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# Cluster Development Strategy in Serbia

Srdjan Redzepagic

PhD, Institute of Economic Sciences, Belgrade, Serbia

This paper aims to present the development process of clusters in Serbia. The paper analyse also of cluster development strategy in some neighbouring Balkan countries. Regarding the development of industrial production of some Balkan countries, there are also major differences. With the exception of Albania, which was and still is very de-industrialized, and Bosnia and Herzegovina, where we take 1995 as the base year (which is why there has been a rapid growth), other countries are still far from the levels of production in 1990. This is one of the main problems, excepting also economic, political and social aspects and facts, which is developed in this paper.

Cluster, Serbia, Economics, Integration, Europe

## 1. Introduction

Since the signing of the Dayton Accords, the European Union (EU) has spent a great interest in the stabilization of the Western Balkans<sup>1</sup> and expanded many policy instruments. The measures taken by the EU to stabilize the region and prepare for accession represent a particular aspect of the enlargement policy. Summit “EU – Western Balkans” in Thessaloniki in 2003, the prospect of membership for the Balkan countries has been confirmed, while offering cooperation programs. Taking into account the economic and political instability as a strong external support, led by the EU was necessary. But the countries of the region must fulfill a number of requirements needed without knowing that own efforts, without regional cooperation, no positive results (in terms of sustainable progress) or no prospect of integration will not be possible.

## 2. Western Balkan development strategy

When comparing levels of development we can see that the Balkan countries are far behind the countries of Central and Eastern Europe (CEE), which joined the EU in 2004 and 2007. Many studies have been done on this subject [Redzepagic, Djukic, 2011]. With the exception of Croatia, which approximates, other countries have a gross domestic product (GDP) per capita is less than half of the new member states of CEE countries. This means that the Balkans is at 25 percent (%) of the EU average.

If we compare the wages, the difference is even more obvious. It is interesting to note that wages in the countries of the former Yugoslavia are much higher than in other Balkan countries in transition [Redzepagic, Richet, 2008 and Redzepagic, 2007]. This is because the price level was much higher in the former Yugoslavia, which is the inherited disease. These countries had a higher price level before 1990. It is obvious that prices and wages adjust slowly. In any case, the competitiveness of the Balkan countries is not particularly high.

It may be noted that the Balkan economies are small and low-open-more precisely the degree of openness of their economies is at a level lower than potential. There is an asymmetry between exports and imports. For example, exports (based on cumulative) Albania are about 7% of GDP, while imports accounted for 30%. Serbia's exports are less than 15%, while imports are about 40%. The Croatian economy is more open, mainly due to large exports of services. With the exception of Croatia, other countries have little to offer to the EU and the rest of the world.

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<sup>1</sup> Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Kosovo, Macedonia, Montenegro and Serbia.

Regarding the development of industrial production in Balkan countries, there are also major differences. With the exception of Albania, which was and still is very de-industrialized, and Bosnia and Herzegovina, where we take 1995 as the base year (which is why there has been a rapid growth), other countries are still far from the levels of production in 1990.

In the period 1990-2003, the decline in industrial production in the Balkans was much greater than the fall in GDP, while growth in industrial production in Central Europe was much higher than GDP growth. It is clear that in the Balkans had long process of deindustrialization. In addition, if we take into account the fact that the process of industrial restructuring is beginning in this region, we can expect a further decline in industrial production in GDP.

On the labour market, the area is subject to serious difficulties. In general, employment is still declining [Drasković, Stosic, Redzepagic, 2012]. In the Balkans, unemployment rates are high, and sometimes very high. A large part of the labor force had left the area looking for work in Europe or abroad. Lack of reliable data, there is no doubt that many people have left the Balkans, particularly the areas that have been affected by the civil war. In this context, the rate of high unemployment and low employment rates are probably the biggest problems.

When unemployment is high, the black market develops. Otherwise, people would starve. Estimates of the size of the informal sector (this includes jobs for which you do not pay taxes), vary greatly.

### 3. Cluster development in Serbia

In Serbia, as in many countries it is possible to conclude that the direction of economic development is not enough current practice of economic planning, but it is needed to adapt practices developed and adapted methods for economic development and the organization of the national economy, which is often the same or even much smaller amounts of funds achieved significant economic growth and allows rapid changes in economic structure. Uneven development areas in Serbia has further urged the government to start taking concrete measures, similar to other countries and thus facilitate the adoption and implementation of such methods, which will be similar in other countries not only allow reaching economic growth but will help to reduce excessive rates of unemployment, faster development of the country economy, especially in some underdeveloped areas of the country.

The Serbian government on the proposal of the Ministry of economy and economic development has ordered the famous German firm *Gesellschaft für Technische Zusammenarbeit GTZ/ GmbH* under the supervision of the Ministry of construction – “project to encourage the development of clusters in Serbia beginning in 2007.”

