Economics of Agriculture, vol. 3, Institute of Agricultural Economics, Belgrade.
5. Fanello, A. (1994): *L'organizzazione di una piccola industria*, Franco Agnelli, Milano.
6. Galbraith, J. K. (1977): *The Age Uncertainty*, Houghton Mifflin, Boston.
7. Government of the Republic of Serbia (2008): *Development strategy on competitive and innovative small and medium-sized enterprises for period from 2008 to 2013*.
8. Guillaume, P. (1990): *L' Aide aux PME*.
9. Depperu, D. (1993): *L'internazionalizzazione delle piccole e medie imprese*. Egea, Milano.
10. Dessy, A. (1994): *Le piccole e medie imprese ed il capitale di rischio*, Egea, Milano.
11. Dible, D. (1988): *Business start-up basics*, the entrepreneur Press, California.
12. European Commission (2008): *A «Small Business Act» for Europe*.
13. Julien, P. A., Marchesnay, M. (1994): *Les PME: bilans et perspectives*. PIU.
14. Le Bas, C. (1988): *Les PME face au défi productique*, PUL, Lyon.
15. Marchesnay, M., Julien, P. A. (1987): *La petite entreprises*, Vuibert, Ottawa.

16. Ministry of economy and regional development in the Republic of Serbia and Deutsche Gesellschaft für Technische Zusammenarbeit, Belgrade (2007): *Project on clusters development initiative in 2007*.
17. Mirel, P., Thompson, S. (1994): *Small and Medium-sized Enterprises, Progress and Strategy Paper*, Phare.
18. Nikezić, S., Matic, M. (2011): *Development of small and medium enterprises as a factor of industry transformation in the Republic of Serbia*, National Security Centre for strategic researches, Belgrade.
19. Nikezić, S., Matic, M. (2010): *Features and specificities of the regional rural development in the Republic of Serbia*, Economics of Agriculture, special issue-2, Institute of Agricultural Economics, Belgrade.
20. OECD-EU-Investment Compact SME Policy Index.
21. Pindyck, R., Rubinfeld, D. (2008): *Microeconomics*, Prentice Hall.
22. Samuelson, P., Nordhaus, W. (2009): *Economics*, McGraw-Hill/Irwin.
23. Milošević, M., (2011): *Uticajni faktori na sinergiju srpske prehrambene industrije i turizma*, Konferencija: Srbija između reindustrijalizacije i agrara, Centar za strateška istraživanja nacionalne bezbednosti Beograd.
24. Gillpatrick, T., (2003): *Retail Food Industry Trends*, Portland State University.
25. Kategorisani objekti od 2005-2008 godine, Registar Ministarstva ekonomije i regionalnog razvoja, sektor za turizam.
26. Tucović, M., Tucović, D., (2011): *Koridor 10 u kontekstu zapošljavanja domicijalnog stanovništva u hotelijerskoj delatnosti Republike Srbije*, Koridor 10 u funkciji društvenog razvoja Republike Srbije, Centar za strateška istraživanja nacionalne bezbednosti Beograd.
27. Republički zavod za statistiku, 1979-2007 godina.
28. Nikolić, R., et al., (2012): *Development of Agricultural Machinery with the Aim of Improvement of Agriculture*, 5<sup>th</sup> International Conference: Science and Higher Education in Function of Sustainable Development, Užice.
29. Marković, D., (2012): *Industrija znanja, industrija poljoprivrednih mašina-stanje, potencijali i kako dalje*, Akademija inženjerskih nauka Srbije, Privredna komora Srbije.
30. Malinović, N., Mehandžić, R., (2006): *Mehanizacija za profitabilnu poljoprivrednu proizvodnju*, Savremena poljoprivredna tehnika, vol. 32, no. 3-4.
31. Nikolić, R., (2011): *Razvoj i efikasnost poljoprivrednih traktora*, Akademija inženjerskih nauka Srbije, Beograd.
32. Mijačić, D., (2012): *Razvoj klastera u Srbiji: Lasta ne čini proleće*, Biznis i finansije, br. 87, str. 42-46.

