

The Concept of Clustering and Benefits of Functioning as Part of a Cluster

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Abstract

The progress in the social and economic reality surrounding us regarding the identification of factors determining the competitiveness of enterprises has naturally led the discussion concerning new areas of economic practice. The concept of clustering and the development policy (both local and supra-local) based on clustering (cluster-based policy or cluster-oriented policy) have been gaining a wider and wider group of proponents. The first part of an article include the benefits of attending in cluster. In the next part we presented directions of support for clusters in Poland. Finally, in the last part of an article we showed the directions and assumptions of Polish cluster policy until 2020.

Keywords: clusters, the cluster initiative, concept of clustering

Introduction — the concept of clustering

Despite the fact that there are many possible definitions of a cluster, it must be noted that most of them share three common features. The first one is the concentration of interrelated economic entities, acting in the same or related branches of industry, in a particular area (Enright 2001; Mytelka and Farinelli 2000).¹ The second feature is the interaction and functional connections which can be identified between enterprises (see for example Doeringer and Terkla 1995). Finally, the third feature is the supra-sectoral character of the cluster, whose scope extends over both the horizontal and vertical connections (Rosenfeld 1997). Apart from some common features there are different definitions of the cluster. Particular authors define differently such elements of cluster initiatives as: the specifics of the innovation, the direction and strength of the links between production chains and the flow of knowledge and technology (Jacobs and de Man 1996). Other aspects of newly formed clusters are also defined differently, including infrastructural elements, the work factor potential, and other resources such as services supporting the activity of the entities within a cluster. Thanks to this diversity we can see that the economic theory describing various possible forms of organizing economic activity evolves constantly. Table 1 best exemplifies different complementary concepts of clustering, as well as related conceptual approaches to the theory of clusters. The table illustrates the most important elements of the concept of clustering. By putting various approaches to the definition of cluster initiatives in a table we can see individual characteristic features of each approach. Thanks to reorienting within the structure of the compositional elements of the cluster, the object of its activity, and the formula on which its organization is based, the approaches constitute systematic frameworks of the concept of clustering.

Clustering has not turned out to be a one-time, theoretical concept, which has never been realized in practice. As practical experience shows, the concept of clustering is widely popular among both scholars and business practitioners. It is the object of research, modification and more and more modern concepts, and the presented overview shows how far the subsequent, newly

1. See also: Enhancing the competitiveness of SMEs In the global economy: strategies and policies. Workshop 2. Local partnership, clusters and SME globalization. Conference for Ministers responsible for SMEs and Industry Ministers. Bologna, Italy, 14–15 June 2000.

Tab. 1. An overview of complementary concepts of clustering and related conceptual approaches to the theory of clusters

| Concept | Characteristic features of the concept |
|----------------------------|--|
| An industrial district | It is a geographical concentration of interlinked companies in the same sector and/or in related sectors. This interconnection has positive effects thanks to three factors: (1) the flow of knowledge between the companies, (2) creating specialized factors of production and services, (3) selecting a specialized qualified labor market, which answers the needs of the industrial district. |
| The growth pole | The concept of growth poles means a concentration of people which leads to obtaining positive external results. The development of a particular region is based on the industry which is the dominant one and it is supported by other industries arranged around it. |
| The growth zone | In accordance with the idea of the growth zone the interrelations between companies and sectors facilitate the flow of knowledge. Thus, by means of an easier transfer of knowledge, they contribute both to the growth of enterprises and to the growth of the whole area in which they function. |
| Competence blocks | The project of competence blocks means that a certain number of various competences co-exist in customers, innovators and in enterprises, which, when linked together, contribute to the commercialization of particular products and/or services. |
| Regional clusters | Regional clusters constitute a geographically concentrated cluster (based on M. Porter's model) which is characterized by global competitiveness. |
| Industrial complexes | This concept is based on links between companies developing new technologies and companies using these technologies. |
| Resource areas | Resource areas comprise a wide range of products and services. The areas are relatively stable in time and are significant for the economy. In accordance with the idea of resource areas, an area is comprised of interlinked sectors cooperating together to produce a final product or service. It may also comprise the public sector, because it is assumed that companies from a particular area have the same needs with regard to production conditions. |
| Production chains | The idea of production chains is based on vertical connections in production processes, for which the key elements are neighboring enterprises in the chain of added value. Research institutions, business support service providers and agent institutions are also included in the formula of the production chain. |
| The Innovation environment | The innovation environment is the area of concentration of high technology industries, which is characterized by a synergy of economic and institutional factors leading to the effective creation and diffusion of knowledge and an efficient process of learning. |
| Technological systems | Technological systems comprise a network or networks of entities which cooperate within a particular technological field in order to generate, defuse and use these technologies. Technological systems concentrated on the flow of knowledge and competence and not on the flow of goods and services. |
| Networks | Networks are specific forms of connections between entities which comprise them, which are based on mutual correlations, cooperation and trust. Due to its formula, a network may be, but does not have to be, concentrated geographically, and by that it differs from the classic form of an industrial cluster. |

