EMPLOYING INDUSTRIAL CLUSTER CONCEPT AS A STRATEGY TO IMPROVE SMALL INDUSTRIES IN KELANTAN, MALAYSIA

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ABSTRACT

ASEAN became a major focus for international capitalism, with a population of over 300 millions and reported to be some of the higher per capita incomes in the Third World with market potential; This may be due the possibilities for investment given its low labour costs and comparative political stability, its strategic position between the Indian and Pacific oceans and the 'openness' of the economies to trade, foreign investment and the activities of multinational corporations. However, the welfare of the community in Southeast Asia is still not resolved and the poverty rate is still relatively high. One way is to construct industrial clusters comprising of small and medium enterprises in the village. An industrial cluster is different from the classic definition of industry sectors because it represents the entire value chain of a broadly defined industry from suppliers to end products, including supporting services and specialized infrastructure. Cluster industries are geographically concentrated and inter-connected by the flow of goods and services, which is stronger than the flow linking them to the rest of the economy. Clusters include both high and low-value added employment. The purpose of this paper is to examine the industrial clusters namely in the Tumpat rural community, Kelantan, Malaysia. The Industries involved in this project are the traditional cake and industrial catfish industries. There were 17 respondents in this programme working closely with rural industry. The concept of industrial clusters identified in this project is related with developing primary industries, which are aimed to advance the economy in the community. The industrial clusters constrcuted for catfish industry are pellet industry, catfish crackers industry, catfish breeder, etc. and the traditional cake industry constructed are the pineapple jam industry, printing industry, peanut farming, cake industry hub, etc. If the main business and their industrial clusters grow, there will be increased in the community welfare. The limitations faced by these industrial clusters are financial problem (lack capital business), entrepreneur motivation, lack of interest among the rural community, and also lack of strategic management, marketing, and finance management knowledge in addition to lack of networking.

Keywords: Industrial Clusters, Rural Industry, Uplifting of rural economy, Enhancement of Entrepreneurship Knowledge.

INTRODUCTION:

South East Asia has played a major role in the world-economy. (C. Dixon, 1991) [3]. Production networks, comprising of a number of nodes and links, have been and will continue to be the key device to heighten into economic integration and to narrow development gaps in East Asia (Eria, 2010) [11]. Southeast Asia forms the southern and eastern corner of the Asian continent, which includes the great adjacent Philippine and Indonesian archipelagos.

INDUSTRIAL CLUSTER CONCEPT:

Industrial clusters are a groups of inter-related industries that drive wealth creation in a region, primarily through the export of goods and services. The use of clusters as a descriptive tool for regional economic relationships provides a richer, and a more meaningful representation of local industry drivers and regional dynamics compared to traditional methods. Industrial clusters are geographically concentrated and inter-connected by the flow of goods and services, which is more impregnable than the flow linking them to the rest of the economy. Clusters include both high and low-value added employment. A business cluster is a geographic concentration of interconnected businesses, suppliers, and associated institutions in a particular field. Clusters are considered to increase the productivity with which companies can compete, nationally and globally. In urban studies, the term agglomeration is used. Clusters are also very important aspects of strategic management. (Business Clusters, 2011) [2].

This term business cluster, also known as an industry cluster, competitive cluster, or Porterian cluster, was introduced and popularized by Michael Porter in *The Competitive Advantage of Nations* (M.E. Porter, 1990) [7]. Cluster development has since become a focus for many government programs. Porter (M.E. Porter, 1990) [7] claims that clusters have the potential to have an effect on competition in three ways: by increasing the productivity of the companies in the cluster, by driving innovation in the field, and by stimulating new businesses in the field.

The industrial clustering as a development strategy that is the formation and strengthening of industrial bases are one of the conditions for developing countries to achieve economic development and poverty reduction. But even after virtuous cycles for industrial agglomeration are aggravated in an industrial region, the region can face serious cost competition with other regions that have ample supplies of low-wage labour. To remain competitive, it is necessary for the region to fully seize the prospective benefits from ongoing regional integration and to upgrade its industrial structure to an innovative industrial cluster where companies conduct a range of research and development (R&D) activities, or collaborate to transfer knowledge and technologies (Eria, 2010) [11]. The purpose of theses industrial clusters are to reduce competitions among business partners in the village or district, and generate a variety of products in the village or district. The other reason is that these clusters yield job or business opportunities for the community.

