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CLUSTERS INTO POLAND AND SPAIN: COMPARATIVE CASE STUDY OF TWO CLUSTERS FROM THE AGRICULTURAL INDUSTRY

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Слонієц І., Саез С. П., Ладжара М. Б. Кластери в Польщі та Іспанії: порівняльний аналіз на прикладі двох кластерів сільського господарства.

Метою публікації є порівняння двох груп з різних куточків Європи, деталізувати етапи його розвитку і дати рекомендації для майбутнього росту двох груп. Методика пропонує використовувати приклади з двох груп з Польщі та Іспанії, які пов'язані з харчовою галуззю. У той час як сільгосппродукція характеризується великою кількістю фірм, комплементарної промисловості, університетів і науково-дослідних центрів, екологічний кластер продовольчої долини знаходиться на початковій стадії розвитку і до сих пір не достатні економічні ресурси, які будуть підтримуватися з повної автономії, щоб стати конкурентоспроможними. Головною рекомендацією є те, щоб розвиток сільгосппродукції проілюстрував етапи, які екологічний кластер продовольчої долини зможе пройти у своїй власній еволюції.

Ключові слова: кластер, агропромисловий комплекс, Польща, Іспанія

Слониец И., Саез С. П., Ладжара М. Б. Кластеры в Польше и Испании: сравнительный анализ на примере двух кластеров сельского хозяйства.

Целью публикации является сравнение двух групп с разных уголков Европы, детализировать этапы его развития и дать рекомендации для будущего роста двух групп. Методика предлагает использовать примеры из двух групп из Польши и Испании, которые связаны с пищевой отраслью. В то время как сельхозпродукция характеризуется большим количеством фирм, комплементарной промышленности, университетов и научно-исследовательских центров, экологический кластер продовольственной долины находится на начальной стадии развития и до сих пор не достаточные экономические ресурсы, которые будут поддерживаться с полной автономии, чтобы стать конкурентоспособными. Главной рекомендацией является то, что развитие сельхозпродукции проиллюстрировал этапы, которые экологический кластер продовольственной долины сможет пройти в своей собственной эволюции.

Ключевые слова: кластер, агропромышленный комплекс, Польша, Испания

Słoniec Jolanta, Sáez Zaragoza Patrocinio, Lajara Marco Bartolome. Clusters into Poland and Spain: comparative case study of two clusters from the agricultural industry.

The aim of the publication is to compare two clusters from different parts of Europe, detailing the stages of its development and make recommendations for the future development of the two. The methodology proposes using the case study examples of two clusters from Poland and Spain, both linked to the food area. While Agrofood is characterised by the large number of firms, a complementary industry, universities and research centres, the Ecological Food Valley cluster is at an initial development stage and still has not sufficient economic resources to be maintained with full autonomy, and to become competitive. The main recommendation is that the evolution of Agrofood illustrates the stages that the Ecological Food Valley cluster could go through in its own evolution.

Keywords: cluster, agricultural industry, Poland, Spain

Globalisation, along with the gradual reduction of tariffs and the deregulation of numerous economic sectors, entail new challenges and opportunities for competitiveness in every country and region. In this context, a number of authors suggest that business concentration benefits firms through the generation of several externalities; that is why clusters – and inside them, industrial districts– are acquiring more and more relevance as an essential variable for the growth and competitiveness of a specific territory. Some of the best-known cases are those found in Italy, Germany or Spain, although the study of clusters in Poland has also been gaining importance during the last few decades.

The aim sought with this paper is to determine how clusters are developed in Poland from a comparative analysis about cluster competitiveness between Spain and Poland. More precisely, this study focuses on comparing the clusters of two regions where the weight of the food and agriculture sector is high inside their respective countries, namely: the Murcia Region in Spain; and the Lublin Region in Poland. The Murcia Region's food and agriculture sector is one of the most highly-developed ones on a European level, which is why studying the public policies and business strategies that have favoured its development can prove very useful for the actors in the cluster of a similar region in Poland – this being the main contribution made by the present paper.

Seeking to achieve our aim, a literature review was carried out that provided the basis for us to do research. A comparative analysis about the two clusters - agri-food products in the region of Lublin in Poland (Ecological Food Valley) and the region of Murcia in Spain (Agrofood) – was subsequently performed, the results of which allowed us to establish final conclusions.

Analysis of recent researches and publications

The literature on business clusters is extensive, and it has additionally received contributions from various disciplines, such as economics, business management or sociology. Already in the past

century, Marshall (1920) highlighted the importance corresponding to the externalities that took place within a cluster and analysed the advantages that firms belonging to one particular sector had for being located in a specific territory (localisation economies). Among the externalities generated by agglomeration stand out the following:

— The existence of firms dedicated to this same sector, along with complementary-activity firms such as suppliers of inputs, specialised services and capital goods; in other words, the availability of complementary competences and skills.
— The existence of specialised labour in that territory.
— Transmission of know-how (knowledge spillovers) as a result of the interaction between all the agents present in the territory.