Source: Brodzicki and Szultka (2002), and Whalley and den Hertog (2000)

formulated theories, based on the model of cooperation, are from the original. Looking for some economic grounds for the formation of clusters three issues are worth considering, and they are:

- economies of scale
- reduction of transaction costs
- and globalization

Economies of scale, mentioned as the first ones, connected with clustering initiatives, must be placed within the economic theory. On the other hand, economics sets out to find factors explaining the concentration of economic activities in a particular localization by means of the theory of agglomeration (Karlsson, Johansson, and Stough 2005). In this way it distinguishes internal (endogenous) and external (exogenous) economies of scale. Internal factors refer to elements connected with a particular area, region and accompanying resources, but external economies of scale must be explained more precisely. First of all, they are an industry-specific resource. It means that economies of scale are created due to the fact that companies within the same industry and located in the same region cooperate with each other. Localization is very often supra-local and supra-regional. Economies of scale grow together with the growth of the number of companies cooperating in a particular region, that is entities which constitute an agglomeration. The greater the number of entities acting (accumulated) in an industry in a particular area, the greater economies of scale they are able to generate. The most notable profit from cooperation created in this way is the ability to reduce the costs of individual companies within the same industry in a cluster. Referring to the above enumerated rule — the greater the number of enterprises in a cluster, the greater is the possibility to reduce the individual costs of enterprises which form the cluster (McCann 2001).

The theory of agglomeration also constituted the basis for the analyses made by Ohlin (1933). In his research, he concentrated on the benefits an individual company functioning in an agglomeration might obtain. Ohlin pointed out to four sources of such benefits:

- internal economies of scale, which are the derivatives of the production technology or the function of production of an individual enterprise
- benefits from a localization (that is translating the influence of an industry onto an individual company)
- benefits from urbanization — which are the derivatives of the state of economy in the region (exogenous benefits in relation to the industry of a particular agglomeration and companies functioning within it)
- benefits resulting from connections between various industries, which due to their vicinity and cooperation are able to reduce the costs of supplied components and resources used for production (Brodzicki and Szultka 2002, 31)

A development of the above opinion on benefits from functioning within a cluster and the theory of agglomeration connected with it is a view in accordance with which internal economies of scale depend in fact on the very enterprises functioning within a cluster, benefits from a localization are features which make particular industries stand out, and benefits from urbanization are a feature characteristic of the particular region (Hoover 1948). What is a bridge between the above presented views is assigning the role of an activator to the benefits from the geographical vicinity. Regardless of the way of looking at the relation between an agglomeration (cluster) and an enterprise, unchangeably the catalyst of success is the concentration of activities of entities cooperating with each other in a close geographical area.

In view of the considerations so far, the economies of scale mentioned above should translate into a growing income and a reduction of the cost of transport, because cooperators, suppliers and to some extent also recipients of the final products are localized in the same agglomeration. The concentration, as mentioned in the theory of agglomeration, constitutes a catalyst for localizing new enterprises within an agglomeration and through that developing the cluster and the industrial specialization of the region (Krugman 1991). The above described mechanism (acknowledging the industrial specialization of the region) may function incessantly for a longer period of time, even in a situation when in its economic and technological environment there are changes which influence the operation of the cluster and entities localized within it. The growing profits of agglomerated

companies justify the extension of the agglomeration and at the same time stimulate its growth by addition of new companies to the cluster.²

The second reason for creating clusters is the reduction of transaction costs. Several determinants contribute to lowering transaction costs. They include:

- regular (repeated with a definite frequency) supplies of resources to the customer
- supplies of equipment, planned in advance, adjusted to the individual needs of each customer
- designing and building enterprises, factories and machines (Brodzicki and Szultka 2002, 32)

The presented calculation shows that cost reduction is possible thanks to strong connections between entities operating in the same cluster. Such connections ensure the diffusion of knowledge, experience sharing and close cooperation. As a result it contributes to the reduction of transaction costs. At this point, two other arguments for cooperation within a cluster should be mentioned. The first one is the possibility to reduce the spatial costs of entering into an interaction. The reduction of a geographical distance between cooperators causes the reduction of costs connected with the transport of products to the place of destination and the reduction of the cost of the delivery of resources, by-products or other necessary elements of production. It is particularly important in the case of fragile goods transport, when distance constitutes an additional source of costs, also connected with the risk of late deliveries and exposing a product to the risk of damage (Johansson and Karlsson 2001). The other argument in favor of cluster initiatives is that concentration within a cluster allows for its members to benefit from acquiring information and knowledge, and as a result innovation is popularized (Barnes 1999).

Finally, the third argument for clustering is globalization. The results of globalization are not without influence on individual economic entities. It is so, because they cannot remain indifferent to the activities consolidating markets, industries or economic sectors. Also, the legislative changes, technological standards and sector innovations cannot be ignored. Therefore, globalization triggers changes and stimulates clustering, because it stands for all the processes leading to a stronger correlation and integration of countries, societies and whole economies. In this situation, entrepreneurs who start to interact and consolidate their efforts in activities leading to strengthening cooperation get a chance to build stable competence advantages, which are much more resistant to the activities of globalized structures.