Following development of the concept of inter organizational networks in Germany and practical development of clusters in the United Kingdom; many perceived there to be four methods by which a cluster can be identified (Business Clusters, 2011) [2]:

GEOGRAPHICAL CLUSTER:

i. Sectoral clusters (a cluster of businesses operating together from within the same commercial sector e.g. marine (south east England; Cowes and now Solent) and photonics (Aston Science Park, Birmingham))
ii. Horizontal cluster (interconnections between businesses at a sharing of resources level e.g. knowledge management)
iii. Vertical cluster (i.e. a supply chain cluster)

It is also expected - particularly in the German model of organizational networks - that interconnected businesses must interact and have firm actions within at least two separate levels of the organizations concerned.

Several types of business clusters, based on different kinds of knowledge, are recognized (Business Cluster. 2011):

i. High-tech clusters - These clusters are high technology-oriented, well adapted to the knowledge economy, and typically have as a core renowned universities and research centers like Silicon Valley (Business Cluster, 2011).
ii. Historic know-how-based clusters - These are based on more traditional activities that maintain their advantage in know-how over the years, and for some of them, over the centuries. They are often industry specific. For example: London as financial center (Business Clusters, 2011) [2].
iii. Factor endowment clusters - They are created because they might have linked to a geographical position. For example, wine production clusters because of sunny regions surrounded by mountains, where good grapes can grow. This is like certain areas in France, Spain, Chile or California (Business Cluster, 2011).

iv. Low-cost manufacturing clusters - These clusters have typically emerged in developing countries within particular industries, such as automotive production, electronics, or textiles. Examples include electronics clusters in Mexico (e.g. Guadalajara) and Argentina (e.g. Cordoba). Cluster firms typically serve clients in developed countries. Drivers of cluster emergence include availability of low-cost labour, geographical proximity to clients (e.g. in the case of Mexico for U.S. clients; Eastern Europe for Western European clients) (Business Clusters, 2011) [2].
v. Knowledge services clusters - Like low-cost manufacturing clusters, these clusters have emerged typically in developing countries. They have been characterized by the availability of lower-cost skills and expertise serving a growing global demand for increasingly commoditized (i.e. standardized, less firm-specific) knowledge services, e.g. software development, engineering support, analytical services. Examples include Bangalore, India; Recife, Brazil; Shanghai, China. Multinational corporations have played an important role in 'customizing' business conditions in these clusters. One example for this is the establishment of collaborative linkages with local universities to secure the supply of qualified, and lower-cost engineers (Business Clusters, 2011) [2].

The process of identifying, defining, and describing a cluster is not standardized. The communities develop their own methodologies. All cluster analysis relies on evaluation of local and regional employment patterns, based on industrial categorizations such as NAICS or the increasingly obsolete SIC codes (Business Clusters, 2011) [2]:

i. The Cluster Mapping Project (for the USA), conducted by the Institute for Strategy and Competitiveness at Harvard Business School (Business Clusters, 2011) [2].
ii. The European Cluster Observatory (for Europe), managed by the Center for Strategy and Competitiveness at the Stockholm School of Economics (Business Clusters, 2011) [2].

It was in the 90s that the very successful reflection around 'industrial clusters' was developed, precisely to account for the challenges of external competition and markets, and to find solutions. The emphasis was less on examining the essentially endogenous development of small entities which were coordinated informally, as was the case with the industrial district approach, and much more on groups of enterprises, small or big, developing more and more formalised links, both horizontally and vertically, in order to structure specialised and competitive entities, allowing them to face up to competition. In order to develop and stand out among its competitors, these groups of enterprises, which were strongly structured locally but connected to both internal and external networks, had to enter a dynamic of innovation, mobilising thus the economic actors and other institutional actors in research, training or administration.

The centre of gravity remains the enterprise, but it is an enterprise faced with the competitive market, which mobilises all the resources of its environment, both economic (customers, subcontractors) and local (research and organisational resources) *to maintain its specificity and difference through innovation*. The 'local' level is considered less as creating its own dynamics than as a condition for these connections and synergies, the other institutional entities of research and local management being perceived as being subordinate to the primordial dynamic of innovation: another era, another universe, another concept (B. Ganne & Y. Lecler. 2009) [1].

DYNAMICS WITHIN LOCAL INDUSTRIAL CLUSTERS:

To analyse the results, we have to know how different dynamics can be interpreted. The above theory can be used to make predictions for the dynamics that should be expected in the different stages of the evolution of local industrial clusters. In the empirical study many different regions are analysed. Furthermore, the actual state of the firm population differs between regions because their histories differ.