This versatile and very comprehensive project did not consider only the government of Serbia, but also universities chambers of commerce and other relevant public bodies. They all looked at it and we can say that the most positively assessed the project and formed the proposals to seal the adoption of appropriate regulations and regulatory instruments. The good example is the rules of entry in the register of companies of clusters. Of course, one part of Serbia well-known as the Autonomous Province of Vojvodina (APV) has initiated development of a strategic plan for the development of clusters, the Secretariat of the Executive Council of APV economy but also took action.

As one possible strategic direction, accepted the plan of development and strengthening of small and medium-sized enterprises –that they could counter the influence of the dominant big block (which is understandable)– for example due to the excessive centralization of total employment in the economy and institutions 49% are employed in those businesses and institutions whose registered office in Belgrade, capital of the Republic of Serbia.

Since the present territorial organization, the efficiency of the organization of these groups is not viewed only through indicators of economic efficiency, or the movement of population

growth, but as a precondition for accepting the fact that this concentration allows the development of these impulses –who created the holders of economic development activity and the moved to other parts of the region.

Within the analysis, there are two possible aspects of cluster development in the Republic of Serbia:

- Socio-economic-political aspects.
- Economic aspects of development, such clustering can be considered as an socio-economical goal towards the process of integration of Serbia in the EU.

For Serbia, it is a very important cooperation with the EU member states, which has a special significance when viewed from the standpoint of securing the necessary funds for the development of the so-called “pre-accession funds”. These funds are playing very important role for Serbia and their way toward European integration process.

As is well known, Serbia is among the countries that are waiting for accession to the EU in the category of candidates for the EU accession, and can count on the pre-accession funds. As for us is important, one of these funds includes funds that are directed to the balanced development of regional cooperation of clusters.

Second Cross-border cooperation is through the functioning of the component realizing the cooperation institutions borderline region (regardless of whether the neighbouring EU member states or not). Here, the priorities related to this activity are defined in planning documents related to the number of years –and it called “operational programs”. For regional development, human resources development and from funds designated for rural development of Serbia still can not use the funds.

## 4. The general model of cluster formation in Serbia

Unfortunately, we do not have such a pattern that would take into account the entire specific region, but in Serbia there is a so-called general model, which is used to form clusters containing significant factors and stages of development, and then take care of the limited resources, particularly on the needs.

Creating an infrastructure that will serve to the development of clusters in Serbia has the aim to:

- Create the developmental and educational centres at the regional.
- Execute the promotion of information on clusters.
- Establish multidisciplinary teams to support the development of clusters.
- Create an institutional network to the regional and national level to worry about clusters.
- Facilitate international relations and cooperation.

In Serbia, it is necessary to identify the possibility of creating clusters within the regions. Concerning this, it is necessary to: identify the potential that serves clustering, develop a model system to connect and map and evaluate themselves in relation to other regions and having open competition policy in the country.

There are some activities related to the clustering process in Serbia. Within this it is clear that in areas where there is a critical concentration level of the company, it is difficult to create a cluster. The existing channels of communication should be re-qualified in the formal channels. It is necessary to develop cooperation among businesses better with the development of network. On this way, it is necessary to establish a partnership between the companies at the regional level with the aim of achieving unique educational personnel. Also, in Serbia within this process it is recommended to raise the level of cooperation and the regional, national and international level.

Within the development strategy of Serbia, it is underlined importance of development and application of new technologies and ideas to support entrepreneurs. For Serbian companies it is strongly recommended to invest in innovation and to start a business. Serbia has to support

incubators cluster-based and that could encourage the development of business networks of entrepreneurs. In order to realize these, government of Serbia could support of development of technological parks and centres.

Those wishing to establish clusters in Serbia need to organize the organizational and management structure. Especially it is necessary to determine the organizational structure of clusters, then the flow of information and control mechanisms, but also to determine the cluster development teams. Development of management structure in Serbia is necessary in order to raise the performance of the cluster.

Marketing and brand development of the region are playing crucial role. In Serbia economy, it is necessary to determine the requirements of their environment and adapt cluster; but also to maintain the promotion of clusters –products, services, ancillary services. Public administrative has to facilitate the functioning of all the channels that serve the export and sale of products and services.

In order to attract these cluster development policy, Serbian government has to direct the development of clusters. It is necessary to encourage and stimulate joint projects of the cluster members, to invest in research and development which could result on cluster development. Having in mind Serbian financial situation, especially in the time of global economic crisis, it is recommended to ensure financing of the cluster providing by the stationary sources.