The above arguments prove that the structure of clusters should be exogenous. The analysis carried out above has proven that cooperation of enterprises within a cluster is purposeful, by pointing out to the objective factors functioning in the vicinity of economic entities which influence their functioning and development. Being aware of external reasons for creating clusters, we should also mention internal reasons for their creation, such as benefits for enterprises resulting from their functioning within a cluster. The positive aspects and immediate benefits of functioning within a cluster are enumerated below:

- Cooperation within the structure of a cluster limits the risks of individual economic entities. Enterprises are not left to their own devices. Strategic partnerships and alliances can remain stable and operate even in crisis.
- Cooperation within a cluster facilitates initiating and conducting research and stimulates the development and growth of enterprises. By clustering enterprises gain access to complementary resources (including the capital, knowledge, technologies and patents), and the organization and implementation of the production process is easier.
- Clustering effectively eliminates the problem of the so called doubling efforts. Thanks to that it is possible to save money and time. Functioning of entities within a cluster is based on cooperation and complementing the production activity.
- Acting within the structure of a cluster makes overcoming administrative and commercial barriers easier and more effective. Entities functioning in the same cluster know each other well, and a cluster as a form of economic entity is more credible and has more chances of surviving on the market than individual members.
- A cluster offers more possibilities of finding new sources of financing for a company. When a company is part of a cluster, it becomes more credible and creditworthy for financial institu-

2. The mechanism of agglomeration as described by (among others) Quah (2001).

tions. At the same time the company can still benefit from the sources of financing for individual companies.

- Membership in a cluster helps an enterprise to successfully create its competitive position regionally, nationally and all over the world. Participation in a cluster not only lets an enterprise keep the position it already has on the market and also facilitates its successful expansion.
- Members of a cluster gain access to a network of connections and also to the customers of their partners. In this way knowledge, business contacts and finally customers are shared.
- By cooperating within a cluster companies can increase their scale of production, introduce improvements and also reduce the cost of production.
- By cooperating within the structure of a cluster, enterprises can introduce much more advanced products, which are better in quality and cheaper in production, and in consequence more competitive.
- The innovation potential of enterprises in a cluster is increased. Multi-partnership means greater experience, which can later be used by all the participants of the cluster.
- Cooperation in a cluster also means an easier access to the source of financing of new technologies. In the context of a cluster the capital comes from all the partners and only one product (device and/or technology) is bought, which will be used by all the entities operating in the cluster.
- From the point of view of an enterprise cooperation in a cluster means better productivity. It is so, because the phases of production are shared between the cooperating partners. Similarly, the costs are shared (in the production process the machines which have been jointly purchased are used). As a result the productivity of each individual enterprise increases, as well as the productivity of the whole cluster.
- Functioning within a cluster initiative also assists the transfer of technology. Building a competitive position requires acquiring and implementing new solutions from entities and institutions acting in the R&D sphere. It is usually connected with substantial costs for an enterprise. However, if an R&D entity is a co-partner in the cluster, we gain access to new solutions, sometimes even below the cost of their obtaining (Fabrowska et al. n.d., 16–17).

The above enumerated benefits of functioning in a cluster cannot be denied. At the same time, it must be noted that those benefits are not enumerative in character. It means that each industry around which the cluster is created, due to its specifics, is going to multiply the benefits presented above at its own pace and in accordance with the type of production or service activity it conducts. Thus, the scale of potential advantages is really huge, and the effectiveness of using these opportunities is determined by the specifics of the newly formed cluster's profile and motivation of the members which are part of it.

1 Directions of support for the Polish cluster initiatives

The concept of clustering and the effective support of cluster development is regarded worldwide as a growth factor for local and regional economies. Functioning of a network of cooperation between entities of various types, operating in a particular region in the same industry, encourages the growth of competitiveness and innovativeness of a particular economy. It must be noted that the concept of a cluster and the concept of a cluster initiative must be differentiated. According to Porter “clusters are geographical concentrations of interlinked companies, specialized suppliers, entities providing services, companies running their businesses in related industries and institutions connected with them in particular fields, competing but also cooperating with each other” (Porter 2001, 246). On the other hand, cluster initiatives are intentional (top-down or grass-roots) efforts to strengthen the ties between companies and associated organizations (R&D organizations and local governments) undertaken to build the competitiveness of the companies and of the region.³

3. See: Kierunki wsparcia polskich inicjatyw klastrowych w kontekście komunikatu Komisji do Rady, Parlamentu Europejskiego, Komitetu Ekonomiczno-Społecznego i Komitetu Regionów — w kierunku światowej klasy klastrów w Unii Europejskiej”. KOM(2008) 652 wersja ostateczna z dnia 17.10.2008. Opracowana na zlecenie Lubelskiej Izby Rzemieślniczej przez dr. Marcina Szewczaka. Lublin, maj 2009, page 5.