Taking Marshall's theory as a reference, Becattini (1979) examined business agglomeration in Italy. He did not use the term "cluster" in his studies but "industrial district", to describe concentration in peripheral areas of small- and medium-sized enterprises characterised by their social and historical ties as well as by those derived from their cooperation with other agents.

Porter (1990) also analysed business clusters and developed the "diamond model", which consists of four elements: (1) conditions of demand; (2) conditions of factors; (3) presence of similar or related industries; and (4) strategy, structure and rivalry. For this author, a cluster is composed by a geographically close group of interconnected firms and associated institutions within a specific field (sector) and linked by a series of complementarities and synergies. According to Porter, the competitiveness of a cluster will derive from the interaction of these four elements, which will take place if firms are located close to one another within a specific geographical context.

Based on the approaches presented above, a cluster could be defined as a geographical concentration of firms belonging to the same sector and other similar firms where a set of ties is established between those firms and public as well as private research and financial institutions, together with others which have as their main aim to provide business support. The closeness between all these agents brings a number of benefits, such as the proximity to raw materials and markets, the supply of skilled labour, the support of institutions, as well the increased know-how of firms on an individual level and the improved competiveness to contend in an international context (Molina-Morales & Martínez-Fernández, 2008). Business agglomeration also has drawbacks, though; for instance, a higher degree of competition between the existing firms both in terms of labour availability and with regard to customers.

Given the importance of business agglomeration for the competitiveness of one region and of the firms located in it, the public policies oriented to strengthen clusters and districts deserve special attention (Rosenfeld, 2002). Nevertheless, as stressed by Altenburg and Meyer-Stamer (1999), each cluster will require a specific type of policy according to its distinctive characteristics and depending on the lifecycle stage in which it finds itself.

Several authors have tried to identify the lifecycle stages of clusters (Crespo, 2014; Menzel & Fornahl, 2010; Pacheco-Vega, 2007; Swann & Prevezer, 1998). In general terms, a cluster's lifecycle can be said to consist of four main stages: formation or emergence stage; growth stage; maturity stage; and decline stage. The first stage is characterized by the scarce number of small firms present and by the absence of a dominant service or product. This lack of consolidation offers plenty of opportunities, attracting new firms and increasing variety. Uncertainty decreases during the second stage, and a dominant service or product becomes established, which favors the entry of new firms. A greater boost is given to business relations as this stage progresses, thus reducing the existing heterogeneity and giving rise to positive synergies for the cluster's firms with respect to external ones. In turn, the saturation in the number of firms located within the cluster that becomes clearly visible during the third stage results in lesser possibilities for differentiation and a slowdown in the arrival of firms to the cluster. Finally, the decline stage characteristically shows numerous firms leaving the cluster along with products or services which have been replaced by other newer ones. However, not every cluster is going to fall into decline. Those who succeed in renovating their resources and capabilities so as to cope with the new market demands are bound to begin a new phase of growth thanks to which they will be able to experience a new lifecycle again.

The main part

Different clusters linked to various economic sectors can be found all over the Spanish territory. Amongst them stand out: automotive cluster in Vigo (Pontevedra); wine cluster in La Rioja; cava (sparkling wine) cluster in Sant Sadurní d'Anoia (Barcelona); tile (glazed ceramic) cluster in Castellón; toy cluster in Ibi (Alicante); marble (natural stone) cluster in Macael (Almería) and Novelda (Alicante); or agro-food cluster in the Murcia Region. Nevertheless, it must be highlighted that the examination of these clusters has essentially been made from the perspective of industrial districts (Boix & Galletto, 2004). Papers checking the existence of industrial districts in certain Spanish regions include those of Ybarra (1991), who identifies and analyses the different industrial districts in the Valencian Autonomous Region, Costa (1988) in Catalonia or Juste (2001) in the Castile and Leon Autonomous Region.

In Poland, as in Spain, there are many clusters associated with the various sectors of the Polish economy, like tourism cluster Beskidzka 5 (Beskid Slaski), sanitary ware cluster (Konskie - Opoczno - Przysucha - Tomaszow Mazowiecki), recovery of health cluster (Naleczow) and food cluster (Podlasie).

In Polish literature there are many works in which authors deal with the theory of clusters. Gorynia and Jankowska (2008) are characterized clusters on the

background of international competition and internationalization of enterprises. Marcinkowski, Ochodek and Wawrzyniak (2012) explain the types of relationships in the network of companies, among which are clusters. The authors assess the level of preparedness of companies to cooperate on the example of the northern region of Wielkopolska.

