Review Article

Economics of Agriculture 3/2012
UDC: 004.275:339.137.2(497.11)

CLUSTER DEVELOPMENT IN FUNCTION OF IMPROVING COMPETITIVENESS OF SMEs IN SERBIAN FOOD INDUSTRY

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Summary

Food industry is one of the branches that have the most potential in the Republic of Serbia. Small and medium companies (SMEs) in food industry can improve its competitive ability on the basis of clustering - entrepreneurs get what they had previously lacked: new knowledge, new technology, better access to credit lines, easier market performance, and completion of the production cycle, from primary producers to sell. Creating a cluster corresponds to primary producers who want to gain confidence in manufacturing and its placement. By combining the final clusters or provide the raw material whose quality can be affected.

Key words: *clusters, small and medium enterprises, competitiveness*

JEL: *Q13, D24*

Introduction

Competitiveness is, obviously, important. In a world with limited resources, one would like to see that these are used as efficiently and effectively as possible and thus leading to enhanced living standards for all today and in the future. While there is much agreement on the economic and social importance of competitiveness, it is less clear what exactly competitiveness is and what its most important determinants are. Clustering of firms can lead to spillover of knowledge, stimulating this entrepreneurial function to expand innovation. Within the context of spatial clusters, the effects of unstructured, perhaps unmanaged, knowledge spillovers typically have been confirmed and often assumed to be dependent on entrepreneurial function that exploits opportunities not taken up by

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particular solo enterprises. However, the productivity of collaborations in R&D has been increasingly recognized.[5]

Food production is a significant export potential of the Republic of Serbia, but it is not implemented enough due to the weak competition of the companies and products themselves.[6] There are various factors which obstruct domestic companies to become more competitive and one of them is inadequate government support reflecting the low financial support of the agricultural sector. Agribusiness is the most important industry in the Republic of Serbia, that in the creation of gross state product (GDP) accounts for about 17% as follows: agricultural production 10.6% and food processing industry 6.4%. However, in the overall contribution of agriculture to other sectors of the economy, particularly manufacturers and processors of raw materials and inputs, this share exceeds 40% of total GDP.[7] In 2010, the agrobusiness absorbed colese to 7.8% of all work forces in Serbia, while, for example, within the processing industry there were 17.2% employed people of the workforce.[8]

The Republic of Serbia is rich in natural resources, but the means to be invested into the irrigation, new technologies and etc., are necessary. In the table 1. there are data about certain agricultural products during the year 2010. and it can be seen that the raw materials are dominant. These data warn us of the necessary changes in business of the domestic agricultural which is particularly referred to the food manufacturing process. Namely, domestic producers mostly sell the products as raw materials that are later packed in some European countries and sold as at a much higher price. Therefore, one of the goals for the domestic companies has to be the selling of the technological processed agricultural products, as well as adopting the necessary standards in the food production. One of the most important sectors in forming the BDP in Serbia is the food processing industry. The greatest influence on forming the BDP is based on the manufacturing thru food products, drinks and tobacco with 31, 4%.[9]

Serbia has a margin of production capacity in most of the sectors. Abattoir sector, for example, works with 40% of the capacity, and there is a margin of capacity in the

5 Weaver, R.D. (2008): *Collaborative Pull Innovation: Origins and Adoption in the New Economy*, Agribusiness, 24(3), p. 388-402.

6 Mihailović, B., Cvijanović, D., Hamović, V. (2009): *Analiza investicione i izvozne aktivnosti poljoprivrede Srbije,* Ekonomika poljoprivrede, 56(1), p. 73-85.

7 Privredna komora Srbije (2011): *Privreda u Srbiji,* Beograd. Retrieved from http://www.pks.rs/PrivredaSrbije.aspx?id=13&p=2& [accessed february 2012.]

8 Statistical Office of The Republic of Serbia (2011): *Statistical Yearbook of The Republic of Serbia*. Belgrade. Retrieved from http://www.media.srbija.gov.rs/medsrp/dokumenti/SGS2011_cyr.pdf [accessed june 2012.]

