

## Template – Regional Key Competencies

### - *Commentary on a template for collection of information on regional key competencies.*

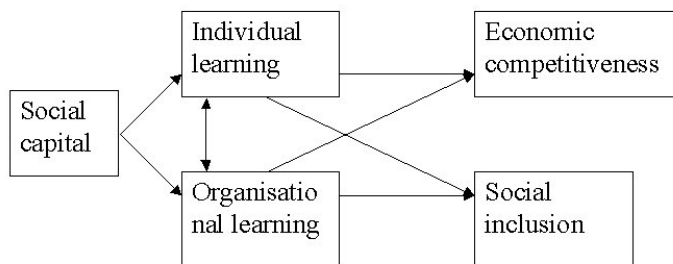
This note contains comments on a template developed for the key competencies project in its early stages for communicating ideas on approaches to identification of key competencies.

The template was designed to collect data for identification of regional key competencies. A number of different approaches are used for this purpose. This commentary shortly outlines the background for some of these approaches, which were used in selecting data to be included in the template. The template is an outline produced for the Regional Key Competencies project and presents examples of information relevant according to some of the approaches. It may in other circumstances be extended to catch particular local features. A phase of analysis and interpretation of the data collected is envisaged to follow. At the end of this note a practical procedure for selecting key competencies in a specific regional setting is described.

## Sources for the information regarding regional competencies.

### 1. The learning region approach

The OECD carried out a set of conferences and case studies on the learning regions and the new conditions for production in globally integrated trade. A summary of the findings were published in 2001. The ability to learn was perceived to be the key competency for succeeding in the global competition. Learning, unlearning and relearning was needed if innovation was to reach a rate needed to counter the effect of outsourcing. A heuristic framework for the study of local learning capacity was set up and used for a set of case studies. The framework has given inspiration to much of the strategy development in industrial policy at the regional levels in the OECD area.



Source OECD (2001): Cities and Regions in the new learning Economy

Individual learning obviously is needed for innovation, but individual learning is dependent on the social capital in terms of institutions and traditions in the regions. Individual learning also is related to organisational learning. Both are needed for the development of innovativeness and economic competitiveness and both have a role in securing social inclusion. Social inclusion is important in a dynamic setting for securing sustainable social structures and for maintaining social capital. If the regional level of knowledge and learning capacity is linked to the historical development e.g. by the growth of certain large enterprises this may mean that the knowledge is path dependent.

If this is the case it may be more difficult to unlearn certain habits and relearn new than if the knowledge is not path dependent.

The template was designed to focus attention on this matter in section A.1.4.

## **2. The Cluster formation approach**

Theories of cluster formation have inspired the regional industry policy. If potentially successful clusters are identifiable they may be object for targeted support. This section deals shortly with clusters of competence with the purpose of its suitability for use in a local business development strategy. It is therefore the purpose to use the particular parts of the theory, which has relevance in terms of its use for revealing how knowledge on clusters can be used practically at the regional and local level. The section is written on the basis of international trade theory, economic geography, OECD reports on cluster analysis and on learning in addition to papers by M Lorenzen and P. Maskell who also participated in the work for the OECD reports on the matter.

Often the approach of clusters of competence has been used in national industry policy thinking, e.g. in analysis of national competitiveness and export performance. Since the Regional Key Competencies project deals with possibilities at the regional and local levels it was chosen to focus on those parts of the theory, which are particularly relevant in the regional setting.

Whenever organization in clusters is successful a company in the particular industry will gain an advantage by moving close to the other similar companies in the industry. Technically factor prices of a firm are lower if the firm locates within the cluster than if it locates at a distance from the cluster. It is not the size of the individual enterprise that reduces costs but the size of the industry. Firms may share suppliers, certain resources such as skilled labour and infrastructure. Infrastructure obviously may include organizational as well as physical infrastructure. Some forms of public service such as training facilities may also be shared by members of the cluster. Since these to the individual company are outside factors the technical term is external (scale) economies.

You may say that knowledge of the clusters constitutes the static basis for the clusters and therefore may still enter into the approach as a kernel, even though other more dynamic explanations were added later. When looking at Ribe county, Liege and probably also areas in Cornwall, however the infrastructure, which a set of companies draw upon, are not related to clusters as much as to more traditional resource based conditions. The regions have through natural conditions and public investments gained resource based production in the first place. Later perhaps, clusters of suppliers and users were attracted. Path dependency thus may very well be present.

A cluster in its formal sense is not based on local resources as such and could therefore be situated in any other place. This flexibility in the positive sense and local sensitivity in the negative of clusters in their pure form means that local communities with clusters may be threatened if the cluster suddenly is moved to another location. Location is important but not a specific location. Workers in car manufacturing clusters have felt this. On the other hand there is a first mover advantage of a local cluster competitive strategy. At the same time as soon as the production in the cluster passes from the innovative phase to a more routine production stadium there is no rationale of keeping the production in the cluster. Therefore continual shelling of production is a condition for continued success of the cluster. Production in clusters therefore typically is characterized by short life span and routine outsourcing of production in later stages of the product



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cycle. Section B 3 focuses on natural resources as determinant of some types of industrial location.