Making an analysis of the directions of support for the Polish cluster initiatives, it is worth looking into the key factors of growth and areas of cooperation between cluster structures. Kanter (1995) distinguishes the following among the many factors influencing the development of clusters:

- flexibility and “openness” of the cluster structure, which facilitates access to new technologies, knowledge and information
- a high quality of connections and mutual trust in relations between cluster members as a key factor of success with regard to the effective functioning of the mechanism of the diffusion of information and knowledge
- the level of competitiveness and quality of human resources

Ketels and Porter regard business support institutions as a key factor of cluster development, characterizing it by means of four areas: available resources, internal demand, general level of entrepreneurship and the quality of regulation for stimulating entrepreneurship, and also other supporting industries: of the suppliers and recipients.⁴ In the broad sense, with regard to cooperation between entities within a cluster, some key factors of cooperation should be distinguished such as: research activity and lobbying, developing contacts with suppliers and recipients, training and educating, creating innovation and acquiring new technologies, combining production resources, distribution, and sale and marketing. Actions whose aim is the formation and development of clusters are seen as the power of particular regions and a chance for their future development. For the Lubelskie Voivodship, the Organic Food Valley Cluster is worth noting, as its base is the use of the benefits of the environment, the traditional structure of agriculture and extensive methods of agricultural production as a competitive factor for the regional cluster of food producers (Regionalny Program Operacyjny Województwa Lubelskiego . . . 2007, 18). On the other hand, Nałęczów, a town which is famous for its micro-climate and a health resort, formed a cluster geared towards health and beauty care (50).

To trigger own development of competitiveness and innovativeness and the development of the competitiveness and innovation of the region and of the country, the following basic possibilities of support should be enumerated:⁵

- stimulating cooperation
- financing research in R&D units
- investing in the human capital
- investing in infrastructure
- grants for companies

Investment necessary for raising the level of communication and exchange of information connected with creating an efficient research infrastructure, answering the needs of the cluster, is also important. Actions aiming at the internationalization the cluster’s activities are also important, and they include: participation in fairs, study visits, international networks, both in the region and wider, and constant promotion of clustering. Preparing studies, documents, analyses and reports to inspire and evaluate both new and existing cluster structures are also important.⁶

Górzyński enumerates the following ways to support clusters:⁷

- monitoring the economic structure of the region in order to identify potential areas of support, which includes the comparative assessment of the technological R&D base and potential, availability of qualified workforce and capital and the vision of the development of the cluster and region, etc.
- the process of “creating anchors” for the development of a cluster by common actions (for example lobbying for the benefit of the region)—creating institutional and organizational support groups
- preparing a professional and inter-disciplinary offer of services, supporting the activity of the cluster structures, being oriented on solving problems identified and claimed by companies

4. Kierunki wsparcia polskich inicjatyw klastrowych . . . , 8; see also Ketels (2003) and Porter (1998).

5. Kierunki wsparcia polskich inicjatyw klastrowych . . . , 13.

6. Ibidem, 14–16.

7. Ibidem.

- raising the quality of education and training activity and assisting the process of acquiring specialized personnel, important for cluster, by for example financing specialist training courses or supporting initiatives regarding the increase of competence abilities
- undertaking promotional actions and actions distinguishing the region
- stimulating investment and attracting it to the areas where the cluster operates in the region
- stimulating investment and entrepreneurship by for example assisting the processes of setting up new companies and supporting the formation of cluster incubators

Apart from actions initiated directly by entrepreneurs, one important element supporting the development of clusters is the assistance of the local, regional and national administration. These should be assisting actions and not creating the cluster's operation. In the long run, it is important for the cluster to function on the market spontaneously, and not being constantly assisted by the administration. The areas in which the public sector generally supports the development of clusters are enumerated below:⁸

- the development of skills and competence of human resources by for example continuing education programmes initiated by groups of enterprises and thanks to cooperation with business-support institutions
- increasing the number of economic entities—the support is oriented on creating new enterprises or attracting companies from the outside to create locations in a particular area
- developing enterprises on new markets—the support is oriented on counselling and investment actions in such areas as the promotion of export and internationalization
- strengthening business interactions—the support is oriented on actions allowing for the optimization of production chains and supply chains or to facilitate the systems of logistics and distribution
- increasing expenditure on research and development works and innovative actions—the support is oriented on for example programmes of cooperation between enterprises and higher education institutions
- supporting the business environment—the support concerns mainly investment in the technical infrastructure, improvement of law, and initiating new public services, facilitating the communication with the economic sector

The necessity of cluster support and development in Poland was outlined in the strategic document entitled “The directions of increasing innovation of economy for years 2007–2013,” which was accepted by the Government on 4 September 2006.⁹ In the direction “Infrastructure for innovation” the importance of supporting common actions was underlined; the actions were to be realized by, for example:

- increasing the awareness of enterprises regarding the benefits from cooperation with research institutions and other enterprises,
- establishing effective public and private partnership,
- ensuring conditions for network cooperation,
- supporting cluster development,
- supporting the development of technological platforms in technologically advanced sectors.¹⁰

In the financial perspective 2007–2013, cluster support programmes were included in both national operational programmes and regional operational programmes of particular voivodships. In the context of supporting clustering nationally, the Innovative Economy Operational Programme 2007–2013 (IE OP)¹¹ was the most important. The programme included direct support for enterprises, business support institutions and research units providing high quality services for enterprises, and also system support ensuring the development of the institutional environment of innovative enterprises. For the support of cluster development, in the IE OP the most important was Priority

8. Ibidem, 18–19.

9. See: Kierunki zwiększania innowacyjności gospodarki na lata 2007–2013. 2006. edited by Departament Rozwoju Gospodarki. Warszawa: Ministerstwo Gospodarki.