Agrofood cluster in the Murcia Region (Spain)

The main reason for the choice of the Murcia Region in Spain is that, with only ca. 11,300 square kilometres and a population of nearly 1.5 million inhabitants, it boasts one of the largest Spanish fruit-and-vegetable and agro-industrial production concentrations, characterised by a clear export vocation and high competitiveness levels.

The food and agriculture sector is very dynamic, and it has been under permanent stress in recent years due, amongst other factors, to the demanding requirements of food consumers, who show an ever-increasing respect for the environment, with a higher added value and low-cost –which makes it necessary to improve its management, production and process systems. Innovation in technologies and systems is consequently of vital importance when it comes to maintaining and improving the competitiveness level among firms belonging to this sector.

Table 1. Shows some relevant figures about this cluster.

Regional GDP	27.324 billion euros
Overall useful growing surface area	563,000 hectares
Surface area dedicated to fruit and vegetable growing	46,516 hectares (12.90% of the national surface area)
Weight of the food and agriculture sector in the regional economy	11% of the regional GDP
Number of firms in the food and agriculture industry	1,141 (4% of Spain's total)
Number of fruit and vegetable processing and conservation firms	169 (11.9% of Spain's total)
Weight of the food industry	33.48% of the regional industry
Employment in the food industry	28.42% of the regional industrial employment

Source: Elaborated by the authors from Martínez-Carrasco Pleite & Martínez Paz (2011)

Members of the Murcia Region's Agrofood cluster

Participating sectors. The Agrofood cluster comprises firms dedicated to fruit and vegetable production, firms which elaborate meat (pork and poultry) products and another group of firms belonging to the food industry (vegetable preserves, juices and wine). The firms in these sectors are supplied by their providers (farmers or stockbreeders) and following the transformation of inputs, the outputs generated are sold both in national and in international markets. The skilled labour for the food and agriculture sector mainly stems from university training, as well as from the intermediate degree training imparted from the Integrated Centres of Training and Agricultural Experiences-CIFEA existing in the Murcia Region.

Ancillary industry or related sectors which offer products complementing the main one. The development experienced by the food and agriculture sector has coincided in time with a growth of numerous industries which are ancillary and complementary to it, such as: logistics and transports, metallic and plastic containers, graphic arts, phytosanitaries, greenhouses, irrigation systems, agricultural and industrial machinery, food processing equipment, etc. Because of their size and experience, some of these firms dedicated to ancillary activities have become providers of international know-how, which arises as a key factor for this cluster's present and future competitiveness (Martínez-Carrasco Pleite & Martínez Paz, 2011).

Public and private institutions which supply information and technical support. The public and private institutions listed below are the ones in charge of offering technical support for innovation and competitive development in the firms belonging to the cluster: the Murcia Institute of Food and Agricultural Research and Development- IMIDA, and the Centre of Soil Science and Applied Biology of the Segura (River)-CEBAS-CSIC in the Murcia Region, together with the National Technological Preserve Centre-CTNC, the European Centre of Murcia Firms and Innovation-CEEIM, the University of Murcia, the Polytechnic University of Cartagena (both of them developing basic research initiatives of interest for the sector, managed through their respective Research Result Transfer Offices-OTRIs) and the San Antonio Catholic University of Murcia.

Supporting organisations additionally include the associations and cooperatives created for the purpose of obtaining a higher negotiation power.

Competitiveness factors in the Murcia Region's Agrofood cluster

As explained above, clusters are beneficial to the development of a region, and they also help improve the international competitive position of its firms. The food and agriculture sector in this region largely contributes to its social welfare, insofar as:

— A balanced development of the regional territory as a whole.
— Preservation of the rural milieu and the growth of other economic activities.
— It slows down the depopulation process in the rural world.
— Source of raw materials for other kinds of industrial activities.

The Murcia Region's Agrofood cluster is very well positioned with regard to size, specialisation and approach indicators. More specifically, the wholesale

of food and drinks occupies one of the top positions in the ranking of European regions. From the perspective of internationalisation, 56% of the total volume of exports carried out from the Murcia Region in 2010 –for an amount of 4.964 billion euros– corresponded to those made by its agro-industrial system. The most important destination of exports is to be found in European Union markets –which account for 84.91% of the food and agriculture products exported.

All these results are partly due to the policies implemented from the public sector and to the strategies followed by the cluster firms themselves. As for policies, actions can be found on a European, national and regional level. In the first case, the European Union created the European Cluster Observatory in 2007 with the aim of supporting national and regional policies. In the Spanish context, it is worth highlighting the various National Programmes for Scientific Research, Development and Technological Innovation, which include lines of action oriented towards the establishment of public and private networks and cooperation schemes in issues of regional interest aimed at increasing the competitiveness level of the national productive system. On a regional scale, a special mention deserves to be made of the action plans implemented for the purpose of favouring cooperation, internationalisation and innovation of firms based in the Murcia Region.

