LITHUANIAN FISHERY SECTOR DEVELOPMENT PROBLEMS AND CLUSTER FORMATION OPPORTUNITIES

Violeta Grublienė

Klaipeda University (Lithuania)

Abstract. The article analyzes the influence of clusters on rivalry of country, region, economy and sector. Generalized information about the influence of private capital and governmental institutions on cluster formation and development is presented in the article. The article also gives the evaluation of the condition of Lithuanian fisheries sector and the tendencies of its development. It analyzes an opportunity of formation of Lithuanian marine economy cluster, considering fisheries sector as a component of the sector. The article highlights that fisheries sector being a component of Lithuanian marine economy cluster will take an important place and be able to develop as a national strategic activity, cherishing and valuing the principles of continuity. The article has been prepared having analyzed and evaluated official documents on the development of Lithuanian fisheries sector. The author of the article took part in the preparation of the above mentioned documents.
KEY WORDS: *cluster, fishery sector, maritime, Marine economy, opportunities*.

Introduction

During rapid development of economy, the importance of clusters – geographically close companies merging in certain fields, complementing each other and practicing specific activities, is increasing. Clusters involve suppliers, consumers, manufacturers and governmental and scientific institutions. Clusters have a big influence on the competitive ability of national or regional economy. Achieving competitive advantage and competing successfully in international and national markets is difficult if companies work separately. Market shares acting together can realize their goals and gain big advantages.

Clusters increase the efficiency of companies, present more favorable opportunities for the development of innovations and technologies, improve work efficiency, provide consumers with more extra value and create favorable conditions for new businesses to appear. Merged companies can attract investment and qualified personnel.

Lithuania does not pay enough attention to the analysis of cluster management. Only a small number of Lithuanian scientists study this topic. Conditions for clusters to form in Lithuania are favorable as the Ministry of Transport is quite well developed, the accessibility of business information is improving, and there are a number of highly qualified specialists. A low level of "digital" infrastructure, small investment in scientific research, lack of risk capital, poor results of innovative activities, no strong partnership between companies, no empirical research of clusters – all the latter prevent cluster formation. Lithuanian companies trying to compete successfully not only inside the country or region, but in international market as well, have to organize into clusters. It is necessary to analyze the principles of cluster management and evaluate the opportunities for clusters of different businesses to form and develop in Lithuania.

Object of the research – Sector of Lithuanian fishery.

Aim of the article – to evaluate the condition of Lithuanian marine fishery and opportunities of cluster formation in accordance with the principles of continuous development.

Methodology – the analysis of scientific publications and normal/standard documents, comparative analysis, logical findings.

Conception and essence of cluster.

Conception of clusters is understood differently as a solid theoretical basis for cluster analysis still does not exist. Fese (Kazlauskaite, 2003) states that there is no solid theory of clusters, only a big number of different theories and reasoning trying to justify the logics of clusters. The more conservative people think that such situation can cause unexpected and negative consequences as the countries trying to create clusters in a hurry, can ignore or underestimate such substantial factors like methods of cluster research and principles of formation. Underestimation of cluster advantages and disadvantages can cause negative consequences, and the newly formed clusters can fail causing damage to the companies.

One of the first to write about clusters was Mashall, who proposed a theory trying to explain the formation of industrial regions in XIX century (Kazlauskaite, 2003).

At the same time like Marshall's theory, Schumpeter presented his reasoning about the dynamism of competitive ability. The latter and the other scientists' writing about this topic, laid the foundation for the interpretation of contemporary theory of clusters.

Among the later works on clusters to be mentioned is a research carried out in France in the seventies on the dependence of companies of one industry, based on incoming and out coming relation, also the works of Dahmen and Krungman. Cluster formation in the eighties was considered to be a strategy of diversification used to look for new fields of business.

One of the first to try to define the conception of clusters, were Buzzell and Gale. According to them cluster means a corporate portfolio of related and interactive business units. However, the biggest attention to receive were Porter's propositions about clusters presented in his work "The competitive advantage of nations" (Kazlauskaite, 2003). Porter is called an author of cluster theory. According to Porter, cluster is geographically close groups of companies and associated institutions merged in certain field. (Jucevicius, 2002).

Porter has written a number of articles on clusters where he analyzes the formation of clusters, their development and benefit from them. Other authors carrying out research and studies on cluster theory refer to Porter's works.

Porter in 1990 used a model called "diamond" for the description of competitiveness. (fig.1).
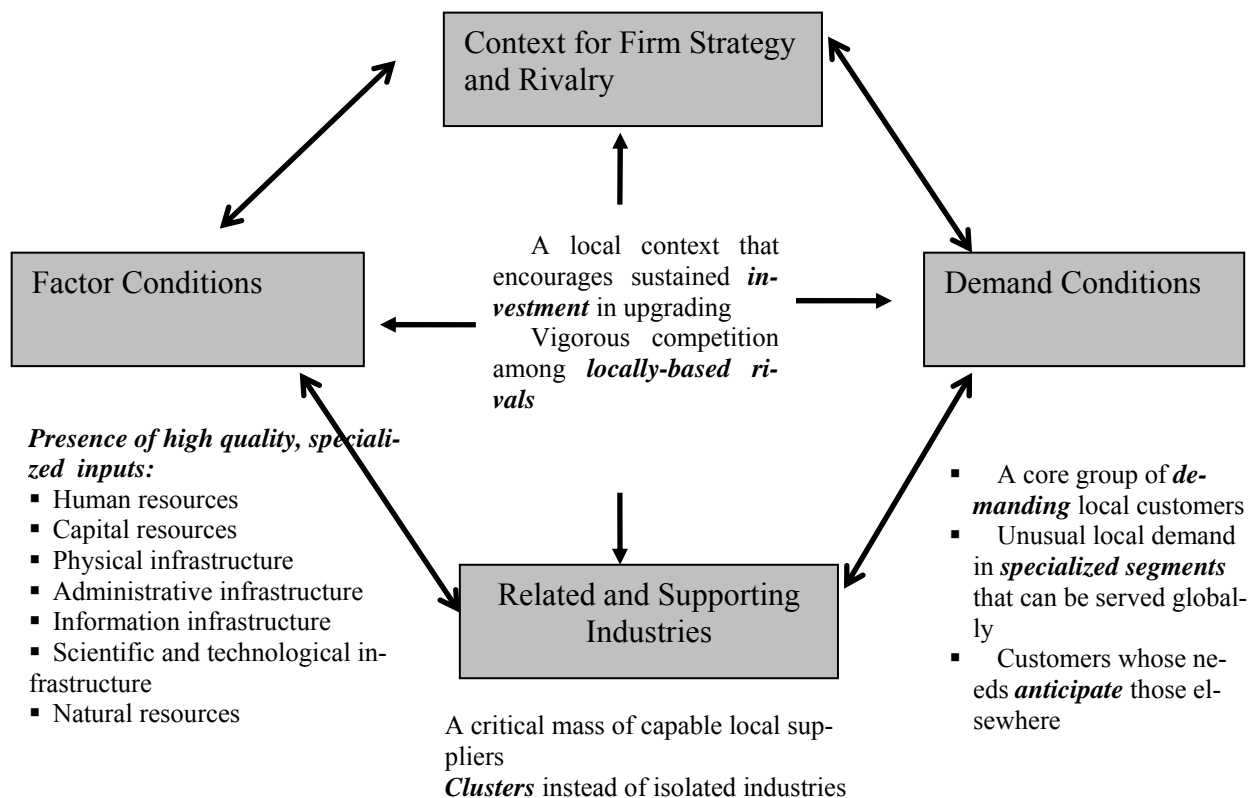