## 5. Conditions and opportunities to create clusters

Identification of necessary conditions and opportunities to create clusters within the region are very important. Clusters are based on the correlation between different companies. These links can be: a common or complementary products, identical technologies, identical needs for natural resources, need for specific professions and/or channels for sale. For cluster system, the first criterion for its creation is merging companies. As a second criterion for the establishment of clusters in Serbia and Balkan region, it is required a great concentration of firms belonging to the same industry. The third criterion for cluster listed in place and functioning links with research institutions with which it is possible to increase the application of new ideas and technical and technological innovations.

For identification of necessary resources for cluster, it is necessary to have list of required data (concerning the Serbia) containing the following information: number of enterprises belonging to one branch and number of employees in companies. Movement of capital in the monitored companies is of high importance for the analyses. In order to achieve the full effect, it is recommended to connect the sectors that interest linked, for example, to connect the timber industry with furniture industry, textile industry with fashion clothes, then the chemical and machine industry with plastic, etc.

Having in mind actual situation in Serbia, there are some activities which are necessary for cluster development in Serbia. First of all, it is important to put together a list of the participants of the cluster in Serbia. Also, it is recommended to prepare an inventory of common equity and adopt the institutional authority system in Serbia. It could be good to establish “open membership”, that means to set the conditions of membership in the cluster, establish active participation of members of the cluster and define clear action plan (who, what, when, where, etc.).

The successful operation of a cluster depends not only on the successful work of individual companies, but to a large extent on the fact that how can they be integrated together in a single organization to function. Therefore, it should be noted that the need and the continued development of the company, but not a sufficient condition for the successful operation of the cluster. In Serbia, there is very important fact for the successful operation –it is necessary to coordinate the organization, planning and development of integrated treatment.

## 6. Some problems that occur in the membership of enterprises in clusters in Serbia

Difficulties arise with a very complex construction of the clusters, the essentially holistic nature of the cluster. It is due to a different system existence and functioning than the simple sum of element function clusters. The fact is that the big number of companies are missing certain rules (regulations) relating to the integration processes.

Within the case of Serbia economy, the main problems can be classified into four groups:

- 1. In order to realize integration of the system, it would be necessary that the elements of the system are planned for cooperation. Problem comes from the fact that elements of the system have a very large number of direct and indirect connections depending on the industry in which the cluster belongs to and depends on a variety of manufacturing and service programs.
- 2. The problem arises from the large difference between clusters which are not available to describe a general model of development that would be the best way to predict all parts of the clusters and their connections.  
In large industrial systems are experiencing this problem, even those who have a similar product range, with large difference in infrastructure, technology, and organizational development.
- 3. Problem arises from the fact that links and influences between the elements of the cluster depend on environmental conditions in which they operate.
- 4. It is necessary to train people and create an environment that will enable the integration of the cluster, create harmony in the field of human, technical system and cluster environments.

## 7. Serbia has challenges of integration process in the cluster

In Serbia, there are three main parts for integration process into clusters, as follows:

- Determination of the strategic plan, establishing a vision, plan creation and development of clusters and the appropriate climate, that will all change in focus towards integration.
- Integration and development of the fundamental processes of doing business, which generates the basic function of the cluster enterprises.
- Development of modern information system as the most basic support for the integration process.

When creating some cluster, first step is to determine the vision, mission and goals then, and determine why the cluster is created, what is to be achieved in the near and distant future, formed by the working group as agents of change, identify the plan after plan development and integration. Long-term vision and mission are achieved through the operation, as for example cluster activities, the technological components that are nothing but scientific advances that enable the implementation process.

With huge investments in the most important elements in a cluster of industrial parks could achieve a reputation (social recognition) cluster, which is one way to significant and large organizations in order to motivate creation of clusters. Certain regions in Serbia are pushed toward creation of clusters, with some investments for that, but it ended up with different results and consequences. Sources of funds distributed by the state agency rather put in the foreground the degree of success which has been previously mentioned. Resource requirements for cluster beginners are quite different in terms of time, as well as in volume.

Many socially justified leading research and development are currently performed in the institutions of state universities in Serbia. These studies did not make sure that the focus on the needs and possibilities of the regional economy are pertinent.

From a general point of view, some cluster organization can solve financing questions through membership fees, but also alumni is generally characteristic of clusters to explore possible sources of funding and financing, all these in order to maintain the required activity level for clusters. Regional support can mean long-term solution for the functioning of the cluster and the "multi-year" period. In Serbia in the last two years there has been a positive change in terms of funding clusters. In the budget of 2008, the Ministry of economy and economic development has provided more than 300000 Euros for the development of clusters.

Within the budget for 2009 there was near 400000 Euros done for programs for clusters development in Serbia and nearly 600000 Euros for innovation, which also was used effectively by clusters.

In addition to these “fundamental factors”, that has been presented here, there are other factors of success. It is necessary to say something about the other aspects that influence the development of clusters in Serbia. Presence of large business firms, provision of adequate infrastructure, the presence of the entrepreneurial spirit and providing the necessary funds are some of these other factors present actually in Serbia.