Among the strategies followed stand out those aimed at cooperation in various spheres, such as: commercialisation (agricultural cooperativism); opening of new markets (export consortium, joint-ventures, etc.); or processes of joint innovation and business associationism meant to defend sectorial interests.

Agrofood cluster in the Region of Lublin

Region Lublin is located in the south-eastern part of the country, bordering with Ukraine and has an area of slightly more than 25,000 square kilometres. In the region lives about 2.15 million people, the capital of the region is the city of Lublin with 350,000 inhabitants. This is an agricultural region, the region's share in Polish GDP was 3.9%, which puts it in position 10 in Poland (among 16 regions of the country). Although the region is in the best position among the regions of eastern Polish regions, its place is far and recently getting worse (in 1995 the region's share in Polish GDP was 4.6%).

In 2009, every third person in the region were employed in agriculture-related industries (agriculture, forestry, hunting, fishing) and this is the highest percentage among all Polish regions. Lublin region has a very strong relationship with agriculture. The agricultural production area occupies 63.2% of the province and the area produces 8.4% of agricultural production of Poland (the third item of the region among 16 regions of the country). In 2010, more than 50% of the region's population lived in the countryside, while in Poland the percentage did not reach 40% of the population. Agricultural production conducive to the natural conditions of the region, such

as soil and climate. The agricultural sector is well developed, but the services sector for agriculture, unfortunately not. Among the various sectors of the food industry's most important role is played by the production of sugar, dairy products, meat, beer, cereals, tobacco, alcoholic beverages, fruits and vegetables.

By the end of 2011 in the region of Lublin was created 16 clusters, three of them associated with the food industry: OrganicFood Valley Cluster, Lubelski Cebularz – Regional Clusterin Lublin and Association, Lublin Cluster of Food Sector.

Ecological Food Valley cluster has been created on the initiative of the European Regional Development Fund under the Operational Programme Development of Eastern Poland 2007-2013. There were two European projects related to the creation of the cluster. The date of the creation of the cluster is considered to 2010, when the cluster has received legal personality. As indicated in EcoForum 2010 cluster is a network of social and business connections with the area of activity in the regions of Lublin and Carpathian. The coordinating body of work of the cluster is a limited liability company located in Lublin and its surroundings.

The participants of the cluster are equal and there is no parent company. The cluster's activity is based on doing business with the aim of achieving profit and on ethics eco-business code. The financial policy cluster uses business models. The basic process of the cluster is integrated marketing communication. The relations with the cluster's environment rely on building positive relationships with stakeholders and its mission is the promotion and expansion of healthy foods, associated with eco-business.

Currently Ecological Food Valley cluster does not have sufficient funds to finance itself. Two European projects have been completed and the cluster is still looking for resources and ways of functioning on its own. Agro-business cluster of the region of Murcia could be an example to follow for the young cluster in the region of Lublin. It would be possible also effective cooperation of the two clusters, bringing the benefit of both clusters.

The main objectives of the Ecological Food Valley cluster are as follows:
— Supporting the development of cluster structure, as well as regional cooperation,
— Development of cooperation between research centres, organizations working to promote innovation, as well as manufacturers and suppliers ecological products,
— Increased competition and innovation of cluster participants and introducing new products/services,
— Increasing the size of organic production and employment growth in the sector of ecological food products.

Members of the agrofood cluster in the Lublin region "Ecological Food Valley"

The cluster brings together companies and organizations for the promotion and development of organic food. The members of the group are

companies that have the potential and extensive experience in organic agriculture and organic food production. This cluster can join entities and organizations interested in the development of organic food production in eastern Poland (Lubelskie, Swiętokrzyskie and Podkarpackie).

The sectors participating in the cluster. In the cluster includes companies engaged in the production of: fruits, vegetables, spices, frozen food and meat. It also includes organic farms (three) and bakeries and pastry shops (two). Companies in these sectors are represented by suppliers (farmers and growers) who supply raw materials that are converted into products and sold on both the domestic market and internationally. Employees of the cluster have gained mainly education in vocational schools and academic region.

Auxiliary industries or related industries to provide cluster auxiliary products. Among the auxiliary companies there are organizations related to promotion, education of children and youth, trading and advisory services. All companies and organizations were created in parallel with the main companies of the cluster. There are also companies that provide packaging (metal, glass and plastic), printing labels and preparing promotional materials and advertising company providing services in the field of logistics and transport.

Public and private institutions that provide information and technical support. Professional support for cluster provides several institutions and organizations. These include the Institute of Soil Science and Plant Cultivation Pulawy, institutions such as Ekolubelszczyzna, EKOLAND Association, The Association of Ecological Agricultural Chamber of Podkarpacie.