In order to make predictions for the dynamics within regions, the difference between regions is mainly ignored. It is assumed that most regions are at least similar to such an extent that the actual exogenous conditions fall within the same range. In contrast, the actual size of the firm population is allowed to differ between regions without restriction. Given these assumptions, the dynamics expected in a region can be studied conditional upon the actual situation in the region. There are four stages of evolution of local industrial clusters as depicted in Table 1.0

Table 1.0 : Four stages of evolution of local industrial clusters

First stage	The first stage is when the critical value is exceeded. According to the assumption, the exogenous conditions fall into the same range for nearly all regions. It is Local industrial cluster 34 unlikely that at the beginning of the first stage any region contains a large number of firms. Thus, the number of firms can be expected to increase in nearly all regions.
Second stage	In the second stage the exogenous conditions decrease so that is satisfied. In regions where the number of firms is below the unstable stationary state, this number converges

	towards the lower stable state. If the number of firms is, instead, above the unstable state, it converges towards the higher stable state. Hence, there are two ranges of the number of firms for which this number increases. These are the range below the lower stable state and the range between the unstable and the higher stable state. If the number of firms is between the lower stable state and the unstable state or above the higher stable state, it can be expected to decrease.
Third stage	In the third stage the regions are assumed to have approximately reached the stable states. Small fluctuations might occur. After each disturbance the local systems can be expected to converge towards the stable states again
Fourth stage	This implies that the size of the firm population converges to the lower, and only, stable state. Since the exogenous conditions had earlier been more favourable, the firm population can be expected to be above the stable state in most regions. Hence, the number of firms will decrease in most regions, except a few regions in which there are actually almost no firms belonging to the industry under consideration.

Sources : (T. Brenner, 2004) [12]:

INDUSTRIAL CHARACTERISTICS AND CLUSTERING:

It has been shown above that the sum of all self-augmenting processes has to be sufficiently strong if local industrial clusters emerge. Since the strengths of the above mechanisms vary between industries, this condition may only be met for some industries. Hence, clustering does not occur in all industries.

The weakness of the self-augmenting processes is one possible explanation for the lack of emergence of local clusters in some industries. Another reason is due to the lack of regions that are sufficiently attractive so that the critical mass of the firm population is exceeded.

The developments differ between regions and it is unlikely that if clustering is possible in an industry, all regions fail to exceed the critical mass. Therefore, whether local clusters exist in an industry seems to be mainly determined by the characteristics of the industry, namely the strength of the sum of all self-augmenting processes that are active.

It has to be restated that the self-augmenting processes do not have to be present at all times. It is sufficient that they are strong enough during a certain period of time in which the local clusters emerge. This is especially important in the context of start-up and spinoffs. Usually there are many entries of firm while a new industry develop. Hence, the self augmenting processes that are related to the entries of firm are strong at that time. If, in combination with all the other self-augmenting processes, and if they are sufficiently strong, local industrial clusters will then emerge.

Once the industry has become matured, entries of firm become rare and the related self-augmenting processes become weak. Although this might cause the self-augmenting processes to fall below the required level, the existing local clusters are sustained for a long time. It can be concluded that the strength of the sum of all local self-augmenting processes in an industry at the time when local clusters might emerge determines whether local theoretical approach 49 clusters will exist in this industry. ???? Hence, the local self-augmenting processes can be seen as the answer to the question of why local industrial clusters exist.

The industrial clustering as a development strategy which is the formation and strengthening of industrial bases are one of the conditions for developing countries to achieve economic development and poverty reduction. However, even after excellent cycles for industrial agglomeration are stimulated in an industrial region, the region can face serious cost competition with other regions that have ample supplies of low-wage labour.

It is necessary for the region to fully seize the prospective benefits from ongoing regional integration and to upgrade its industrial structure to an innovative industrial cluster where companies conduct a range of research and development (R&D) activities, or collaborate to transfer knowledge and technologies (Eria, 2010) [11].

The purpose of the industrial cluster concept is to reduce competitions among business partners in village or district, and yield a variety of products in a village or district. The other reason is that the industrial cluster provides job or business opportunity for the villager.

This industrial cluster concept does not just happen in one village or a district; however it can happen between some villages or some districts. It is different with "*one district one product*" concept; in the industrial cluster concept, one village or one district can have some products which are related to other products.

INDUSTRIAL CLUSTER IN MALAYSIA:

A CASE STUDY IN TUMPAT, KELANTAN:

The industrial cluster concept is not something new in Malaysia; however this concept is not very familiar, especially in rural area. In this paper, we would like to explain the industrial cluster concept that we have implemented in a traditional cake industry in Tumpat, Kelantan since August 2011. The industrial cluster concept for this industry can be explained as shown in figure I.0 below.