9 Vlada Republike Srbije (2005): *Nacionalna strategija privrednog razvoja Republike Srbije od 2006. do 2012. godine*. Beograd, p. 8.

flour manufacture as well as in the milk production.[10] The greatest part of the unused processed capacities is inherited from the socialistic sector, and due to the outdated technological base it cannot be used. The low level of productivity is also a commonly expressed. The producers who do the best business do not gain the exploitation of the capacities of the 100%. The implementation of the EU standard in the process of the manufacture will only increase the problems with the productivity within the competitiveness of the domestic food manufacturers.[11]

Table 1. Exporting products in 2010[12]

Product	Quantity (in t)
Commercial maize	1.5 million
Commercial wheat	200,000-300,000
Refined sugar	180,000
Baby beef	8,700
Eatable oil	20,000-30,000
Raspberry	80,000
Sherry	25,000

Clusters as a development assumption of competitive ability of the small and medium companies

One of the significant connection forms of the small and medium companies is clusters. Cluster is a geographically determined concentration of similar or complementary businesses with active channels for business transactions, communication and cooperation. The basic goals of clusters activity are:

- Knowledge innovations and the application of the modern managing techniques;
- Determining business standards and forming a successful trade mark;
- Giving counseling services to entrepreneurs and potential entrepreneurs;
- Equipment approach and the approach to business offices;
- Organizing different events/gatherings i.e., seminars within the area of gaining entrepreneur skills;
- Connection to the state organs of the local management, regional and central level, with the function of the development of the private entrepreneurship and competitiveness;
- Connecting the entrepreneurships with the foreign partners, big companies,

10 Vlada Republike Srbije (2005): *Strategija razvoja poljoprivrede Srbije*. Službeni glasnk RS 78/2005. Beograd. Retrieved from http://www.kg-cci.co.rs/pdf/strategije.pdf [accessed february 2012.]

11 Pejanović, R., Cvijanović, D., Njegovan, Z., Tica, N., Živković, D. (2009): *Problemi poljoprivrede Republike Srbije i mere za prevazilaženje krize,* Ekonomika poljoprivrede, 56(2), p. 221-230.

12 Luković, Z. (04.06.2011): *Umesto milijarde, za poljoprivredu godišnje 280 miliona evra*. Novac, Ringier, Beograd.

international organizations, international donors, foundations that finance the development of the civil society (education, development of the specific knowledge, specialization and etc).

Regional clusters (merging) in the last 30 years of the last century have caused a great attention. They represent a concentration of the mutually dependent companies on one geographical area. They are restricted to geographical areas, and they have a great number of companies and employees within a small number of related industrial sectors. In the European countries and USA, regions are being formed whose economy is mostly based on the small and medium companies (Italy: Venice, Friuli–Venezia Giulia, Emilia Romana; Germany: Ruhr Area, Baden-Württemberg, and Freistaat Bayern; USA: California).[13] These regions have made faster progress from the average of the national economies. Regional clusters do not know the national boundaries and they can improve the development of the national economy and the entire regions.

The food and drink manufacturing industry is Europe's second largest manufacturing sector, as measured by value added, food processing is also a relatively fragmented industry with comparatively many small and medium-sized companies, as compared to the U.S. food processing industry and most other EU manufacturing sectors. In the European single market, it may be expected that in the medium run, inter alia, through concentration and the formation of pan-European enterprises a shift of competitiveness will take place and thus leading to strongly performing and product-specific manufacturing and processing industries across the EU territory. This process may have started already. For instance, cross-national merger activities in the EU food and drink manufacturing industry (including tobacco) manufacturing industries have increased strongly during the last decade, according to EU Commission data.[14] In some countries of the European Union (EU) the development of the regional clusters is a new kind of industrial policy, while in others such as Portugal, Denmark and Great Britain there is an initiative for creating the set of clusters and forming the cluster policy. There are two types of clusters:

- The support to the increase of the present or the one to be developed into regional cluster;
- Sharing the knowledge of the industrial development process in the regional clusters, particularly in relation to the information relevant to the general policy spread.