Comparative analysis of the two clusters. The stages of cluster development

Table 2 summarizes the most important characteristics of cluster, serving as a comparative analysis of them. On the other hand Figure 1 shows the stages of development of clusters and the places which take both of the researching clusters.

Table 2. Comparison between Ecological Food Valley (Lublin-Poland) and Agrofood (Murcia-Spain)

No.	Characteristic	Ecological Food Valley	Agrofood
1.	Year of creation and legal form	2010-Capital limited responsibility company	— 2011-Foundation — 2007-Food and Agriculture cluster — Until 2007-Natural cluster
2.	Cluster's administration number	1	1
3.	Type of food	Ecological food	— Fruit and vegetables — Meat products — Preserves, juices, wine, nuts, etc.
4.	Activity area	Lublin Region and Podkarpacie Region	Murcia Region
5.	Participant firms	— Ecological farms - 3 — Ecological bakeries, confectioner shops and butcher shops - 4	Food and Agriculture industry firms - 35
6.	Firms with complementary products	— Transport and logistics — Containers	— Transport and logistics — Machinery for preserves — Containers — Greenhouses — Plastics — Irrigation systems
7.	Supporting scientific institutions	Institute of Soil Science and Plant Cultivation	— University of Murcia — Polytechnic University of Cartagena — San Antonio Catholic University of Murcia — IMIDA — CEBAS-CSIC — CTNC — CEEIM

Source: Authors' own research

Ecological Food Valley cluster is at the beginning of development, and has passed the first stage of its development - the stage of growth through creativity. The founders of the cluster during this stage have participated in two European projects but the projects ended and there is a leadership crisis. At the beginning the cluster had a leader, now it has not. All participants of the cluster are equal in managing and representing him. It has good and bad sides, because sometimes everybody can mean nobody. In such a situation is the cluster currently experiencing a crisis of leadership and do not have the means to maintain itself.

Regarding Murcia Region's Agrofood Cluster, it is necessary to highlight its natural formation over time. However, within the framework of the 2007-2010 Regional Science and Technology Plan, Agrofood Cluster Foundation was constituted in 2011. Agrofood is made up of 35 associated firms with a 300-million-euro turnover volume that employ ca. 3,000 workers. The Foundation also hosts 7 associated bodies dedicated to the research and development of cluster products.
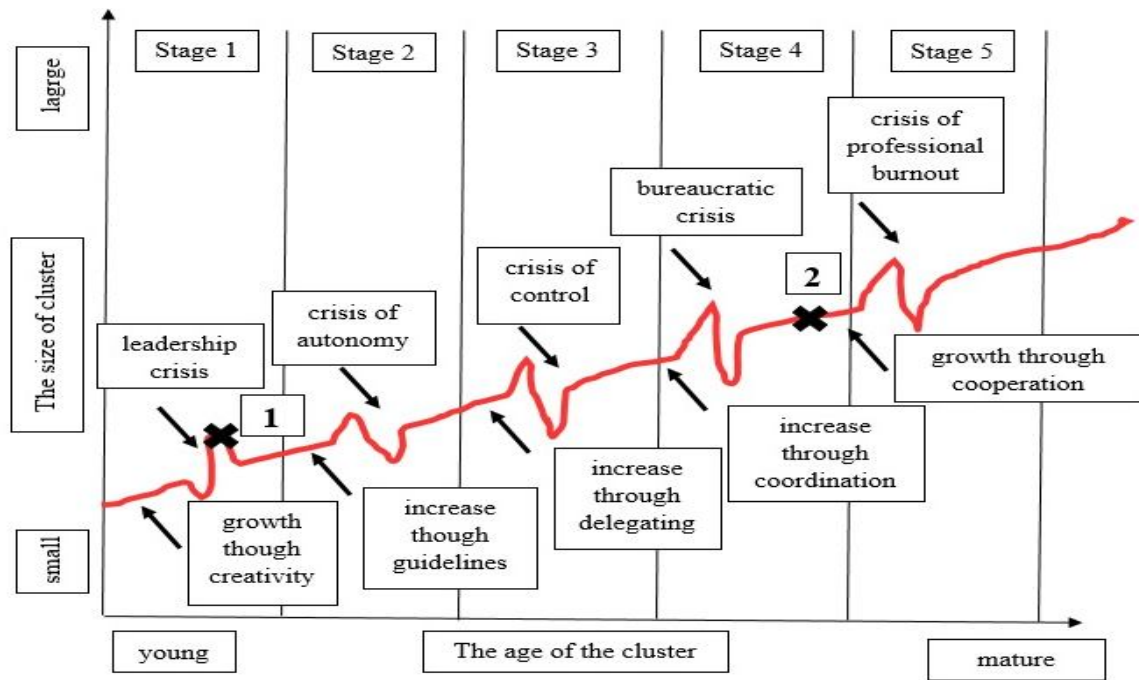
Key:1 – Ecological Food Valley cluster;
2 – Agrofood cluster

Fig. 1. Cluster development scheme with the position of the both cluster on the line of development

Source: Elaborated by the authors on the basis of the theory of L.E. Greiner [10]

Even though this cluster has solid foundations, it is necessary to keep betting on a close collaboration between industry and the primary sector, establishing synergies that permit to maintain international competitiveness through an increased differentiated quality thanks to the development of new transformed products and the implementation of new technologies, thus adapting to the new market forms and to the consumer's needs and tastes. To that end, and based on a benchmarking approach, Agrofood takes other national, European and worldwide food and agriculture clusters as its reference.

