Chapter 4.
1st Method:
Cognitive Criteria Selection

The fist method of this study was to determine the necessary criteria from different factors from at lease 5 different theoretical competitiveness frameworks to establish the perimeter of cluster elements. Just from these existing attributes, it already demonstrated the magnitude of complexity of the internal cluster elements excluding the externalities which even further magnify the amplitude of complexity. It is the intention of this research to also evaluate a number of related externality theoretical domain frameworks i.e. social economic, sufficiency economy and others by which never been before considered as a part of these complex elements i.e. the social elements is far to complicate to be included in economic theoretical model but it is essential for the initiatives in action. Therefore in the 1st method of this study, the collected influential factors were reviewed and classified into at least three types; first the well known factors, predefined interfacing between factors, and the implicit factors. After the collected these factors were consolidated, checklist was created for the criteria classification later on.

This method was also conducted the series of structure interview from the empirical field studies conducted by CDA within the foregoing case studies in Thailand. The methodology used for is the common KADS tacit knowledge capture. The output from these empirical study will be combined to create the intermediately representation encountering the theoretical elements.

In parallel with the empirical evident collection mentioned above, the reviews and consolidation of the affirmative actions taken from the formal cluster initiatives reports of the projects were also combined to establish the base line input for the following methods.

The following is the detail of the first method separated into the following categories:

4.1 Selecting Criteria from theoretical competitiveness framework

The internal contributing elements were selected from the following theoretical frameworks with in the domain of the competitiveness. The factors were collectively consolidated starting from the output of various studies of competitiveness from the late 90s up-to-now. These attributes are well known and well

accepted. However, they are static in nature in retrospect of the externalities. From the aspects of the fundamental contributing factors, it established the numbers of elements of the cluster development usually taken base upon the competitiveness theoretical frameworks. Since they have been published as the reference literature for

cluster development over number of years by which I gradually collected from. The domain frameworks in this areas including Porter's Diamond Model, Enright's Me Model, CIPM Model, Scottish Enterprise Model, Duch's Model as examples. As mentioned earlier, these factors are the initial parts of the fundamental elements in which needed to be expanded on to other domain of knowledge in the later section of this method. The following is the consolidated lists of the fundamental attributes.

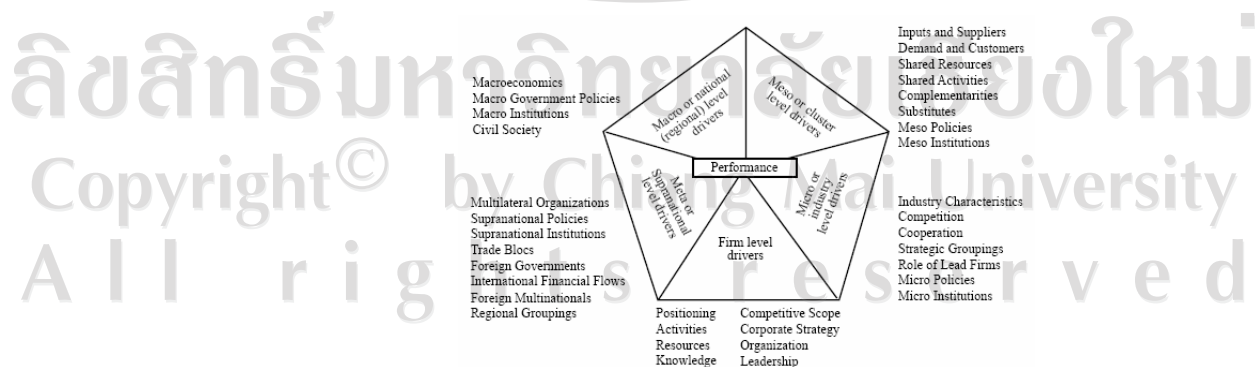### 4.1.1 Selecting Criteria from Diamond Model
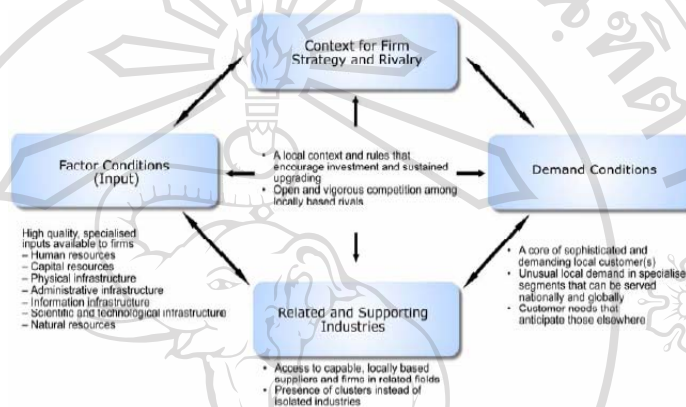
Figures 4.1 Diamond Model
Source: Porter, 1990