Generally in successful clusters often present major economic firms. They are actually anchor clusters, large sources of technological knowledge, market experts and professionals. Very large firms act as a single independent innovation system, which provides space for development, finance their own research departments, provide support for the technical development and in a sense they are the initiators of the formation of the market. Large firms provide a constant movement of professional people, who will then be able to hire smaller firms. In Serbia, large companies will be in certain senses which create the “critical mass” of experienced managers and professionals. They can provide customers and suppliers too. Large companies can provide ideal conditions for the development of high level processing technology, but also could have multiplier effectiveness on local economic development in the region. So that affect the growth (increase) in the number of skilled workers with a high school diploma, then to specialize in general and the development of institutional basis of government support that can be expected for clusters in Serbia.

National economic development strategy of the Republic of Serbia, for the period 2006-2012, contains provisions on clusters (the same applies to the regional development plan of Serbia). In Chapter 5.2.3. it is clearly defined that “... State and problems, the last decade of the cluster concept has become central idea of competitiveness and economic development”, but also clarify that “... However there was sharing of knowledge and resources in the inventive process, as one of the key advantages of the cluster.”

Foreign financiers have identified opportunities to help business associations in Serbia (especially *GTZ* project funded by the German Ministry of Economy), which supports the initiative for the formation of clusters, including tourism cluster along the river Danube. It is clear that in Serbia they do not have enough general knowledge about the clusters and the lack of skilled people needed to realize this concept.

In terms of the division of funds for the operation and development of clusters in Serbia in strategy provided by Ministry of Economy, and the allocation of resources to support clusters should perform on a competitive basis, with the participation of financial assistance may not exceed 50% of the cluster projects. The second principle is instructed to assist the development of clusters, which should be adapted to the stage of development of the cluster, which means that the clusters are able to apply for co-funding the initiative to connect the concept of clusters.

## 8. Conclusion

Interconnected companies, which operate as a network system, will receive state subsidies and the opportunity to jointly procure cheaper raw materials in order to become more competitive and successful. In Serbia, where are actually 20 clusters (groups of interconnected companies located in a particular geographic area and function as a network system). Generally, they are poorly organized and inadequately trained management. If not for government assistance, it is questionable whether many of them would survive. It is commonly analysed from the European Union and the Ministry of Economy of Serbia, to propose concrete support clusters. They will receive 40 million dinars (approximately 400000 Euros) grant for development (per year, for 2012). Enterprises in Serbia, members of

clusters, can apply for 60 million (approximately 600000 Euros) provided for within the Programme for the promotion of innovation in Serbia. To begin, it is created in Serbia a favourable environment for businesses who wish join together in clusters. Also it is not, however, intended to create clusters of government, as many examples have shown in the world that it is not good when the state intervened directly and form clusters. Neither the seven clusters in the well-known Silicon Valley are formed by the United States. It is only created the conditions to join the company in clusters and encouraged their development by investing in knowledge centres. The idea is to do the same in Serbian. When a small business has a problem and someone tries to complain and ask for help, no one heard –this is the main problem! This, however, is not the case with large companies, because they have still “stronger power”. This is why small companies in Serbia should be linked to the joint venture. Secondly, the internationalization of business, importing a large number of foreign companies show that competition came into Serbian economy. It is therefore important for small businesses to join, in the domestic market, first position in national market, and when it develop and then they could joint international markets –try to find place in it. Easier access for specialized suppliers, lower development costs of new products and services, exchange of technological knowledge and information and shared access to new, domestic and foreign markets are some of the key benefits that a small company can have accessing the association within the cluster. The benefit is reflected in a cheaper and regulations apply. Connect with other agencies to provide professional services companies reduce costs in clusters. The goal of the state is to encourage economic growth and development, and to improve the standard of living. The only way to achieve that is to increase productivity and competitiveness, and clusters are a good tool for that. When foreign investors see that Serbia has strong clusters, then they will have intent to cooperate. Companies may join and form a new cluster and joint projects compete for funds awarded from Serbian government. Respecting Serbian law, the cluster has to be composed by, at least, nine companies plus three support institutions. In addition, a minimum of 60 percent of a cluster must make small and medium-sized enterprises. Compared with those in the European Union, Serbian clusters are relatively weak and would not be able to compete with European. Therefore, the Government of Serbia wants to strengthen them. Actually, the most successful clusters in Serbia are software cluster with 15 members, automotive cluster with 27 members and small agricultural machinery manufacturer which has 15 companies and five additional institutions. According to the Ministry of Economy and Regional Development of the Republic of Serbia, the countries in the region have more clusters than Serbia. In Croatia, there are registered 44 registered clusters, 48 in Hungary and in Bulgaria 50. It is interesting, however, that in Slovenia there are only 10 clusters, while in Italy even 213.

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