Nevertheless, it still has several weaknesses, among which stand out: the reduced size of many transformation and commercialisation firms, above all of agricultural exploitations; the growing dependence on a smaller number of commercialisation and distribution channels; the low productivity per worker; or the ageing and the scarce generational replacement.

The table 3 presents a comparison of development of the analysed clusters. Polish cluster passed two stages of development and currently is in the third phase. In contrast to the Spanish cluster which already passed several stages and is in the phase of stable current operations. This proves that the Polish cluster is at a lower stage of development than a Spanish cluster.

Table 3. Comparison the development of analysed clusters

No.	Characteristic	Ecological Food Valley	Agrofood
1.	Years of activities	5	15
2.	Previousstages of development	1. Creating 2. Realization of two EU funds projects 3. Crisis due to lack of funds	1. Creating as natural cluster 2. Crisis of control 3. Constitution of Cluster Foundation
3.	The number of companies participating in the cluster	7	35
4.	Financing	Lack of funds to cluster self-finance	Keeps up with its own funds
5.	The current stage of development	Suspension of activities due to lack of funds	Normal current and stable business activity
6.	Prospects for development	The lack of prospects	Collaboration between industry and the primary sector

Source: Authors' own research

Conclusions

The comparison between Ecological Food Valley (Lublin-Poland) and Agrofood (Murcia-Spain) does not suggest a different operation of these two clusters, even though important differences exist between them. As it can be observed in Table 2, the Murcia Region's Agrofood cluster was constituted before 2007 as a natural cluster, grouping together firms linked to the food and agriculture sector inside the same territory. Since then and until the present day, it was constituted as an official cluster and subsequently institutionalised as the Agrofood Foundation. This cluster is characterised by the large number of participating firms as well as by a significant related and complementary industry, which is necessary for cluster products. Furthermore, Agrofood counts on the invaluable help of universities as well as research centres for the research and development of its cluster products.

Instead, the Ecological Food Valley cluster is arguably at an initial development stage and still has not sufficient economic resources to be maintained with full autonomy, and to become competitive. The main recommendation is that the evolution of Agrofood illustrates the stages that the Ecological Food Valley cluster could go through in its own evolution. Nevertheless, although Agrofood may serve as a model for the Polish cluster, it will be necessary to consider the contingent effects caused by the socio-economic, political or climatic conditions of this region. The fact that Agrofood finds itself in a more advanced development stage can prove to be an opportunity for knowledge transfer through collaboration between the clusters of both regions.

The present study has some limitations, which can be solved with future research. The main limitation is that the work has been done based on secondary information from the two analyzed clusters. However we think that the conclusions obtained that way are valid, although further research with primary information from those involved in each cluster could bring new ideas in the comparative analysis of them. On the other hand, it could also be interesting to extend the study to other existing clusters in Spain and in Poland.

Abstract

The aim of the publication is to compare two clusters from different parts of Europe, detailing the stages of its development and make recommendations for the future development of the two. The methodology proposes using the case study examples of two clusters from Poland and Spain, both linked to the food area. The hypotheses are: The Ecological Food Valley cluster is not as developed as agribusiness cluster of Murcia (Agrofood); The Ecological Food Valley cluster is at the beginning of its development. While Agrofood is characterised by the large number of firms, a complementary industry, universities and research centres, the Ecological Food Valley cluster is at an initial development stage and still has not sufficient economic resources to be maintained with full autonomy, and to become competitive. The main recommendation is that the evolution of Agrofood illustrates the stages that the Ecological Food Valley cluster could go through in its own evolution. Nevertheless, it will be necessary to consider the contingent effects caused by the socio-economic, political or climatic conditions of the Polish region. Because Agrofood is in a more advanced development stage can prove to be an opportunity for knowledge transfer through collaboration between the clusters of both regions.

JEL Classification: Q1, Q57.