10. See: Instrumenty wspierania klastrów at <http://www.mg.gov.pl/Wspieranie+przedsiębiorczosci/Polityki+przedsiębiorczosci+i+innowacyjności/Klustry/Instrumenty+wspierania+klastrów>.

11. See: Program Innowacyjna Gospodarka at <http://www.poig.2007-2013.gov.pl/Strony/default.aspx>.

Axis 5. “Diffusion of innovation”, measure 5.1 “Support for the development of supra-regional cooperative relations”, whose objective was to strengthen the competitive position of enterprises by supporting the development of connections between enterprises and between enterprises and research and development institutions. Apart from measure 5.1, which was particularly important for cluster support, the IE OP also had measure 5.2 “Support for pro-innovative business support networks of supra-regional significance”. Under this measure, pro-innovative business support institutions were supported, such as: research and technology parks, technological incubators, or technology transfer centers. Under the IE OP supra-regional clusters were supported, which meant co-financing only projects implemented by beneficiaries operating in two or more voivodships. Thus, the support could only be obtained by strong and relatively spatially extensive clusters or cluster initiatives. Regional operational programmes (ROP) provided support for regional clusters, situated in the territory of one voivodship.¹²

Clustering could also get support under the Human Capital Operational Programme,¹³ in particular under Measure 2.1 “Development of human resources for modern economy.” The objective of the Priority was to improve the competitiveness of enterprises by increasing investment in the human resources of enterprises and the improvement of the quality and accessibility of training and counselling services, supporting the development of entrepreneurship. The Operational Programme “Development of Eastern Poland” also supported clustering. The programme covered five voivodships: the Warmińsko-Mazurskie, Podlaskie, Lubelskie, Świętokrzyskie and Podkarpackie voivodships. Measure 1.4 “Promotion and Cooperation,” component “Cooperation,” provided support for co-financing projects concerning the development of cooperation networks, including those connected with the identification and development of clusters. Clustering was also supported by the programme initiated in 2007 by the Polish Agency for Enterprise Development entitled “Support for the development of clusters,” which was to encourage and activate existing clusters in order to effectively use the financial resources from structural funds under the National Cohesion Strategy 2007–2013. Under the Programme 49 applications were made for the total amount of PLN 18 233 099,50.¹⁴

In the Regional Operational Programme there are support programmes and instruments for particular voivodships, which can be used by regional clusters. Below, possible cluster support from existing projects under the Regional Operational Programme for the Lubelskie Voivodship is presented.

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| <p>Basic measures:</p> <p>Measure 2.3. Support for business support institutions and the transfer of knowledge</p> <ul style="list-style-type: none"> - Scheme A. Hard infrastructure projects (mainly construction) - Scheme B. counselling and promotional projects (strategy preparing and implementation, popularization of activities) <p>Beneficiaries: clusters, cluster initiatives (only scheme B) and business support institutions</p> <p>Complementary measures:</p> <p>Measure 2.1. Loan and guarantee instruments for enterprises</p> <p>Measure 2.2. Regional R&D infrastructure</p> |
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Fig. 1. Possible cluster support from existing projects under the Regional Operational Programme for the Lubelskie Voivodship

Source: Information presented in Instrumenty wspierania klastrów (see: footnote 10 on page 35)

Analyzing the Operational Regional Programme for years 2007–2013 in Poland, it must be assumed that projects which were concerned with initiating cooperation had the greatest possibilities of support and which concentrated on:

12. Instrumenty wspierania klastrów . . .

13. See: Program Operacyjny Kapitał Ludzki at <http://www.kapitalludzki.gov.pl/>.

14. Instrumenty wspierania klastrów . . .

- distinguishing clusters,
- creating an organizational structure and managing it,
- marketing actions,
- actions, whose aim was gaining new participants,
- supporting best practices,
- cooperation between members with the aim of technology transfer.¹⁵

In the new financial perspective of the EU 2014–2020, cluster initiatives will be supported, however at the time of writing of this study, no details regarding possible support are known.

2 Directions and assumptions of the Polish cluster policy until 2020

Defining the directions and assumptions of the Polish cluster policy for the 2014–2020 perspective, it must be remembered that they should be based on the EU policy and the priorities set up by it, which refer to the national economy. Among many key areas, the most important are: supporting innovativeness and improving the competitiveness of the Polish economy. Both these goals are closely connected with the operation of clusters. Innovativeness is a consequence of cluster initiatives, and cooperation within a cluster, thanks to multi-level interactions, contributes to the flow of knowledge and to the transfer of the results of research onto the economic practice. Both these elements, interlinked, are important for the possibility of development of many strategic (from the national viewpoint) economic specializations.