13 For example, accorging to Menrad (Menrad, K. (2004): *Innovations in the food industry in Germany*. Research Policy, 33(6), 845-878.) , the food industry in Germany is characterised by a strong focus on the German market. At first glance, specific regional clusters do not exist in the food industry in Germany. The food industry in Germany fulfils the principle requirements of the NSI approach (which can be described with its four basic concepts: innovation, learning, system and nation). In addition, particularly the knowledge generation system and the co-operation pattern of the food industry in Germany are mainly nationally-oriented.

14 Fischer, C., Schornberg, S. (2007): *Assessing the Competitiveness Situation of EU Food and Drink Manufacturing Industries: An Index-Based Approach*. Agribusiness, 23(4), p. 473-495.

Essentially, the policy of clusters is a simulative link of the local business environment through public-private dialogue, which is defined by common research needs, co-development between contractors and suppliers.

Analysis of cluster organization in different countries of the world looks at different ways of joining the Association of Entrepreneurs. A significant number of clusters in the world have began their own work only on the basis of a simple agreement to work together and exploring opportunities for collaboration between members of the cluster during the first year of existence. Namely, at the very beginning of the clusters are much more significant agreements on joint action and cooperation member companies, rather than defining specific structures for the provision of financial resources. With the development of market economy and the spread of performance in foreign markets, and the clusters are transformed to the direction of establishing a professional association or forming consortia. Experiences show that there are different ways to form clusters:

1. Contract, i.e., an agreement of the mutual actions of the company that form clusters;
2. Establishing the economy associations, i.e., an association of the entrepreneurs of a certain area;
3. Forming consortia.

The first type of organization of the cluster was the agreement. We have already noted that this form of establishing a good clusters only for the initial operation, no longer than one year. After the expiration of one year, it is necessary to transform the cluster into a more formal organization. The agreements are good because they are binding only in meeting the common objectives, but do not carry the long-term character development. Another way is to cluster formation of economic associations - Association branch, founded by the owners of the companies that make up the cluster. It is an association that has the characteristics of the chamber type. The cluster of this type is the higher degree of formal organization in relation to the former and its authority in the field of information, training and promotional activities, as well as appearances at international markets. Funding for the creation of information, training and promotional activities are provided mainly from its own resources, based on fees paid by companies. The problem with this type of cluster organization is the voluntaristic approach; the long term can affect the inadequate development of the cluster. Leaders in the cluster are satisfied with the effect of providing a form of economic associations, primarily to promote their own goals, while smaller cluster members can be marginalized over time.

The literature says little about the wider role of networks and clusters in innovation, of differences between large and small companies, of the effect of alternative distribution channels, or the impact of internationalization.[15] The most complex form of cluster organization is the establishment of joint stock companies where the founders of companies who constitute the cluster and which are limited liability companies. The best way of connecting companies for this purpose is the formation of the consortium. The

15 Traill, B.W., Meulenberg, M. (2002): *Innovation in the Food Industry*. Agribusiness, 18(1), p. 1-21.

Consortium is an unnamed contract that is a product of business practices. Consortium Agreement creates multiple groups of companies, which retain their legal and business personality, which is centered on a business goal. The consortium has assembly and board of directors. The consortium is engaged realizing common tasks, such as the formation of brand, quality management system, development of integrated management systems, innovation activities, research and development, improving the productivity of knowledge, thus with all those jobs and functions that individual SMEs as founders of clusters can deal with. This form of cluster organization aims to continuously provide the financial resources for developing, launching their own funds, applying for a business, profit sharing, etc.

Regardless of the organizational form chosen for the start of the cluster, it is necessary to understand that it will change over time, as the market becomes more successful cluster. The point is - form should follow function of clusters and to foster the development goals of the cluster.