Список літератури

1. ALTENBURG, T., MEYER-STAMER, J., How to promote clusters: Policy experiences from Latin America, "World Development" 1999, Vol. 27, No. 9, pp. 1693-1713.
2. BECATTINI, G., Del settore industriale al distretto industriale. Alcune considerazioni sull'unità d'indagine dell'economia industriale, "Rivista di Econonia e Politica Industriale" 1979, No. 1, pp. 7-21.
3. BOIX, R., GALLETTO, V. Identificación de sistemas locales de trabajo y distritos industriales en España, Ministerio de Industria, Turismo y Comercio. Dirección General de Política de la Pequeña y Mediana Empresa, Madrid 2004.
4. CONSERJERÍA DE EDUCACIÓN Y CULTURA DE LA COMUNIDAD AUTÓNOMA DE LA REGIÓN DE MURCIA, Clusters del Conocimiento de la Región de Murcia. Agroalimentario, Murcia 2007.
5. COSTA, M.T., Descentramiento productivo y difusión industrial. El modelo de especialización flexible, "Papeles de Economía Española" 1998, No. 35, April, pp. 251-276.
6. CRESPO, J., Ciclo de vida de los clusters: Hacia una conceptualización dinámica de la evolución de los clusters, "Economía Industrial" 2014, No. 391, pp. 125-132.

7. DIGIOVANNA, S., Industrial districts and regional economic development: A Regulation Approach, "Regional Studies" 1996, Vol. 30, No. 4, pp. 373-386.
8. ENRIGHT, M.J., Organization and coordination in geographically concentrated industries, in RAFF, D.; LAMOREUX, N. (Eds.), Coordination and Information: Historical Perspectives on the Organization of Enterprise, University of Chicago Press, Chicago 1995, pp. 103-142.
9. GORYNIA, M.; JANKOWSKA B., Klastry a międzynarodowa konkurencyjność i internacjonalizacja przedsiębiorstwa, Difin, Warszawa 2008.
10. GREINER, L.E., Evolution and revolution as organizations grow, http://nughrdp.org/ evolution_and_revolution.pdf, [30.05.2015].
11. JUSTE, J.J., Desarrollo local y mercado global: los sistemas productivos locales y la industria agroalimentaria en Castilla y León, Tesis Doctoral, Universidad de Valladolid, Valladolid 2001.
12. Klastry w województwie lubelskim, http://www.pi.gov.pl/PARPFiles/file/klastry/Polskie_klastry/ Katalogi/Klastry_w_woj__lubelskim.pdf, [30.05.2014].
13. MARCINKOWSKI, A., OCHODEK, B., WAWRZYNIAK, A., Wybrane aspekty organizacyjne sieci kooperacyjnych przedsiębiorstw. Wydawnictwo Państwowej Wyższej Szkoły Zawodowej im. Stanisława Staszica w Pile, Piła 2012.
14. MARSHALL, A., Principles of Economics, McMillan, London 1920.
15. MARTÍNEZ-CARRASCO PLEITE, F., MARTÍNEZ PAZ, J.M., El cluster agroalimentario de la Región de Murcia, "Cuadernos de Estudios Agroalimentarios" 2011, Vol. 2, July, pp. 175-198.
16. MENZEL, MP., FORNAHL, D., Clusters life cycles: dimensions and rationales of cluster development, "Industrial and Corporate Change" 2010, No. 19, pp. 205-238.
17. MISTRI, M., Industrial districts and local governance in the Italian experience, "Human Systems Management" 1999, Vol. 18, No. 2, pp. 131–139.
18. MOLINA-MORALES, F.X., MARTÍNEZ-FERNÁNDEZ, T., Shared resources in industrial districts: information, know-how and institutions in the Spanish tile industry, "International Regional Science Review" 2008, Vol. 31, No. 1, pp. 35-61.
19. NAVAS-LÓPEZ, J.E., GUERRAS-MARTÍN, L.A., Fundamentals of Strategic Management, Civitas, Madrid 2013, chapter 3.
20. PACHECO-VEGA, R., Una crítica al paradigma de desarrollo regional mediante clusters industriales forzados, "Estudios Sociológicos" 2007, Vol. XXV, No. 75, pp. 683-707.
21. PORTER, M.E., The Competitive Advantage of Nations, Free Press, New York 1990.
22. ROSENFELD, S., Creating Smart Systems: A guide to clusters strategies in less favored regions, Regional Technology Strategies, Carrboro 2002, North Carolina, USA, www.rtsinc.org.
23. SAXENIAN, A., Lessons from Silicon Valley, "Technology Review" 1994, Vol. 97, pp. 42-51.
24. SWANN, GMP., PREVEZER, M., Introduction, in SWANN, GMP., PREVEZER, M., STOUT, D. (Eds.): "The dynamics of industrial clustering. International comparisons in computing and biotechnology". Oxford: Oxford, University Press.
25. YBARRA, J.A., Determinación cuantitativa de distritos industriales: la experiencia del País Valenciano, "Estudios Territoriales" 1991, No. 37, pp. 53-67.