Fig. 1. **The Porter Diamond Framework**
Source: *M.E. Porter, Institute for Strategy and Competitiveness, Harvard Business School. See Porter (1998)*

According to Porter (1998) clusters dominate in the world map. Clusters are generally found in every country, region, state, and even in the economy of a metropolitan, especially in the countries with advanced economies. Clusters are not unique, rather quite typical, and paradox is that long lasting rivalry advantages in global economy lie in knowledge, relationship, motivation that can not be reached by rivals. Porter studied the concept of clusters carefully, carried out a number of researches in order to explain why companies organize into clusters and what benefit they get. Companies working together achieve clear competitive advantages.

Porter's theory gave a start to further researches on clusters. Different authors and institutions referring to Porter's works analyzed the processes of clusterization and tried to define the conception of cluster.

Scientists are analyzing a relationship between companies or institutions typical to clusters. Certain participants exist in clusters. Jucevicius (2006) distinguished the following main participants of clusters: companies including suppliers, business services and end-product; science and education which include education system and specialist training; financial institution and national and local governments (fig. 2).
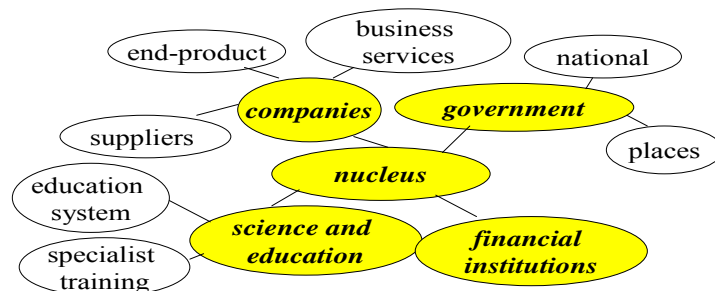
Fig.2. **Cluster characters**

Source: Jucevicius, G. (2006). *The process of clusterization and Lithuania*. Kaunas: KTU. p. 6.

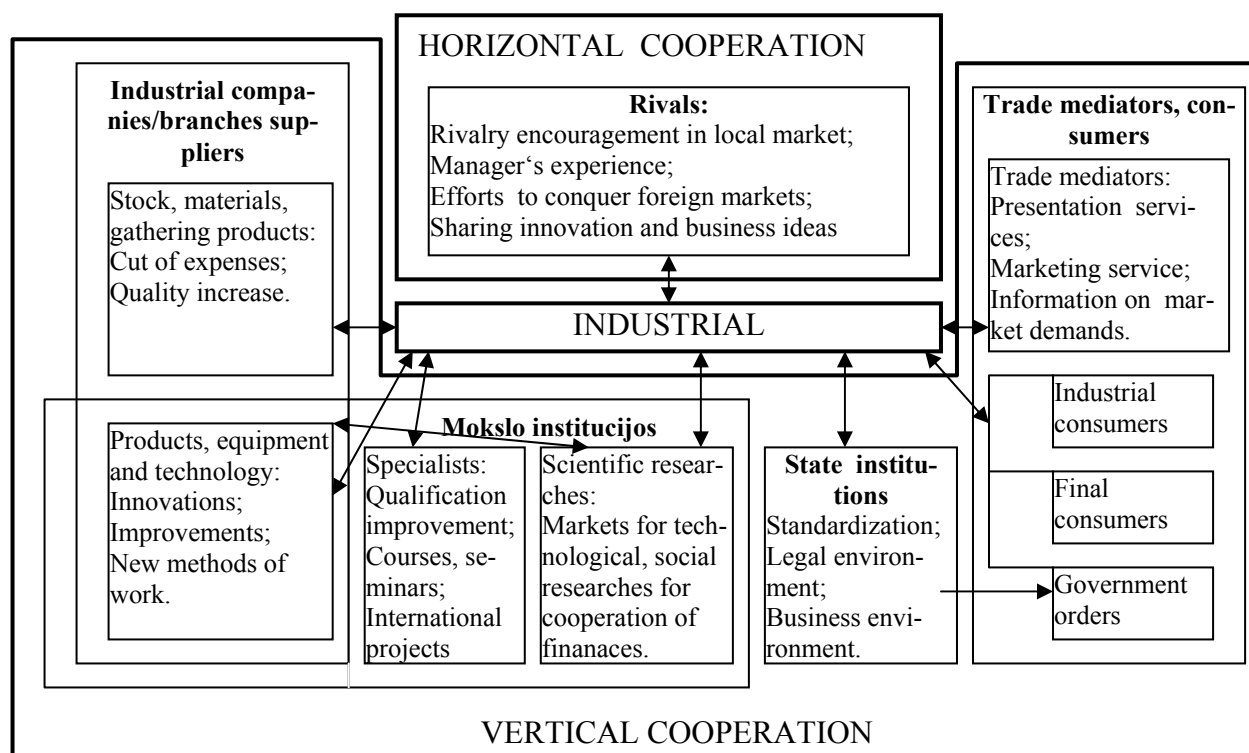The specifics of clusters is best described by Saboniene's (2007) model of cluster organization (fig.3).