The role of clusters in the improvement process of the competitive abilities of small and medium companies in the Republic of Serbia

The sector of small and medium companies has an important role in the development of the domestic economy. Most of the companies operating in the Serbian market according to official indicators, defined as small and medium enterprises (SMEs). In Serbia, SMEs participate in the total number of enterprises with 99.8% from 65.5% in employment, with 67.6% of the market, with about 36% of the gross domestic product. The total exports of the SMEs sector accounts for 50.2%, in imports of 64% and 51.2% in investments in non-financial sector. Micro enterprises are dominant in the SME sector with a share of 95.6% total and employ almost 50% of the total number of employees.[16]

SMEs development significantly affects the improvement of competitiveness of national economy. SME is acting flexibly develop innovative market, and in some cases made revolutionizing the existing parts of the market. The most important role of the SME sector should be reflected in the development of competitiveness at the level of national economies into the international business functions to improve the local economy. Serbian Government adopted the Strategy of development of competitiveness and innovativeness of SMEs for the period 2008-2013. The above strategies should contribute to further strengthening and effective use of development potential of the SME sector, which will have a positive effect on economic growth in the Republic of Serbia. Such guidance should contribute to increasing competitiveness and exports, further strengthening the innovation capacity of enterprises, employment and the dynamic development of more balanced regional development. On the other hand, a significant part of domestic firms is not ready to enter the international market and the free market competition with international competition. Uncompetitive

16 Službeni glasnik RS (2008). *Strategija razvoja konkurentnosti i inovativnosti MSP za period 2008-2013. godine*. Br.55/05, 71/05-ispravka, 101/07 i 65/08, Beograd.

products can be found in the fact that Serbia is not yet sufficiently developed free market competition. Some features from the past are still occurring as obstacle to development of international business with local businessmen, among them the most important are:

- Insufficient orientation of the production forwards the export;
- Unsynchronized performance of local businessmen;
- Lack of implementation of modern principles of corporate governance, adopting the marketing concept and its application in international business[17] and the like.

Raising the competitiveness of domestic enterprises is possible with the following requirements:

- Privatization;
- Development of small and medium companies (SMEs);
- Continuously update skills of entrepreneurs;
- Introducing new technologies;
- Attracting foreign direct investment.

Improving competitiveness of SMEs implies active use of knowledge, improving the productivity of knowledge and application of modern management techniques. To the small and medium companies failed to achieve adequate performance on the international market, it is necessary to accept the experience of developed countries, which suggests that the association of the most important factor in the internationalization of small and medium companies.

What small and medium enterprises, especially those that are defined as micro enterprises, resources are so special. These companies operate with very limited business resources. So, as a basic feature that management can make to SMEs is the lack of specific resources. The final outcome of this implies that the formation of alliances or alliances need and market reality. In support of the association of SMEs and business associations, clusters as a function of performing successfully in the international market, say the following advantages:

- Association of SMEs in business alliances to achieve synergetic effect of their appearance on the international market;
- Overcomes the problem of poverty of resource;
- Dramatically reduce the cost of servicing the international market, and therefore the business;
- Create the conditions for widespread application of modern management techniques;
- The pace of internationalization of business is significantly faster, with the possibility of further conquest of foreign markets.

The strategy of development of competitiveness and innovativeness of SMEs for the period 2008-2013 was positioned with clusters as an instrument to increase competitiveness in

17 Cvijanović, D., Popović, V., (2002): *Marketinška orijentacija preduzeća uslov razvoja malih i srednjih preduzeća u agrobiznisu Srbije*. Ekonomika poljoprivrede, 49(3-4), p. 129-135.

international markets.[18] According to data from 2008 in Serbia there was 22 clusters, of which in 2008, age 14 clusters received support from the government - Ministry of Economy and Regional Development has provided 52 million dinars of grants for the establishment and development of clusters (31 million are budget resources, and 21 million was a Norwegian donation).[19] According to currently available data[20] in Serbia exists 27 clusters. Of these three clusters are in the establishment - textile cluster LZOTEKS, RE: Crafts - cluster for the revitalization of traditional crafts in Serbia, and cluster Somborski salaši. Clusters are established as a civic association. Of the 27 clusters we have in the second phase of the establishment 12, six of them national - Automotive Cluster of Serbia - AC Serbia, Galena - Cluster for the organized collection and recycling of waste batteries and accumulators, Medical Tourism Cluster, The Agency for Wood - Serbian Wood Processing Cluster, Serbian Film Association – SFA, ICT Network and Auto REC Serbia – Cluster for management of waste vehicles. We also can mention some clusters from the first phase of development - Fashion and Clothing Industry Cluster of Serbia - FACTS, Cluster of Serbian food producers - POLUKS, Vojvodina ICT Cluster, Construction Cluster-Brick, and Agribusiness, etc.