From Dr. Porter's Diamond Model (Figures 4.1), the attributes include the following predefined factors:
1. Factor conditions (input)
2. Context for firm strategy and rivalry
3. Related and supporting industries
4. Demand conditions

4.1.2 Selecting Factors from the MESO Model

Figures 4.2 Meso Model
Source: Enright, 1998

According to the meso model proposed by Dr. Enright, the meso cluster model (Figures 4.2) consists of 5 analysis layer (Figures 4.3): Meta Layer (Supranational), Macro Layer (National), Meso Layer (Clusters), Micro Layer (Industries), Firms Layer all of which defined the attributes similar to the factors from the Diamond model. In addition, the MESO model was also discovered the important of the interaction between different factors as additional contributing elements of fundamental factoring.
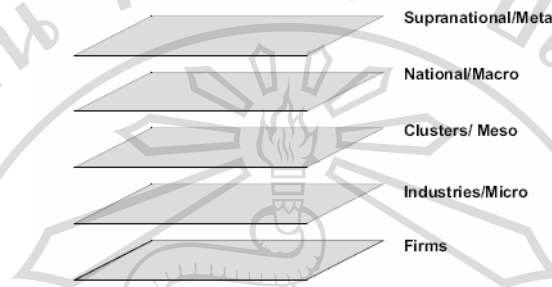
Figures 4.3 Business Layers
Source: Enright, 1998

The following is the list of contributing factors selected from different layers of analysis from the MESO model.

1. Business Layers to complete micro macro and meta layers:
    1.1 Firms
    1.2 Industries/Micro
    1.3 Cluster/Meso
    1.4 Nation/Macro
    1.5 Supranational/Meta
2. Contribution factors essential for the development on each layers
    2.1 Firms
        2.1.1 Positioning (Comparative Scope)
        2.1.2 Activities (Corporate Strategies)
        2.1.3 Resource (Organization)
        2.1.4 Knowledge (Leadership)
    2.2 Industries/Micro
        2.2.1 Industry Characteristics
        2.2.2 Competition
        2.2.3 Cooperation
        2.2.4 Strategic Groupings
        2.2.5 Role of Lead Firms
        2.2.6 Micro Policies
        2.2.6 Micro Institutions
    2.3 Cluster/Meso
        2.3.1 Input and Suppliers
        2.3.2 Demand and Customers
        2.3.3 Shared Resources
   2.3.4 Shared Activities
        2.3.5 Complementarities

4.1.3 Selecting Criteria from Cluster Implementation Frameworks

Apart from the major competitiveness theoretical frameworks, the first method used here was also considering the following elements extended from the predefined and static factors and their interaction influence existing in the well-known theoretical framework. This included the proven cluster implementation methodology i.e. CPIM, 9-Step Model, Scottish Enterprise frameworks and etc. The following is the list of the factors on which discovered from research conducted previously. The list collected here was more action driven from the project or activities involved for the result of the cluster initiation project. These factors can be drastically different from an environment to other environment, for example, the environment of cluster initiatives for the developed countries when compare with the environment of the developing countries. It can be pointed out that, these factors are more dynamic than the factors predefined from the essential frameworks. As the implication of these factors, they are more concern on the effective of the implication of the profound theories.

4.1.4 Selecting Contributing Factors for Cluster Initiative Performance (CIPM) Framework

The following is the list of factors included as a part of the influencing factors. These factors were dynamic due to their relationship with the outcome of the implication of the cluster initiative. This first list was collected from the CIPM model (Figures 4.4):
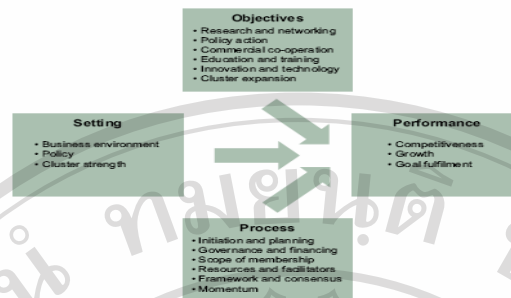
Figures 4.4 CIPM Model
Source: Solvell, 2003