Fig. 3. **Model of cluster cooperation.**

Source: Saboniene, A. (2007). *Shake-up of industry and rivalry: methodological means*. Kaunas: Technology, p. 44.

The following figure shows how according to Porter (2000) private capital influences the development of cluster (Fig. 4)
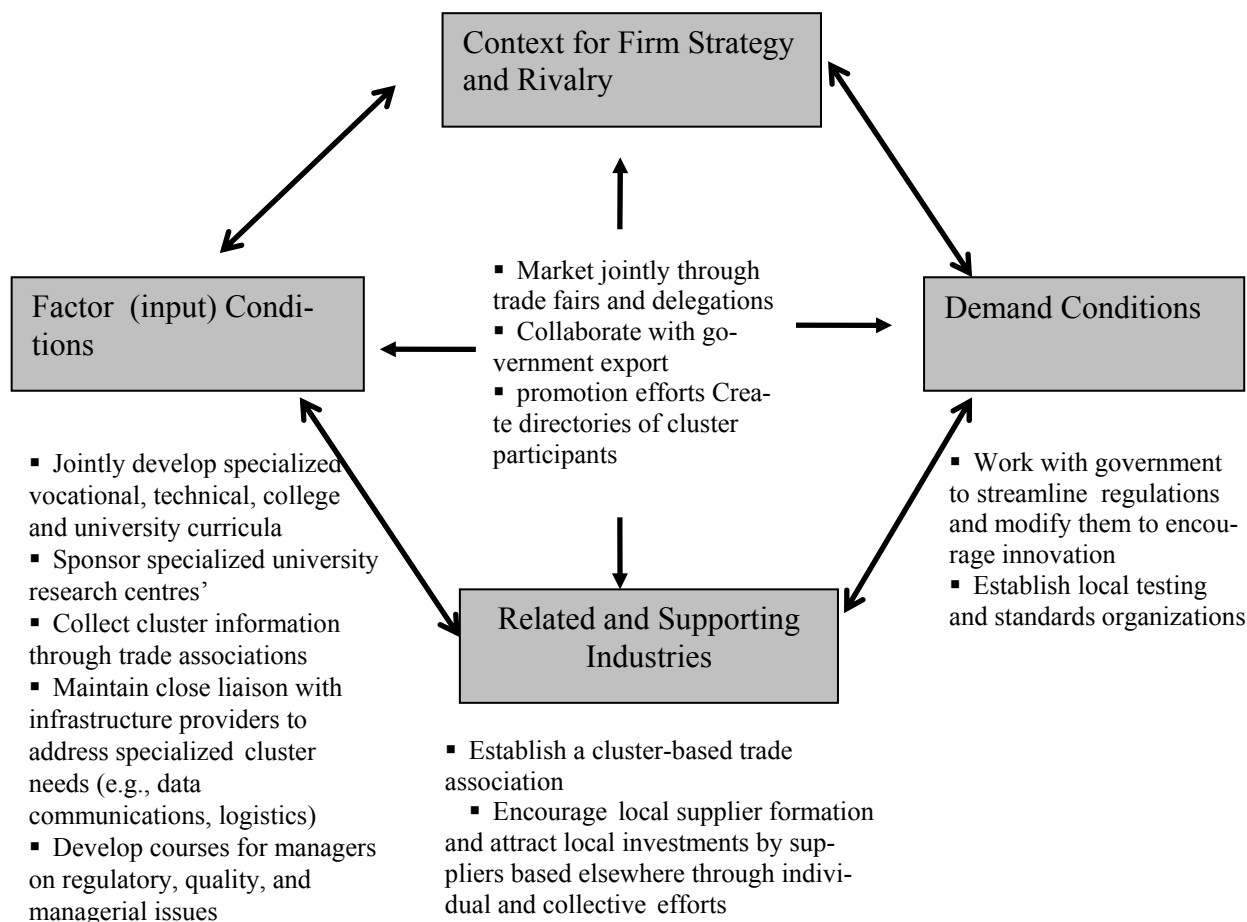
Context for Firm Strategy and Rivalry

Factor (input) Conditions

Demand Conditions

Related and Supporting Industries

- Market jointly through trade fairs and delegations
- Collaborate with government export
- promotion efforts Create directories of cluster participants

- Jointly develop specialized vocational, technical, college and university curricula
- Sponsor specialized university research centres'
- Collect cluster information through trade associations
- Maintain close liaison with infrastructure providers to address specialized cluster needs (e.g., data communications, logistics)
- Develop courses for managers on regulatory, quality, and managerial issues

- Work with government to streamline regulations and modify them to encourage innovation
- Establish local testing and standards organizations

- Establish a cluster-based trade association
- Encourage local supplier formation and attract local investments by suppliers based elsewhere through individual and collective efforts

Fig. 4. **Illustrative Private Sector Influences on Cluster Upgrading**

Source: M. E., Porter Harvard Business School *Mississippi May, 2000*

It is clear that private capital has a positive influence on the development of clusters due to its relation with the preparation of common programs for universities and colleges and investment in training managers on questions about quality control. Also work with governmental institutions initiating innovations and defining local testing and standards of activity for organizations.

Nature and principles of cluster formation

Cluster formation is determined by many different factors. Sometimes the appearance of clusters is inspired by scientific researches or favorable geographical location and other existing economical factors. Another precondition for cluster formation can be an unusual or a very big local demand. An already existing cluster can be a foundation for a related appearance. Similarly, activity of one or more innovative companies can encourage the formation of the others and finally become a cluster. (Kazlauzkaite, 2003).