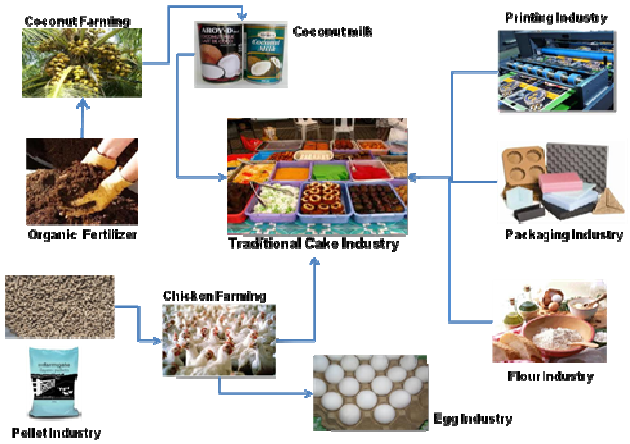

Figure1.0: Industrial cluster concept in Kelantan, Malaysia

What did we initially do in this project? We started by helping them to improve the management system, product packaging, marketing system, and management strategies. This assistance is on-going and when we determine that the industry is stable and ready, we will create some new products and new industries, which are related to the traditional cake industry (the main industry).

Consequently, from this traditional cake industry, other industries such as chicken farm, coconut farm, flour industry, corn farm, printing industry, and packaging industry can be created and developed. However, this development process does not end here. For instance, the chicken farm and the flour industry which have been developed to support the traditional cake industry can further be created and developed to other industries such as pellet industry and rice or corn industry respectively.

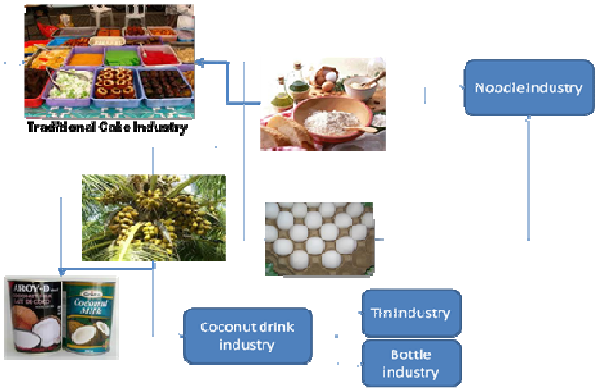

Figure 2.0 : Support industrial development concept in industrial cluster

Figure 2.0 above clearly depicts the industrial cluster concept. We could see the close connection between the flour and egg industry with the noodle industry and the relationship between the coconut drinks industry with industries involving in packaging of this product. In addition to the above, this industrial cluster concept in rural area can also create opportunities for investments. Thus, if investors can come to rural area, it means job and business opportunities for the rural community. The explanation about industrial clusters above proves that the industrial cluster concept can assist to foster the growth of the rural economy. However, the success of this concept depends greatly on high commitment and dedication, great faith, and the spirit of working as a team among those involved. Although the industrial cluster concept is a wonderful concept, there are some problems

that will have to be faced in materializing it. These problems are related to skills, knowledge, financial as well as government support (the country's policy and concept for industrial cluster will also influence the industrial cluster development) and the existing scenario of the global industry.

STRATEGIES FOR CLUSTER DEVELOPMENT:

The most important element in this concept is to provide training programmes to strengthen the human capital of enterprise with a view to introducing advanced technological and managerial knowledge from advanced countries. The imported technology and management practices must be appropriate because this can avoid excessive capital-usage and in addition to this, encourage knowledge-intensive production systems, in which low-wage developing countries do not have a competitive advantage. It is also advisable to institutionalize the training system by setting up training centres and by inviting foreign experts in the required fields.

Every programme has its risk, and in order to minimize this risk, a possible option is to provide training programme to the stagnant clusters, where many enterprises are eager to introduce innovations to increase the profitability of their businesses (T. Sonobe & K. Otska, 2011a) [13].

Apart from that, constructing marketplaces to facilitate market transactions, demarcating industrial areas, offering favourable income tax treatment, and providing basic infrastructures such as roads and electricity are the major steps to support the formation of industrial clusters. The construction of industrial zones for innovative enterprises is a critically important policy to assist the development of the industrial cluster in the quality improvement phase (T. Sonobe & K. Otska, 2011b) [14].

CONCLUSION:

The industrial cluster is a good concept in fostering economic growth and development in rural community. This concept is compatible with the economic situations in Kelantan, Malaysia. Undeniably, it can give high impact to rural people if those involved posses the right attitudes and want to change their lives.

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