## *Competence and learning in clusters*

Another aspect of competence clusters which has gained importance is local learning. Here formally unit costs drop as the accumulated production increases. It is thus not the annual production level which is important but the total production over several years, since it takes time to learn how to reduce costs. The more units you have produced over time the lower costs per unit are. Part of this learning is available for all. As an example some Asiatic countries were able to narrow the difference in the education level and thereby take over production of products with advanced technology. Part of the learning however it is not possible to imitate outside the cluster, since it is tied to the internal function of the cluster. Obviously it is this part which is attractive in a local setting, since it constitutes the foundation of the continuation of the competitiveness of the cluster. It is said in this connection that the advantage of the cluster consists in a complex pattern of daily routines and practice gained through a long term learning process which is created more efficiently by connecting to a cluster. The reason may be that you are in interaction with suppliers which learn and from whom you may learn. The reason may also be that the firms have access to a labor force which has better access to learning and which can adapt quicker to new conditions. Sections B.2 and B.4 of the template contains information on education, training and recruitment.

## *Coordination and social capital.*

In a wider perspective importance is attached to social capital as an explanation to the ability of a cluster to remain competitive. It is said that what particularly constitutes the basis of success of clusters is that they represent a condensation of coordinated economic competence and activity. The firms are integrated in supply chains with attached labor force and cooperation with private and public institutions. It is the interaction in these local networks, which creates the ability to learn. Therefore it is more adequate to talk about interaction and cooperation while still competing at the same time. So learning is promoted both by being close to competitors and at the same time cooperating on solutions to common problems, and in an interplay between private companies and public institutions.

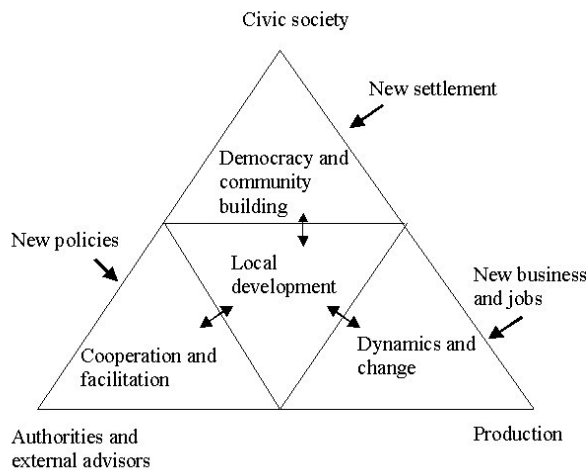
An important aspect in terms of using the clusters approach in active industry policy is that the typical situation is that the ability to coordinate is created through a long term bottom up process. It is therefore difficult to start the coordination process from the top. Companies work together in daily activities building routines and knowledge of each other. This knowledge can facilitate the solution of problems in the production in a more efficient way than they would be able to do if they were far from each other. The knowledge therefore is a collective competence which you may call social capital. Section B.4 of the template focuses on this type of capital.

### **3. The civic society formation approach**

In addition to traditional economic explanations for competence building in regions the focus of OECD also was put on social learning and social capital. The ability to organise production is not just a matter of traditional industrial organisation but also draws on the activities and learning of the surrounding civic society. The attached diagram shows a more complete framework for identifying the sources of regional competencies. The diagram is used in various settings. The focus in this context is on the arrows between the components of the diagram. Regional competencies are particularly related to the



connections between Local development and Production, but the diagram shows that other drivers are relevant.



Source: Pia Heike Johansen 2004. The establishment and Consolidation of Domains of Knowledge in Rural Areas. IME PhD seminar 2004.

In a region the ability to reorganise production in self organising teams depends on the civic society traditions for self-organisation and decision making. Thus there is a link between these. A well functioning civic society may be a condition for innovation in production. The links may go both ways so that the introduction of modern approaches to organising production may help civic society organisation and further wellness. Focus on the social responsibility of companies is related. This may then return positively as increased flexibility and adaptability of the labour force in a positive spiral if conditions are good.

#### 4. Regional economics approach

In regional economics the focus often is on industry structure as a key to identification of development opportunities. The linkages between different sectors of the economy may be studied in a suitable cross table. This has been investigated by the OECD to collect information on clusters of close relationship of suppliers and demanders. In regional impact analysis the relative share of the activity of a sector compared to its share at the national level is important in assessment of impact of policy changes and of investment projects. An investment project, e.g. spurs more local activity if it draws on activities that are well represented locally. This is technically measured by localisation coefficients. Such localisation coefficients should be measured as share of production value at the local level compared to the shares at the national level. If larger than one the localisations coefficient shows that the industry is over represented locally. This may be a reason for considering the industry a key competence in the region.

Sometimes a related but not exactly equal measure is used. At the local level the share of each industry in total employment can be compared to the share of the industry in employment at the national level. This comparison is similar to localisation coefficients except that the one compares shares of production value while the other compares shares of employment. In the template section A.1 and A2 this is compared.