Organizing SMEs is certainly a question of entrepreneurial initiative - entrepreneurs have to find yourself interested in joining, but should not in pursuit of their interests are dissimulated. With the Strategy of development of competitiveness and innovativeness of SMEs the state government has created an institutional framework that will allow uninterrupted association of entrepreneurs, but the question of organization of entrepreneurs is their only issue, however. Entrepreneurs on the basis of private initiatives should be organized as a function of successful market penetration, particularly at the international level. The question of organization of entrepreneurs in the domestic market is under-represented, regardless of the specific improvements that were achieved in the last three years.

Clusters as a form of improving the competitiveness of Serbian companies in the field of agricultural and food industry

Of the total number of clusters formed in the Republic of Serbia, the four clusters are related to agriculture and food industry and they are: BIPO Cluster - Balkan-Black Sea Industry of Agricultural Machine, Sumadijski flower - a cluster of flowers manufacturers, Agribusiness and food producers Cluster - Pollux. The first two clusters are located in the second phase of development from the work of the cluster in the initial period of organized labor, while the other two in the first phase and includes the initial initiative to link the concept of clusters.

18 Vlada Republike Srbije (2008). *Strategija razvoja konkurentnosti i inovativnosti MSP za period 2008-2013. godine*. Službeni glasnik RS, br.55/05, 71/05-ispravka, 101/07 i 65/08, Beograd.

19 Ringier (04.10.2008): *Klasterima u lov na tržišta*. Novac, Beograd, p. 11.

20 www.klasteri.merr.gov.rs [accessed February 2012.]

Table 2, shows the basic data on all four clusters confirm the validity of their formation. Cluster Sumadijski flower has most affiliated companies (134), as well as scientific research and supporting institutions (10) to promote the work of the cluster. For them going BIP cluster with 30 companies and 9 scientific research and supporting institutions. Other clusters are smaller, but this is primarily what they are in the first stage when it is connected to and looking for new interested parties. Scientific research and supporting institutions are effective because they allow cluster members individually what had adequately addressed, and that is: new knowledge, marketing and product design, assistance in the implementation of standards, information on new trends in the sphere of their operations and the like. What is the all-important cluster, but also for the communities in which they work is that they employ many workers, which justify their association.

Table 2. An overview of clusters related to the food industry[21]

	Cluster BIP	**Šumadijski cvet**	**Agro industry**	**Cluster POLUKS**
The number of companies within a cluster:	30	134	18	20
The number of scientific-research supportive institutions:	9	10	3	7
The number of employees:	1.722	780	209	1.099
The overall profit of the companies within a cluster	€32 million	€3.7 million	€3.3 million	€33.3 million

Companies associated in clusters find that it is the biggest problem so far was the lack of trust between the companies and that this constituted an aggravating factor in the merger of trying. So joining the company in a cluster failed to achieve what until now was impossible, and that is freedom in the work of the company. However, the general problem of Serbian clusters is their lack of competitiveness, which hinders their business internationalization. Some clusters have begun to work in terms of improving competitiveness through various activities. Sumadijski flower cluster is aware of past successes and plans to expand the cluster through the association of new companies, not only from Serbia but in the region (Montenegro, Macedonia, Serbian Republic, Bosnia, and Croatia). So this cluster plans to hold the position of the largest organization of florists in the region. Their plans, particularly in favor of the signing of the CEFTA agreement, provide an excellent opportunity for Serbian food industry.