The following elements are necessary for clusters to form:
- Space closeness between the companies of the same industry or industrial groups;
- Closeness for markets,
- Specialized work force for gatherings,
- Suppliers of equipment necessary for manufacturing,
- Access of specific natural recourses or infrastructure,
- Low costs of contracts due to geographical nearness and access to information of the companies (participants).

Therefore, in order for a cluster to form, companies of similar industries need to be vertically and horizontally related. Clusters form in close markets that are related by work force, suppliers, equipment, natural recourses and corporate necessary information.

A conclusion can be drawn that clusters can form accidentally or that they form only in order to solve certain problems and increase efficiency. Clusters can appear in any place, and the existing clusters can get bigger or turn into some smaller clusters.

Clusters joining certain classes of products or services have a long lasting life cycle. Rosenfeld (2003) singled out the following stages of cluster formation: incubation (embryonic), rising (increase), maturity or decline.

Other authors (Andersson, Hansson, Serger, Sörvik, 2004) distinguished between 5 stages of cluster existence (fig.5.).
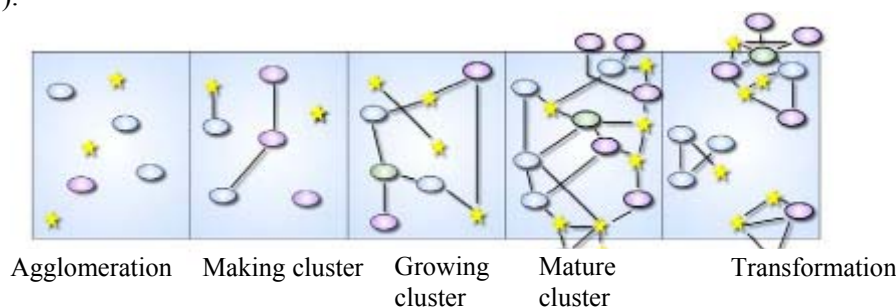

| Agglomeration | Making cluster | Growing cluster | Mature cluster | Transformation |

Fig.5. **Cycle of cluster existence**

Source: Andersson, T., Serger, S. S., Sörvik, J., Hansson, E. W. (2004). *The cluster policies whitebook*. Malmö: IKED, p. 29.

The comparison of differently interpreted cycles of cluster existence showed that clusters form in regions or countries with companies and other market shares practicing the same or similar activity. A cluster is developing and increasing uniting a growing number of companies. Having reached the maturity stage cluster can collapse or transform so causing the appearance of new clusters. For clusters to survive and develop its participants need to pursue novelties and provide consumers with the latest advantages.

When analyzing clusters it is necessary to discuss their benefit for countries, regions and companies.

Modern rivalry depends on the efficiency not on the efforts made or the size of an individual company. Efficiency depends on how the companies compete not where they compete. Modernity which the companies use to compete is influenced by the quality of business environment. In nowadays market companies are not capable of competing unless they use the latest technologies, and in order to achieve competitive advantage they have to organize into clusters (Porter, 1998).

Cincikaite ir Kavaliauskiene (2004) present methods singled by Porter 2000 how clusters influence the rivalry of regions:

- increase the efficiency of companies forming cluster and industries;
- improve adaptation of companies and industries to innovations and in that way increase their efficiency;
- encourage the establishment of new businesses supporting innovation, thus expanding cluster limits.

Poor regions face problems forming clusters.

Clusters establishing new companies and supporting the growth of innovation need loan or capital. In the growing cluster which depends on technologies, investment can be big. Merging and saturation of banking and risk capital is a problem of poor and isolated regions. Loan providers prefer nearby clients that can be controlled and helped. Remote institutions that do not have enough information about clusters and their markers are less likely to take risk. In some places clusters can develop relationship with local bankers, some understand their needs but the majority does not. Participants with low income lack credit except family savings and small loans for the beginning (Rosenfeld, 2003).

Problems of cluster formation and development can be solved. First, enough attention should be paid to the understanding of clusters and politics, the evaluation of opportunities and dangers. If clusters are misunderstood or its advantages are not fully used, they can collapse.

It is also important to evaluate the role of governmental institutions in the formation of clusters.

Business, not government form clusters (Rosenfeld, 2003). However, clusters like all other companies, could not grow successfully in a region with unfavorable conditions for their establishment and development made by the government.

Governments played an important role in the formation of most clusters in the world. In order for technological businesses to develop governments should create mechanisms reducing risk that private businessmen face establishing new companies. Practice confirmed that governments have to carry out two means:

- Stimulate the coming of private risk capital to technological companies using commonly financed programs,
- Reduce risk of companies carrying out researches and developmental works.

However, government has to understand what it finances and should not finance some companies at the expense of the other companies. Government must finance pre-competitive company research, the results of which must be acceptable to the society.

M. Porter (2000) explains the formation of clusters in economical system using systems of various factors determining the fact that competitive branches of national economy do not spread evenly in all economical system but merge forming so called clusters compiled of independent economical branches.