One aspect of measurement of potential industries is the question of size and potential. A sector may be over represented locally as compared to the national level. This may



indicate that the sector is a candidate for support since it has been relatively successful in producing or in generating employment. However the sector may have passed its growth potential while another sector with a smaller share may be more dynamic and more likely to generate growth in the future. Therefore the share does not in itself show that a sector is important for the dynamics of the region. In fact it may be opposite. A sector has potential if it has or will have a reasonable share of employment and if it has potential to innovate and grow. But the size of industries may show that they will not constitute barriers to growth if growth is demand driven.

## **5. Contents of the template.**

The template was as mentioned constructed to communicate on how to focus on different dimensions by which you could reveal regional key competencies. In section A and B the template represents dimensions perceived to be important to form such competencies. It was based on OECD investigations performed for a learning region and on information regarding cluster formation and civic society development in rural areas along with standard international and regional economics.

Section A focuses on General characteristics to highlight the general features of the region. How is the labour market functioning and what is the industry structure. Then in section B the focus is on resources in a broad sense as a basis for development. Which are the particular resources of the region in terms of natural resources and in terms of the industrial and innovative resources?

Section B.1 deals with industrial resources, both in terms of production and in terms of training and innovation. Section B.2 deals with Human resources such as qualifications, flexibility, mobility and ability for social inclusion. Section B.3 deals with natural resources which may have a significant role in some development regions, particularly as a historical background for some industries. Section B.4 contains information on social capital and civic society organisation.

In section C partner activities are listed. Since the partners of the project are directly or indirectly involved in development activities this is information immediately available at low cost and should be included before mapping of the broader activities of all agents involved.

In section D the content of reports and the relevance for different aspects of regional development should be collected and mapped.

## **6. A specific example:**

Selection of projects for intervention in the Jutland-Funen cooperation.

The selection of key competencies for assistance from the Ministry of Economics and Business, i.e a national initiative was developed through a work by consultancies using qualitative and quantitative data and interviews from a number of sources.

First a gross list was formed using information from existing reports, existing statistical surveys, media screening and statistical runs on two industry databases and a statistical run on data kept by the central bureau of statistics. This gross list contained every possible cluster of competence mentioned or indicated by statistical analysis. The total number for the region of Jutland and Funen was 222. Using a threshold based on localisation coefficients and industry specialisation indices and condensing wherever overlaps were identified, the number was reduced to 46. Next a check to avoid geographic double counting was performed. In a number of cases a cluster was present



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in more than one county. Some activities shared technology and competencies or shared a labour pool or specialised suppliers even if they were situated in different counties. It was then combined. Having done this the number of clusters was down to 34. These 34 clusters were then analysed and geographically pinned to one of the counties respectively. A balance within the regions Jutland Funen was an aim of the cooperation beside the general aim of reducing the gap between this region and the region containing the Capital. Therefore it was important to distribute and pin the clusters onto counties.

As a guide for the work on cluster identification a list of characteristics of clusters were used. The characteristics were sorted according to the following ten headlines:

- Network/ Cluster organisation,
- Performance
- Key competencies and technology
- Labour force
- Local competition
- Infrastructure
- International position
- Advanced demand in home market
- Growth perspectives: Opportunities
- Threats

Network/ Cluster organisation comprised indicators such as: Formal cooperation, social relations and sharing of visions, common values, cooperation and innovators.

Performance was measured by: Revenue, export, employment and survival rate.

For Key competencies indicators were: Specialised competencies and technology. Strong relations with research institutions, dispersion of knowledge, availability of resources for investment and larger enterprises or dynamic SMV's in networks.

Labour force indicators were: Access to well qualified labour and mobility of labour.

Local competition was measured by the number of companies in the same industry that can generate a sufficient level of competition and a mix of local and foreign companies for access to other markets.

Infrastructure indicators comprised: The relationship between authorities and organisations, both public and industry development related, financial institutions and local suppliers. Further hard infrastructure such as roads and harbours etc. and soft infrastructure such as schools and cultural facilities were included in the list.

Advanced demand on home market was shown by: A subset of advanced demanding customers, motivating companies to innovate. Local experts with an understanding of the quality of the product and marketing. Feedback and responsiveness of companies to feedback.

Growth potential was reflected in possibilities for the cluster to maintain comparative advantage and positive development opportunities in export markets.

Threats were mainly two considerations: The demand for quick action by engaged stakeholders. The second was significant and sudden loss of jobs.

As may be seen the list comprises both statistical and quantitative data and qualitative information. The list thus is a guide to help think broader than if a quantitative survey is





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performed. Since the process of selection of clusters is a national and regional policy process with a number of interrelated aims as well, the list was used only as a guideline in the selection process.

The clusters selected for the western part of the new region South in Denmark (the original project area) were:

Off shore

Plastics

Network for Bio Energy, Resources and Waste treatment

Industrial biotechnology

Production and IT

Aluminium

Later a centre for Research Contact was established with funding for support for other more project organised activities involving public and private researchers and practitioners. An example of the activity supported under this setting is "Foodture". - A combination of several words to express the need to associate products with narratives and cultural aspects. Thus new spin offs from the cooperation are continually generated.