21 www.klasteri.merr.gov.rs

Domestic food producers, who have a quality product, have a problem with the placement of products on the market because here are not certain international quality standards.[22] In fact, manufacturers must take into account the quality of the product because the price for Chinese enterprises cannot be competitive. Therefore, implementation of group standards (HACCP, GLOBALGAP) clustering is an effective way for companies to be qualified to do business in foreign markets.[23] As an independent company it could not submit the financial costs of its introduction. Within the clusters there is Pollux initiative to introduce HACCP food safety systems which are the obligation of all companies in the food industry. This is one of the advantages of clusters in relation to its own business, because it allows for timely information in areas that are necessary for their business. According to the National Strategy for Economic Development of Serbia[24], as one of the most important measures for improving sector competitiveness in the food industry says the introduction of food safety standards, which should ensure the complete safety of food products in all segments of production and processing.

Companies from the food industry who have certificates of quality to them that believe in doing business with EU countries are not enough.[25] Specifically, they argue that to succeed in foreign markets other than the certificate required joint action associated companies as a whole. This just shows what the justification of the Serbian government in stimulating the merger of the clusters is.

Conclusions

One of the problems of the food industry is it's still not enough competition in foreign markets.[26] There are several reasons for this, but most important are: disorganized appearance on foreign markets, lack of funding performance in foreign markets, the continued product quality, lack of certain certificates (HACCP, GLOBALGAP, Halal certification, etc). Therefore, as the need arises for companies joining the cluster as a great way to overcome these problems. This applies particularly to SMEs that are not in the organizational and financial situation to respond to the need to develop competitiveness

22 Đorđević, D., Ćoćkalo, D., Bešić, C., Sajfert, Z. (2010): *Benefits From Implemented Quality Management System – The Research in Serbian Economy*. TTEM – Technics Technologies Education Management, 5(1), p. 189-197.

23 Djordjevic, D., Cockalo, D., Bogetic, S. (2010): *An analysis of the HACCP system implementation- The factor of improving competitiveness in Serbian companies*. African Journal of Agricultural Research, 6(3), p. 515-520.

24 Vlada Republike Srbije (2005): *Nacionalna strategija privrednog razvoja Republike Srbije od 2006. do 2012. godine*. Beograd, p. 47.

25 Đorđević, D., Ćoćkalo, D., Bešić, C., Sajfert, Z. (2010): *Benefits From Implemented Quality Management System – The Research in Serbian Economy*. TTEM – Technics Technologies Education Management, 5(1), 189-197.

26 Pejanović, R., Cvijanović, D., Njegovan, Z., Tica, N., Živković, D. (2009): *Problemi poljoprivrede Republike Srbije i mere za prevazilaženje krize,* Ekonomika poljoprivrede, 56(2), 221-230.

in domestic and foreign markets. In current practice, joining the company in clusters that operate in this area proved to be very successful, which resulted in that some clusters become leaders in the region.

However, to encourage the formation of clusters required the cooperation of several actors in society, such as state, local governments, business associations, etc. Their role is to promote the concept of clusters as well as the initiation of its formation. Special attention should be paid to scientific research and supporting institutions that represent the most important part of the cluster members for providing the necessary knowledge and information that are up to that time were less available.

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RAZVOJ KLASTERA U FUNKCIJI UNAPREĐENJA KONKURENTNOSTI MALIH I SREDNJIH PREDUZEĆA U PREHRAMBENOJ INDUSTRIJI SRBIJE

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Rezime

Prehrambena industrija predstavlja jednu od grana koja ima najviše potencijala u Republici Srbiji. Mala i srednja preduzeća (MSP) u prehrambenoj industriji mogu da unaprede svoju konkurentsku sposobnost po osnovu stvaranja klastera - preduzetnici dobijaju ono što im je do tada nedostajalo: nova znanja, nove tehnologije, povoljniji pristup kreditnim linijama, lakši tržišni nastup, kao i zaokruživanje proizvodnog ciklusa od primarnog proizvođača do prodaje. Kreiranje klastera odgovara primarnim proizvođačima koji na taj način dobijaju sigurnost u proizvodnji proizvoda i njegovom plasmanu. Udruživanjem u klastere finalni proizvođači obezbeđuju sirovine na čiji kvalitet mogu da utiču.

Ključne reči: *klasteri, mala i srednja preduzeća, konkurentnost*

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