M. Porter (2000) showed governmental influence on cluster improvement in traditional diamond polygon.
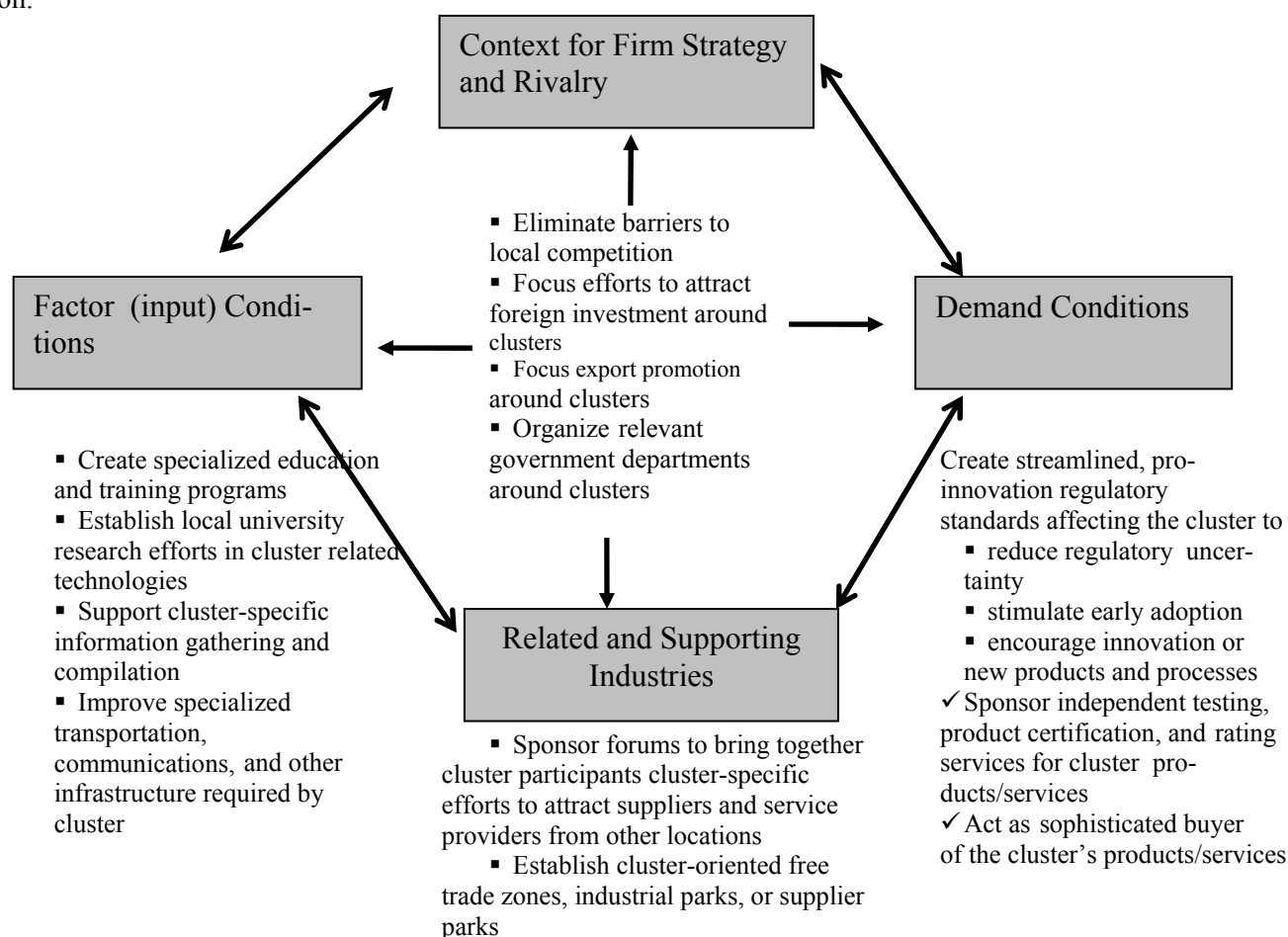

Fig. 7. **Illustrative Government Influences on Cluster Upgrading**

Source: M. E., Porter Harvard Business School *Mississippi May, 2000*

Cluster development opportunities in Lithuania

No country including Lithuania, can achieve international rivalry in all industries. There are neither enough resources nor competence. Therefore, it is important to choose how such competitive ability will be grounded. It is also obvious that it is difficult for single participants of the market (no matter what they are – business, industry, science, country government) alone to achieve the quality required by the new economy.

The key to the decision is partnership network, clusters, other forms of corporate activity as only in such structures synergetic effect is generated, each interest-group best realizes its aims, and is most productive (KTU business strategy institute, 2003).

The importance of clusterization is defined by the logics of economical activity and tendencies of corporate industry and business development. The key reason - the increasing international rivalry and economical structure existing in Lithuania at present, determine the fact that companies shall have to combine the two qualities:

- ability to compete in lower prices
- innovation.

Companies will not be able to do it on their own as many factors determining their efficiency do not depend on them. Therefore, an efficient business system is necessary. It is publicly acknowledged that no business system has to be founded on cluster principles. It would be difficult to find a competitive country with clusters not playing an important role in its economical system. (Jucevicius, Rybakova, Sajeva, 2007). Thus, in the future Lithuanian companies can be forced to merge to form a cluster as staying in the competitive market of country and competing world widely individually can be impossible.

The main reasons why company clusters in Lithuania form slowly:

- lack of trust between the subjects of cluster;
- different technological and managerial level of various business subjects;
- poorly developed business information systems;
- lack of competence in business partnership;
- lack of enterprise;
- inefficient professional and branch associations;
- an inefficient innovation system (2007 – 2013 program of economical growth, 2006).

Lithuania has many interferences impeding cluster development, thus efforts to get rid of them should be made.

Cluster formation and cooperation in Lithuania could be encouraged by:

- creation of information system storing information on opportunities of local or international cooperation and providing economical subjects with them;
- improvement of activity of specialized institutions providing economical subjects with the information on possibilities of joining international projects financed by PHARE, SAPARD and other funds, and helping them to use the opportunities practically and improve their activity (Ciburiene, Kersiene, 2002).

Assumptions of cluster formation and development can be put in the following key groups:

- Common conditions influencing the development of all companies both working individually and in agglomerations;
- External factors having a specific influence on the process of clusterization;
- Internal factors (tendencies of specialization, formation of essential competence, related interaction between expansion of clusters, etc.) in certain cluster (potential or existing) (Centre of Economical research, 2002).

Condition of Lithuanian fishery sector and opportunities for cluster formation

Fishing is one of the oldest employments of humankind and it is directly associated with the exploitation of fish – the living aquatic resources. For a very long time, the fisheries were run according to the principle of 'catch as many fish as you can'. Later, however, with the development of the major fishery sector in the second half of the 20th century and with the increasing consumer demand for fish and seafood products, fishery resources faced significant decline due to extensive over fishing. Therefore, measures had to be taken in order to prevent the over fishing of the fish of spawning age, which could still ensure sufficient regeneration of their populations.

The marine fishery sector based only on short-term economic priorities faced the serious threat of destruction of the major source of its income.