33. Budimlija, L., (2010): *Klasteri kao strategijska forma nastupa srpskih preduzeća u prehrambenoj industriji na inostranom tržištu*, Završni rad, Fakultet za ekonomiju, finansije i administraciju, Univerzitet "Singidunum", Beograd.
34. Tomić, D., (1996): *Small enterprises - great possibility*, Centre for small enterprises VEDES, Belgrade.

## PODSTICAJ RAZVOJA PROIZVODNO - USLUŽNIH KLASTERA NA RURALNIM PODRUČJIMA U ZONI KORIDORA 10 U REPUBLICI SRBIJI

*Srdan Nikezić<sup>4</sup>, Dragan Bataveljić<sup>5</sup>, Milutin Matić<sup>6</sup>*

### Rezime

*U ovom radu autori nastoje da ukažu na velike mogućnosti za dalji razvoj ruralnih područja u široj zoni Koridora 10 u Republici Srbiji. Takođe je naglašen značaj proizvodno-uslužnih klastera, mreža i kooperacija koji se obrazuju na ruralnim područjima, stvarajući veliki broj malih i srednjih preduzeća, kao način vođenja ukupne privrede uz ubrzan razvoj preduzetničke inicijative. Kao poseban vid pažnje koji se poklanja razvoju malih i srednjih preduzeća je i dokument iz juna 2008. koji je usvojila EU pod nazivom: "A Small Business Act for Europe", sa utvrđenim principima i akcijama za delovanje u sektoru malih i srednjih preduzeća u EU. U radu je dominantan aspekt povezivanja poljoprivredne proizvodnje i prerade sa usložnim delatnostima koje se mogu implementirati duž Koridora 10. Klasteri su mreže preduzeća i ustanova koje se dopunjuju stvarajući kooperativne lance snabdevanja, gde su posebno apostrofirani prehrambeno-uslužni snabdevački lanci na širem ruralnom području Koridora 10, uz obaveznu primenu standarda Evropskog upozoravajućeg sistema za hranu i prehranu (RASFF) koji broji oko 7.000 obaveštenja. Ova obaveštenja se odnose na potencijalno opasnu hranu ili ishranu životinja i izdata su od strane RASFF sistema čiji je osnivač Evropske komisije.*

**Ključne reči:** *Koridor 10, ruralna područja, proizvodno-uslužni klasteri, mala i srednja preduzeća, poljoprivreda*

---

4 Doc. Dr Srdan Nikezić, Prirodno matematički fakultet, Kragujevac, Radoje Domanovića 12, Republika Srbija, Telefon: +381 64 58 04 810, E-mail: srdjan\_nikezic@yahoo.com

5 Prof. dr Dragan Bataveljić, Pravni fakultet, Kragujevac, Jovana Cvijića 1, Republika Srbija, Telefon: +381 61 18 76 871, E-mail: bataveljic@jura.kg.ac.rs

6 Mr Milutin Matić, Šumadijski upravni okrug Kragujevac, Save Kovačevića 7, Republika Srbija, Telefon: +381 64 14 18 871, E-mail: maticmilutinkg@yahoo.com