The said areas are also part of the studies setting the development frameworks of the Polish economy in the medium and long run. The first one is “Poland 2030. Third Wave of Modernity” (Polska 2030. Trzecia fala . . . 2013), a long-term national development strategy worked out by the Ministry of Administration and Digitalisation, the second document is the “National Strategy of Regional Development 2010–2020: Regions, Cities, Rural Areas” (Krajowa Strategia Rozwoju Regionalnego . . . 2010), worked out by the Ministry of Regional Development, and the third one is the “National Reform Programme for the Implementation of ‘Europe 2020’ strategy. Update 2014/2015” (Krajowy Program Reform . . . 2014) adopted by the Council of Ministers on 22 April 2014. Other national documents including guidelines concerning shaping of the cluster policy in Poland in the nearest financial perspective are: the National Development Strategy 2020. Active Society, Competitive Economy, Efficient State¹⁶ and, worked out by the Ministry of Economy, the “Strategy for Innovation and Efficiency of the Economy—Dynamic Poland 2020” (Strategia innowacyjności . . . 2013). A feature connecting the above enumerated strategic documents is that they concentrate on stimulating the development poles (in order to effectively dynamize national development processes) and supporting economic development based on specializations (both local, supra-local and regional), in particular as part of cluster initiatives. The EU support policy assumes smart specialization of particular regions of the state as a girder for the regional economy.

The “National Strategy of Regional Development 2010–2020: Regions, Cities, Rural Areas,” assumes stimulating the economic development on the local and regional level, mainly on the basis of cluster initiatives. The document assumes that industries characterized by a high growth potential should be supported through clusters and cluster initiatives. However, it must be noted that support will be directed in particular to these clusters which have the greatest competitive potential, that is to clusters characterized by international competitiveness or those which offer a chance of building such competitiveness in the future. The strategy also assumes that reorientation in the support policy will be based on strengthening the competitive potential by undertaking actions to transform “concentrations of enterprises” into dynamic clusters which are characterized by a significant level of competitiveness and are oriented on internal competition, thanks to which intensification of benefits will be possible. In accordance with the National Strategy of Regional Development 2010–2020, the support for clusters will cover in particular:

15. Ibidem, 14–16.

16. See: Strategia Rozwoju Kraju 2020. Aktywne Społeczeństwo, Konkurencyjna Gospodarka, Sprawne Państwo. Załącznik do uchwały nr 157 Rady Ministrów z dnia 25 września 2012 r. w sprawie przyjęcia Strategii Rozwoju Kraju 2020, Monitor Polski z dnia 22 listopada 2012 r., poz. 882.

- the research and development (R&D) activity,
- the international expansion of enterprises,
- the development of the quality of human capital in enterprises,
- the stimulation of industrial cooperation,
- setting up new enterprises (Krajowa Strategia Rozwoju Regionalnego 2010–2020: regiony, miasta, obszary wiejskie 2010).

The strategy assumes that a separate stream of funds will be directed to cluster organisations and also to legal entities, which are in charge of cluster management, that is which determine the principles of participation in clusters, access to a common infrastructure or which initiate common actions.

In accordance with the “National Reform Programme for the Implementation of the ‘Europe 2020’ Strategy. Update 2014–2015,” the present assumptions regarding innovation processes should be considered in the categories of cooperation and interaction between people, organizations and their environments. Cluster initiatives and network connections between industries and sectors based on the environment characterized by a high level of social capital are consistent with these assumptions. Due to a growing interest in clusters, expenditure of public funds should be directed in a way which will enable the elimination of their allocation in such cluster initiatives which are characterized by low competitiveness and innovativeness. The National Reform Programme for the implementation of the Europe 2020 Strategy indicates that there is a need to work out a mechanism of selecting promising clusters (including technological clusters), which may be expected to bring measurable benefits for the region, stimulating its development, after they receive public funds (EU transfers). Another important assumption included in the said document is the coordination of the concept of cluster development and the regional innovative systems supported by both the Lubelskie Voivodship and central authorities. The development of clusters should also aim in the direction of creating high technology sectors and raising the competitiveness of the national economy by building investment attractiveness of the regions in view of foreign investment, and also forming networks of clusters characterized by high potential innovation. The implementation of the goals requires the use of the research and development base situated in the regions, in particular due to the fact that the National Reform Programme postulates the support for non-technological innovations such as management, process reorganization of services and creative organizational solutions. Apart from the fact that the analyzed document stimulates cluster initiatives, it also postulates the extension of instruments for the creation and internationalization of clusters, and all these actions should be assessed using the systems monitoring their activity.

Another document referring to the cluster policy is “Poland 2030. Long-Term National Development Strategy. Third Wave of Modernity.” The importance of this document for building the cluster policy results from the fact that it accentuates innovativeness, combining research and economy, and moreover it sees the need of building competitive advantages. Clusters are a common denominator for all these priorities. The analyzed strategy puts emphasis on supporting competitiveness of the growth poles, and at the same time it acknowledges solutions for the balanced development. It is so because it creates conditions for the peripheral units to absorb pro-growth impulses generated by the central units, including clusters. Bearing the above in mind, it is particularly important to define and set out priorities and connected with them areas of the state’s intervention regarding building balance in the system of the state’s public finances. The said document emphasizes the connection between the activity of the state and its costs and the condition of public finances. Such an intervention must be justified from the point of view of benefits it should bring some time later, and such an approach is presented in the said document.