In pursuance of the development of Lithuanian fishery sector, the necessity for paying more attention to rational usage of the fish stocks, improvement of environment quality, making better conditions for the development of micro- and small enterprises, promoting lifelong learning was highlighted in the National Strategic Plan of the Lithuanian Fishery Sector for 2007–2013.

The National Strategic Plan of the Lithuanian Fishery Sector for 2007–2013 (2006) was prepared in accordance to the principles of the EU methodological culture.

The plan outlines, that Lithuanian fisheries is a sector related with the management, protection and restocking of fish resources, fishing, aquaculture, fish processing and marketing, first sale and buying of fishery products. 4 main branches of the fisheries sector are developed in the country:

1. Marine fishery (fishing in the high seas, in the Baltic Sea and in the coastal zone of the Baltic Sea).
2. Inland waters fishery.
3. Aquaculture.
4. Fish processing industry and marketing

Lithuanian fisheries sector is administrated by the Ministry of Agriculture of the Republic of Lithuania (hereinafter - the Ministry of Agriculture) and its authorized institution – the Fisheries Department under the Ministry of Agriculture of the Republic of Lithuania (hereinafter - the Fisheries Department), also the Ministry of Environment of the Republic of Lithuania (hereinafter - the Ministry of Environment). According to the Law on Fisheries of the Republic of Lithuania of 22 of June 2000 (Valstybės žinios (Official Gazette) No 56 – 1648, 2000, No 73-2527), the state functions on the regulation of fisheries are performed by the following institutions, depending on their competence: 1) Ministry of Agriculture - the functions with regard to development of the policy of the fisheries sector, state regulation of this sector, implementation of the European Union (further referred to as the EU) Common Fishery Policy (further referred to as the CFP), also protection of fish resources and their control in the seas; 2) the Ministry of the Environment - the functions with regards to development of the policy for protection and control of fish resources in the inland waters, monitoring over the compliance with the fishing regulations in the inland water deposits. The Fisheries Department is responsible for the implementation of tasks assigned by the Ministry of Agriculture, i.e. implementation of the rational fisheries policy, integrated regional and structural policy in the fisheries sector (together with other governmental institutions), preparation of legal acts necessary for the development of the fisheries sector, etc. The Environment Protection Agency under the Ministry of Environment is responsible for the administration of river basins and their parts located on the territory of the Republic of Lithuania, seeking the attainment of water protection goals, also coordinates the process of environmental impact assessment, when planning to build embankments, hydroelectric power stations, set up ponds, clean lakes, as well as makes decisions due to the admissibility of the planed economical activity from the impact on the environment viewpoint. Regional Environmental Protection Departments of the Ministry of Environment issue permits for the integrated pollution prevention and control to the fisheries pond farms, also issue permits for commercial fishing in the inland waters and control the compliance with legal requirements on the fishing. The applied biological fisheries research is carried out by the Fisheries Research Laboratory of the Lithuanian State Pisciculture and Fisheries Research Centre (hereinafter – the LSPFRC), Vilnius University scientists, Institute of Ecology of Vilnius University, Klaipėda University. The Fisheries Research Laboratory of the LSPFRC regularly monitors and investigates the status of fish resources in the Baltic Sea. The Laboratory of Marine Ecology of the Institute of Ecology of Vilnius University monitors and investigates fish resources in the Curonian Lagoon, Kaunas water reservoir and in other inland waters. The Laboratory of Inland Waters and Ichtiopatology of the LSPFRC carries out qualitative research of water and fish feedstuff. The Šilavotas branch of the LSPFRC carries out the selection of carp. The Žeimena branch of the LSPFRC rears and grows salmon fish species (salmon, sea trout). Later the juveniles are let into the waters of national importance. The Žeimena branch performs the genetic research of salmon fish species. Economic and social research of the fisheries sector is carried out by the Institute of Lithuanian Agrarian Economics.

Fishery companies are in all Lithuanian regions. The biggest number of them is situated in Klaipeda area making 81,3% of all fishery companies. Marine fishery, fish processing, fishing in the biggest pool of Inland Waters – Curonian Lagoon is developed here. Other fishery companies – aquaculture and fish processing companies – are spread all around the country.

Lithuanian fishery sector is closely related with marine matters. Activity of fishing companies is connected with the structures of sea port: the Lithuanian Maritime Safety Administration and Klaipeda State Seaport Authority. A fishing port in the mouth of river Smiltele built for mooring and keeping fishing boats of the Baltic Sea is in the territory of Klaipeda State Sea Port. Fishing companies use services of all ship building, ship repair and logistics companies located in the Port.

In 2004 Lithuania joined the EU and together with the other members of the EU is creating and implementing Common Fishery politics. Membership and financial support from the European Community for

fishery according to Lithuanian Common programming document and its supplement, helped Lithuania to adjust its fishery sector to working in European Community market and to reform administration system accordingly.

The given information illustrates the *complexity of management* of the fishery sector. All institutions administering the activity of fishery sector are scattered all around Lithuania, their activity coordination is very complicated, and therefore, the logics of work efficiency dictates the necessity for the formation of marine economy cluster, considering principles of the continuous development.

Another obvious problem of fishery sector is constantly *falling fishing quotas*. For year 2008 Lithuania got the following quotas for fishing in the Baltic Sea: 2 631 t of cod fish, 4 456 t of Baltic herrings, 24 773 t of sprats and 5646 salmons. Compared to 2007 fishing quotas for cods and salmons fell by 12 and 15 percent accordingly. Baltic herrings and sprats increased by 15 and 12 percent. Quotas for cod fishing in the Baltic Sea were falling since 2006 when quota for this fish after exchange with other countries was 3 258 t, i.e. almost ¼ time bigger. However, after the status change of eastern cod resources and after accepting a plan of the Baltic Sea cod resources and fishing methods in 2007, fishing quota for eastern cod increased by 15 percent in 2009, and equally fell quota for western cod fishing. Eastern cod fishing quota for Lithuania in 2008 made 83 percent of total Lithuanian cod quota in the Baltic Sea, i.e. total Lithuanian cod fishing quota in 2009 increased by almost 10 percent.