## CONTENT

1. Biberdžić Milan, Maksimović Goran, Barać Saša, Jovović Zoran  
**ECONOMIC EFFECTS OF TRITICALE  
PRODUCTION ON ACID SOILS. . . . . 579**
2. Nešković Slobodan  
**AN AGRICULTURAL PRODUCTION AS A SIGNIFICANT AREA  
OF A STRATEGY OF ECONOMY DIPLOMACY OF SERBIA . . . . . 589**
3. Prentović Risto, Gačić Dragan, Cvijanović Drago  
**AGRICULTURAL LAND IN VOJVODINA AS ROE DEER HABITAT -  
HUNTING - TOURISM ASPECT . . . . . 603**
4. Stevanović Simo, Đorović Milutin, Milanović Milan  
**THE DEVELOPMENT OF THE MARKET PRODUCTION  
OF CEREALS IN SERBIA: EXAMPLE WHEAT AND CORN . . . . . 617**
5. Ševarlić Miladin, Raičević Vuk, Glomazić Rade  
**SUSTAINABLE AGRICULTURE POLICY IN SUPPORT  
OF FARMERS' COOPERATIVE SYSTEM. . . . . 633**
6. Zekić Vladislav, Tomović Vladimir, Milić Dragan, Lukač Dragomir  
**COMPARISON OF ECONOMIC CHARACTERISTICS  
OF PORKERS OF MANGALITSA AND YORKSHIRE RACE . . . . . 649**
7. Fabris Nikola, Pejović Igor  
**MONTENEGRIN AGRICULTURE:  
DIAGNOSIS AND POLICY RECOMMENDATIONS. . . . . 657**
8. Janković Dejan  
**TERRITORIAL APPROACH TO REGIONAL  
RURAL DEVELOPMENT. . . . . 675**
9. Krstić Snežana, Vukša Slavko, Anđić Slobodan  
**THE ROLE OF THE NATIONAL BANK IN CREATION  
OF PUBLIC DEBT OF INDEPENDENT KINGDOM OF SERBIA . . . . 687**
10. Kwasek Mariola  
**THREATS TO FOOD SECURITY AND COMMON  
AGRICULTURAL POLICY . . . . . 701**

11. Lukač Bulatović Mirjana, Rajić Zoran, Ljubanović Ralević Ivana <b>ECONOMIC FEATURES OF PROCESSED FRUIT PRODUCTION IN SERBIA . . . . .</b>	<b>715</b>
12. Nikezić Srđan, Bataveljić Dragan, Matić Milutin <b>DEVELOPMENT INITIATIVE OF MANUFACTURING AND SERVICE CLUSTERS IN THE REPUBLIC OF SERBIA CORRIDOR 10 ZONE. . . .</b>	<b>727</b>
13. Rusali Mirela <b>EU ACCESSION IMPACTS ON THE COMPARATIVE ADVANTAGES IN AGRICULTURAL TRADE: ROMANIA'S CASE . . . .</b>	<b>747</b>
14. Savić Ljubodrag, Bošković Gorica, Mičić Vladimir <b>ASSUMPTIONS AND POSSIBILITIES OF THE DEVELOPMENT OF THE SERBIAN FOOD INDUSTRY . . . . .</b>	<b>753</b>
15. Stojanović Žaklina, Gligorijević Mirjana, Rakonjac Antić Tatjana <b>THE ROLE OF THE MARKETING MIX IN THE IMPROVEMENT OF AGRICULTURAL INSURANCE. . . . .</b>	<b>769</b>
16. Subić Jonel, Jovanović Marijana, Potrebić Velibor <b>EVALUATION OF REALIZED INVESTMENTS IN AGRICULTURE IN AREA OF UPPER DANUBE REGION . . . . .</b>	<b>781</b>
17. Subošić Dane, Cvetković Dragan, Vuković Slaviša <b>FORMS OF ENVIRONMENTAL CRIME IN AGRIBUSINESS. . . . .</b>	<b>793</b>
18. Zakić Vladimir, Vasiljević Zorica, Zarić Vlade <b>RELEVANCE OF DIVIDEND POLICY FOR FOOD INDUSTRY CORPORATIONS IN SERBIA . . . . .</b>	<b>809</b>
19. <b>ZAKLJUČCI SA MEĐUNARODNOG NAUČNOG SKUPA „ODRŽIVA POLJOPRIVREDA I RURALNI RAZVOJ U FUNKCIJI OSTVARIVANJA STRATEŠKIH CILJEVA REPUBLIKE SRBIJE U OKVIRU DUNAVSKOG REGIONA - očuvanje ruralnih vrednosti“ . . . .</b>	<b>823</b>
20. <b>Prikaz monografije LAVIRINTI MENADŽMENTA . . . . .</b>	<b>827</b>
21. <b>Zapisnik sa V sednice Skupštine Naučnog društva agrarних ekonomista Balkana (NDAEB) . . . . .</b>	<b>829</b>