References:

1. Altenburg, T., Meyer-Stamer, J. (1999). How to promote clusters: Policy experiences from Latin America. «World Development», Vol. 27, No. 9, pp. 1693-1713.
2. Becattini, G. (1979). Del settore industriale al distretto industriale. Alcune considerazioni sull'unità d'indagine dell'economia industriale. «Rivista di Econonia e Politica Industriale». No. 1, pp. 7-21.
3. Boix, R., Galletto, V. (2004). Identificación de sistemas locales de trabajo y distritos industriales en España, Ministerio de Industria, Turismo y Comercio. Dirección General de Política de la Pequeña y Mediana Empresa, Madrid.
4. Conserjería de educación y cultura de la comunidad autónoma de la región de murcia. (2007). Clusters del Conocimiento de la Región de Murcia. Agroalimentario, Murcia.
5. Costa, M.T. (1998). Descentramiento productivo y difusión industrial. El modelo de especialización flexible, «Papeles de Economía Española». No. 35, April, pp. 251-276.
6. Crespo, J. (2014). Ciclo de vida de los clusters: Hacia una conceptualización dinámica de la evolución de los clusters, «Economía Industrial». No. 391, pp. 125-132.
7. Digiovanna, S. (1996). Industrial districts and regional economic development: A Regulation Approach, «Regional Studies». Vol. 30, No. 4, pp. 373-386.
8. Enright, M.J. (1995). Organization and coordination in geographically concentrated industries, in Raff, D.; Lamoreux, N. (Eds.). Coordination and Information: Historical Perspectives on the Organization of Enterprise, University of Chicago Press, Chicago, pp. 103-142.

9.   Gorynia, M., Jankowska, B. (2008). Klastry a międzynarodowa konkurencyjność i internacjonalizacja przedsiębiorstwa. Warszaw: Difin.

10. Greiner, L.E. (2015). Evolution and revolution as organizations grow. Retrieved from http://nughrdp.org/evolution_and_revolution.pdf.

11. Juste, J.J. (2001). Desarrollo local y mercado global: los sistemas productivos locales y la industria agroalimentaria en Castilla y León, Tesis Doctoral, Universidad de Valladolid, Valladolid.

12. Klastry w województwie lubelskim. (2014). Retrieved from http://www.pi.gov.pl/PARPFiles/ file/klastry/Polskie_klastry/Katalogi/Klastry_w_woj__lubelskim.pdf.

13. Marcinkowski, A., Ochodek, B., Wawrzyniak, A., (2012). Wybrane aspekty organizacyjne sieci kooperacyjnych przedsiębiorstw. Wydawnictwo Państwowej Wyższej Szkoły Zawodowej im. Stanisława Staszica w Pile, Piła.

14. Marshall, A. (1920). Principles of Economics. London: McMillan.

15. Martínez-Carrasco Pleite, F., Martínez Paz, J. M. (2011). El cluster agroalimentario de la Región de Murcia. «Cuadernos de Estudios Agroalimentarios». Vol. 2, July, pp. 175-198.

16. Menzel, M.P., Fornahl, D. (2010). Clusters life cycles: dimensions and rationales of cluster development, «Industrial and Corporate Change» No. 19, pp. 205-238.

17. Mistri, M. (1999). Industrial districts and local governance in the Italian experience. «Human Systems Management». Vol. 18, No. 2, pp. 131–139.

18. Molina-Morales, F.X., Martínez-Fernández, T. (2008). Shared resources in industrial districts: information, know-how and institutions in the Spanish tile industry. «International Regional Science Review». Vol. 31, No. 1, pp. 35-61.

19. Navas-López, J.E., Guerras-Martín, L.A., (2013). Fundamentals of Strategic Management. Madrid: Civitas, chapter 3.

20. Pacheco-Vega, R. (2007). Una crítica al paradigma de desarrollo regional mediante clusters industriales forzados, «Estudios Sociológicos». Vol. XXV, No. 75, pp. 683-707.

21. Porter, M.E. (1990). The Competitive Advantage of Nations. New York: Free Press.

22. Rosenfeld, S. (2002). Creating Smart Systems: A guide to clusters strategies in less favored regions, Regional Technology Strategies. USA: North Carolina, Carrboro. Retrieved from www.rtsinc.org.

23. Saxenian, A. (1994). Lessons from Silicon Valley. «Technology Review». Vol. 97, pp. 42-51.

24. Swann, G.M.P., Prevezer, M., Introduction, in Swann, G.M.P., Prevezer, M., Stout, D. (Eds.). «The dynamics of industrial clustering. International comparisons in computing and biotechnology». Oxford: Oxford, University Press.

25. Ybarra, J.A. (1991). Determinación cuantitativa de distritos industriales: la experiencia del País Valenciano. «Estudios Territoriales» No. 37, pp. 53-67.