Cod fishing season is also constantly being shortened. In 2006 it was allowed to fish 246 days a year, in 2007 fishing season 25–27 ICES (*International Council for the Exploration of the Sea*) in the fishing territory was reduced to 222 days, and in 2008 it to 178 days, i.e. almost 28 percent less than in 2006.

Fishery sector faces *economical problems* which include fishing organization and realization of raw product.

Evaluating the aims and priorities of fishery sector it is necessary to state the main strategic aim of the sector formed by Lithuanian fisheries sector in the National Strategic Plan for 2007–2013. The aim is as follows: to promote sustainable development of the fisheries sector and enhance its competitiveness, ensure economic, environmental and social sustainability, protection and restocking of the fish resources.

Seeking to implement the common goal of the National Strategic Plan and the Operational Programme, it has been decided to implement the measures according to all five priority axes identified in Council Regulation (EC) No 1198/2006:

1. Measures for the adaptation of the fishing fleet.
2. Aquaculture, inland fishing, processing and marketing of fishery and aquaculture products.
3. Measures of common interest.
4. Sustainable development of the fisheries areas.
5. Technical assistance.

The National Strategic Plan describes the development of the Lithuanian fisheries sector coordinated with the Lithuanian social, regional, environment protection policy, protection and increase of fish resources, fostering of water biological diversity and landscape. While preparing and implementing the National Strategic Plan, great attention is paid to the rational exploitation of fish resources ("Marine fishery"), sustainable inland fishing, development of aquaculture and fish processing industry and marketing ("Inland waters fishery", "Aquaculture", "Fish processing industry and marketing"), sustainable development of fisheries areas ("Sustainable development of fisheries areas"), efficient management ("System of management"), development of scientific research and human resources ("Scientific research and human resources"), measures of common interest. All priority axes and measures described in this Operational Programme have been selected, seeking to implement the goals and objectives set in the National Strategic Plan and following the provisions defined in article 19 of Council Regulation (EC) No 1198/2006.

All presented information clearly shows that in order to achieve a constant development of Lithuanian fisheries sector, it is necessary to continually analyze and evaluate problems of the sector and implement means named in the National Strategic Plan of Lithuanian fisheries sector for 2007–2013.

Forming a cluster of Lithuanian fisheries sector, it is recommended to take it as a part of Lithuanian Marine economy. In my opinion and considering general common features of clusters, evaluating principles of continuous development in Lithuania, *a cluster of Lithuanian marine economy* needs to be formed joining not only fisheries sector but also other activities of Lithuanian marine economy.

Lithuanian fisheries sector in the National Strategic Plan for 2007–2013 is called a national strategic activity nurtured and developed considering principles of continuity. Continuous development requires legaliz-

ing a cluster of marine economy and developing it as a whole considering and constantly coordinating all concurrent parts.
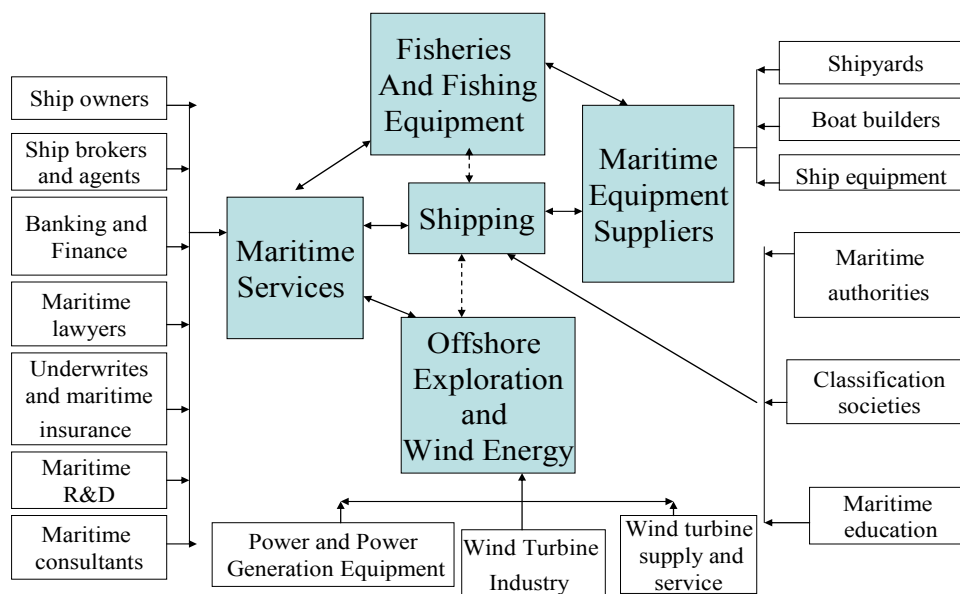

Fig. 8. **Cluster of Lithuanian Marine economy**

Prepared by the author

It is important to form such cluster of Lithuanian Marine economy that with minimal investment could create the most favorable conditions for harmonious development of Lithuania and needs of people living by the sea. Marine economy cluster has to be modeled like an object of scientific research considering principles of continuous development.

According to a cluster analogue proposed by M. Porter (2000), individual production fields of product creation system of Lithuanian marine economy, will support each other. Cluster of marine economy will be able to create an outcome bigger than a sum of outcomes from the activity of individual companies.

Conclusions

Under conditions of rapid economical development and rivalry increase, companies are becoming incapable to compete inside the country and in the world market on their own, and therefore clusters appear. A number of factors influence the formation of clusters. They can appear due to favorable geographical position of companies, big local demand, and develop from related cluster. Favorable conditions are necessary for cluster formation. A consistent analysis of the existing clusters evaluating given advantages for regions and individual economical sectors needs to be carried out.

Governmental institutions can not form clusters however they have to create favorable conditions for cluster formation and development. Clusters increasing efficiency, give benefit not only for companies inside the cluster or scientific institutions but for all country or region, thus the government has to try to make proper cluster policy. In the countries with governments initiating contests related with cluster formation or development, there are a number of companies preparing such projects.

In Lithuania a low level of "digital" infrastructure, poor investment in scientific research, lack of risk capital, a significantly increased emigration of qualified workforce, absence of partnership between companies, prevent from cluster formation.