Another postulate of the authors of the “Poland 2030 . . .” strategy is the creation of the social development capital and stimulating its growth mainly by means of sharing knowledge, but also by sharing tasks and responsibility for their implementation. The strategy also assumes three other, very important, goals: First of all, it sees the necessity to undertake actions to improve the functioning of innovation support centers and cooperation between them, and also to commercialize

research results.¹⁷ Secondly, the strategy postulates institutional and substantial strengthening of business and research support centers to ensure assistance for scientists in the commercialization of the results of their research. Thirdly, the Poland 2030 report indicates the need of creating a system of technology transfer managers. Each of the priorities enumerated above is included in the catalogue of activities characteristic of cluster initiatives. When we add stimulation of the social capital development, postulated in the strategy, and also the institutionalization of cooperation in economic activity agglomerations and defining selective areas of state intervention by a purposeful selection of supported clusters, it is possible to set out foundations for an effective regional development policy, acknowledging a directional disposal of public funds, justified by the potential of supported centers.

“The National Development Strategy 2020. Active Society, Competitive Economy, Efficient State” (*Strategia rozwoju kraju 2020. Aktywne . . .*) also emphasizes the role of clusters in creating the development of the national economy. It points out that thanks to clusters, better competitiveness will be gained, which will facilitate the transfer of knowledge onto the market. Clusters will be responsible for acquiring investors, for the growth of the productivity of the national economy, and they will also support research and strengthen the industrial base, which will translate into the development of particular products and services. The strategy assumes that the formation of clusters will be supported until 2015, including. Since 2016 the functioning of clusters will be based on the market participation model. It means that the main responsibility for their initiation, financing and management will be transferred onto the private sector. The strategy also postulates that the basic instrument strengthening regional specializations is support for the formation and development of clusters by transforming agglomerations of economic entities into dynamic clusters characterized by a high level of competitiveness and cooperation, interaction and external effects.

Similarly, also in the “National Development Strategy 2020 . . .”, we find information about the need of focusing public intervention on the socio-economic and spatial potentials, which in the future will ensure development generated from the inside. The strategy points out to the need of building an appropriate system of management, whose role will be defining rational and realistic goals, integrating public policies and combining specific conditions and regional needs. What is also important, the strategy underlines that the system will have a chance to be effective only by engaging both social and scientific and also economic environments in its functioning. Finally, the strategy postulates that the conditions of the effectiveness of the project development activities are: the thematic concentration on those fields and enterprises which will bring the greatest added value, accumulating funds on a limited number of priorities, and acknowledging the territorial specifics in the support.

“The Strategy for the Innovation and Effectiveness of the Economy” for the years 2012–2020 among the activities leading to an effective and highly competitive economy based on knowledge postulates supporting the cooperation within enterprise clusters by means of a number of initiatives and solutions. First of all, it promotes a bottom-up approach to cluster development, that is transfer of the core activities onto the enterprises connected with the local market. The role of the public authorities should be the creation of the institutional and legal framework enabling the formation of clusters. At the same time it postulates diverging from supporting those cluster initiatives which are not able to develop and function independently, without the state’s support, and replacing them with point intervention, supporting more advanced forms of cluster connections such as product and/or service internationalization or common research projects on the EU level. Secondly, the strategy assumes introducing new support instruments for creating cluster connections acting within Special Economic Zones. To reach this objective, the strategy postulates a review of the regional specializations and undertaking a dialogue with the representatives of the managing companies of Special Economic Zones in order to work out together such forms of support which will ensure a required industrial specialization of the cluster. Thirdly, to commercialize

17. Among innovation support centers, the strategy enumerates for example: technological parks, technology transfer centers, and entrepreneurship incubators, and among the solutions for stimulating innovation it emphasizes the need of better use of PE/VC funds and the importance of increasing the effectiveness of the processes of commercialization of research results (author’s note).

the research results, it suggests undertaking and developing cooperation between clusters and research and technological parks. Finally, the strategy assumes supporting clusters by creating systems of preference in access to funds and institutions oriented on the support of economic activities characteristic of a particular region. Therefore, including regional local government authorities (for supra-regional clusters—authorities of several governments) in actions aiming at adjusting the system of education to the needs of the cluster is recommended.

The EU “Europe 2020 strategy” (EUROPA 2020. Strategia . . . 2010) assumes that particular EU member states, and regions which comprise them, should concentrate on the endogenic potential. It means that they should specialize in those areas of economic activity which due to their internal potential have the greatest chances of growth, and at the same time will ensure supranational competitiveness for the state and for the region. This specialization should be a derivative of the possessed human potential and the material resources potential and also of the experience connected with a particular industry, which, when combined, may contribute to the growth of the region and are characterized by a great innovation potential. Thanks to this approach—i.e. intelligent specialization, it is expected that regions and states have a chance to diverge from drifting growth models (i.e., models not connected with a particular industry). The expectations of the European Commission regarding industrial specialization are much greater. Preparing a smart specialization strategy on the national and regional level will, according to the EU, will constitute an indispensable condition for granting funds for investment activity in research, development and innovation. In this way, it is expected that particular funds will be directed to a particular specialization, and it will bring more benefits than diversification and diffusion of many alternative undertakings within many industries.