National strategic plan of Lithuanian fishery sector for 2007–2013 years was prepared considering the necessity to guarantee the development of the sector and increase of rivalry ensuring economical, environmental and social stability, preservation and renewal of fish resources, rationally combining business competitiveness and productivity, rational consumption of resources and solution of social problems. Integrated development of fishery has to ensure an even and inter-coordinated activity of all links of fish products' moving cycle complying with the traditions of strategic management of Lithuania and EU. The plan high-

lights the importance of improving the quality of environment, necessity to create better conditions for the development of very small and small companies, encourage lifelong learning.

Formation of Lithuanian marine economy cluster would have a positive influence on the continuous development of the sector. Making decisions necessary for the management of fisheries sector, not only efficiently working governmental institutions, associated structures, their mutual cooperation are necessary but also detailed, systemic, timely information. Solving issues related to the development of fisheries sector it is necessary to provide all subjects of fishery economy or its groups with equal opportunities to represent their interests. In order to coordinate the questions on the use of resources, business efficiency and social questions, development, support and strengthening of the associated public structures of the fisheries sector, encouragement of active work and the development of cooperation are essential. It is logical to evaluate Lithuanian fisheries sector as a constituent of Lithuanian marine economy considering principles of cluster formation given by Porter to form a cluster of Lithuanian marine economy where fisheries sector would take an important place and will be able to develop as a national strategic activity natured and developed evaluating the principles of continuity.

References:
1. 2007–2013 m. Ekonomikos augimo veiksmų programa. (2006). [interaktyvus]. Vilnius: LRV. [žiūrėta balandžio 29 d.], Prieiga per internetą: < www.lrv.lt/ES_parama/Ekonom_augimo_ programa.pdf >
2. Jucevičius, R. (2002). Klasterio plėtojimo strateginės galimybės (Stategic Possibilities for accelerating cluster development). *Socialiniai mokslai,* Nr. 5 (37). Kaunas: Technologija. p. 36 – 41. ISSN 1392 – 0758.
3. Jucevičius, R., Puidokas, M. (2006). Klasterio politikos teorija ir praktika: galimybės ir apribojimai. Žvilgsnis iš „vėluojančios" šalies. (Cluster policy theory and practice. The „latecomer" country perspektive on policy opportunities and limitations). *Socialiniai mokslai,* Nr. 4 (54). Kaunas: Technologija. p. 7 – 19. ISSN 1392 – 0758.
4. Jucevičius, R., Rybakova, E., Šajeva S. (2007). *Lietuvos pramonės ir verslo klasterių žemėlapis.* [interaktyvus]. Kaunas: KTU verslo strategijos institutas. [žiūrėta balandžio 29 d.], Prieiga per internetą: <http://www.ukmin.lt/lt/veiklos_kryptys/pramone_ir_verslas/pramone/doc/Ataskaita.pdf>
5. Andersson, T., Serger, S. S., Sörvik, J., Hansson, E. W. (2004). *The cluster policies whitebook.* [interaktyvus]. Malmö: IKED. [žiūrėta balandžio 29 d.]. Prieiga per internetą: <http://www.iberpymeonline.org/Documentos/TheClusterPoliciesWhitebook.pdf> ISBN 91-85281-03-4
6. Činčikaitė, J., Kavaliauskienė, V. (2004) Regionų konkurencingumo didinimo strategijos principai klasterių teorijos pagrindu (The principles of cluster-based strategy of regional competitiveness development). *Inžinerinė ekonomika*. Nr. 3(38). Kaunas: Technologija. p. 33-38. ISSN 1392-2785.
7. Ekonominių tyrimų centras ir Kauno Technologijos Universiteto verslo strategijos institutas. 2002. *Klasterių kūrimo Lietuvoje prielaidų analizės ir rekomendacijų parengimas.* [interaktyvus] Vilnius: Lietuvos Ūkio Ministerija. [žiūrėta 2008 m. kovo 14 d.] Prieiga per internetą: <www.ukmin. lt/ lt/ veiklos_kryptys /pramone_ir_verslas/ pramone/doc/klasteriu_20studija.zip>
8. Čiburienė, J., Keršienė R. (2002). Klasterių esmė ir jų formavimasis. *Tiltai, Priedas. Nr. 10. Transformacijos Rytų ir centrinėje Europoje.* Klaipėda: KU. p. 54 – 61. ISSN 1648-3979
9. Jucevičius, G. (2006). *Klasterizacijos procesai ir Lietuva*. [interaktyvus]. Kaunas: KTU verslo strategijos institutas, VšĮ Žinių visuomenės institutas. [žiūrėta balandžio 29 d.], Prieiga per internetą: <www.infobalt.lt/docs/JUCEVICI.pdf>
10. Porter, M. E. Clusters and the new economics of competition. *Harvard Business Review*. Boston: Harward, 1998, Nr. 6 (36). [žiūrėta 2008 m. kovo 18 d.], p. 77-90. Prieiga per internetą: EBSCO, Business Interface. ISSN 0017-8012.
11. Porter, M. E. Locations, Clusters, and Company Strategy. *Oxford Handbook of Economic Geography.* [interaktyvus]. Oxford: Oxford university press, 2000. [žiūrėta 2008 m. kovo 1 d.]. Prieiga per internetą: EBSCO, Business Interface. ISSN 1468-2710
12. Rosenfeld, S. Industry Clusters: Business Choice, Policy Outcome, or Branding Strategy? *Journal of New Business Ideas & Trends.* [interaktyvus]. Ballarat, Vic. : UPB Publishing, 2005, Nr. 2 (3). [žiūrėta 2008 m. kovo 27 d.], p. 4 - 13. Prieiga per internetą: EBSCO, Business Interface. ISSN 1446-8719.
13. Methodological Working Papers for the new Programming period, 2007-2013 Draft Working Paper on ex ante evaluation for the European fisheries fund.
14. The New Programming Period, 2007-2013: Methodological Working Papers Draft Working Paper [X] Indicators for monitoring and evaluation: a practical guide for the European fisheries fund
15. Operational Programme of the Lithuanian Fisheries sector for 2007 – 2013, 2006.