Key EU programmes and documents which are to help the implementation of the Europe 2020 Strategy also make reference to clusters. They include: An Integrated Industrial Policy for the Globalization Era. Putting Competitiveness and Sustainability at Centre Stage¹⁸, The Europe 2020 Flagship Initiative—Innovation Union¹⁹ and the document entitled Regional Policy contributing to smart growth in Europe 2020²⁰.

The first of the above enumerated strategies, that is “An Integrated Industrial Policy,” points out to the role of clusters and production networks in the growth of competitiveness of industry, improving innovation by gathering professional knowledge and cooperation of enterprises, public institutions and research and development units. According to this document, the policy regarding regional, national and EU clusters should be focused on overcoming existing irregularities in market activities, providing financing, and creating a bridge between enterprises and research institutions. This document, like the strategies quoted above, stresses the need of smart specialization and developing innovation gaps. Moreover, it underlines the necessity of developing clusters and competitive networks on a world scale, treating equally traditional clusters, technologically advanced clusters and networks, and clusters oriented on generating innovation and the commercialization of research results.

The “Innovation Union” on the other hand points out to the fact that for fuller and more effective implementation of the goals included in the Europe 2020 strategy it is important to orient structural funds on innovation, and clusters are the catalysts of innovation. Experience from the previous financial perspective provides many arguments for a reorganization of the policy of distributing structural funds. Allocating the funds in the regions which lack assets and in the regions which are not explicitly oriented on a particular specialization means that the money cannot be

18. See: Komunikat Komisji do Parlamentu Europejskiego, Rady, Europejskiego Komitetu Ekonomiczno-Społecznego i Komitetu Regionów. Zintegrowana polityka przemysłowa w erze globalizacji. Konkurencyjność i zrównoważony rozwój na pierwszym planie. SEC(2010) 1272, SEC(2010) 1276. Bruksela, dnia 28.10.2010. KOM(2010) 614 wersja ostateczna.

19. See: Komunikat Komisji do Parlamentu Europejskiego, Rady, Europejskiego Komitetu Ekonomiczno-Społecznego oraz Komitetu Regionów. Projekt przewodni strategii Europa 2020. Unia innowacji. SEC(2010) 1161. Bruksela, dnia 6.10.2010 r. COM(2010) 546 wersja ostateczna.

20. See: Komunikat Komisji do Parlamentu Europejskiego, Rady, Europejskiego Komitetu Ekonomiczno-Społecznego i Komitetu Regionów. Polityka regionalna jako czynnik przyczyniający się do inteligentnego rozwoju w ramach strategii Europa 2020. SEK(2010) 1183. Bruksela, dnia 6.10.2010, KOM(2010) 553 wersja ostateczna.

used effectively. In other words, the said funds themselves will not bring solutions to area (region) specific problems. The problems may only be solved when funds are combined with a carefully thought out strategy and action plan. Smart specializations and focusing on the assets of the region will bring better than average effects.

The “Regional Policy” also appreciates the role of clusters. This document shows that geographical concentrations of economic entities, which often belong to the sector of Small and Medium Enterprises, offer an optimal environment for creating innovation and building the bases for the competitiveness of the region. This strategy in particular has expressed a positive opinion about those aspects of cluster initiatives which are connected with industrial specialization, translating research results into practice and cooperation between research units, the business environment and business support institutions, and finally access to capital and infrastructure. Support for clusters should concentrate on the areas of comparative advantage (that is on areas in which the production of goods and services can be manufactured at a relatively lower cost than in other localizations). The analyzed strategy also underlines the role of smart specialization and at the same time stresses the need of concentration of the resources on the most promising areas of comparative advantage, existing sectoral and inter-sectoral activity, eco-innovation, high added-value markets, and particular research areas. The strategy underlines that public authorities (both on the local government level and on the central level) should develop smart specialization strategies in order to maximally strengthen the potential of cooperation between the regional policy and other EU policies. Moreover, the strategy has explicitly indicated that the planned actions for the support of clusters should ensure more effective use of public funds and stimulate private investment. Instead of multiplying investments in various areas and sectors, regions should, with the use of the above enumerated strategies, concentrate their resources on several key priorities.

Summary

Thanks to the above presented approach to the cluster policy in the perspective until 2020, both planned and implemented development strategies have a chance to create conditions for multifaceted management in the context of an integrated innovation policy for which clusters play the central role. However, for it to happen, the planned solutions must be closely connected with other areas of the support policy. The strong points of a particular region as compared to other regions must be understood, and possible benefits of interregional and international cooperation must be stressed out. Only the form of support construed in this way, acknowledging endogenic factors (characteristic of a particular region) and exogenic factors (resulting from the policy of the voivodship, state and supra-regional institutions), has a chance to effectively stimulate the use of the potential of cluster initiatives in building a competitive and innovative national economy.

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