1. The social, political and economic setting within the nation
    1.1 Business Environment
    1.2 Policy
    1.3 Cluster Strength
2. The objectives of the cluster initiative (CI)
    2.1 Research and Networking
    2.2 Policy Action
    2.3 Commercial co-operation
    2.4 Education and Training
    2.5 Innovation and Technology
    2.6 Cluster Expansion
3. The process by which the cluster develops
    3.1 Initiation and Planning
    3.2 Governance and Financing
    3.3 Scope of Membership
    3.4 Resources and Facilitations
    3.5 Framework and Consensus
    3.6 Momentum
4. The performance of the CI
    4.1 Competitiveness
    4.2 Growth
    4.3 Goal Fulfillment

In addition to the CIPM model, there are some implied factors listed as the target activities related to cluster initiative. The dart map in the following Figures (Figures 4.5) demonstrated the list of target activities suggested in the model which were included as a part of the significant elements in this method of this research. Noted, these contributing factors are focus on the benefit of the cluster implementation by which was further enhanced after the competitiveness crusade was accepted around the world as the main trend of industrial development in the recent years.
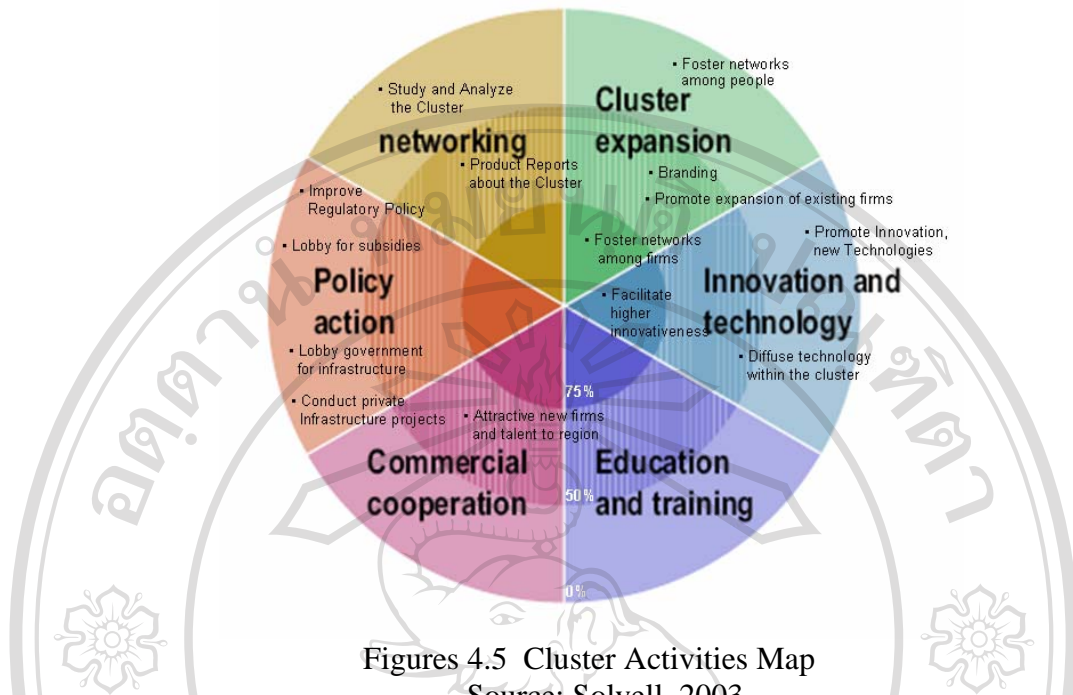
Figures 4.5 Cluster Activities Map
Source: Solvell, 2003

In addition to the CIPM objectives the priority of activities needed is also one of the significant contributing factors which a lot of cluster initiations were misleading. This method is also included the list of priorities objectives suggested from the CPIM as a part of the significant element selecting criteria. CPIM prioritized objectives suggested in the following Figures (Figures 4.6) can be used to determine the action needed to be taken when undergoing of the cluster initiatives.


Figures 4.6 Cluster Prioritized Objectives
Source: Solvell, 2003

The list of prioritized objectives selected

1. Foster networks among people
2. Promote expansion of existing firms
3. Foster networks among firms
4. Facilitate higher innovativeness
5. Promote Innovation, new Technologies
6. Attractive new firms and talent to region
7. Create brand for region
8. Promote exports from cluster
9. Provide business assistance
10. Assemble market intelligence
11. Analyze technical trends
12. Improve firms' cluster awareness
13. Promote management training
14. Diffuse technology within the cluster
15. Enhance production processes
16. Lobby government for infrastructure
17. Improve FDI incentives
18. Improve regulatory policy
19. Provide Incubator services
20. Lobby for subsidies
21. Study and Analyze the Cluster
22. Co-ordinate purchasing
23. Conduct private Infrastructure projects
24. Establish technical standards
25. Produce reports about the cluster
26. Reduce competition in the cluster

4.1.5 Selecting Contributing Factor from Duch's 9 Step Model
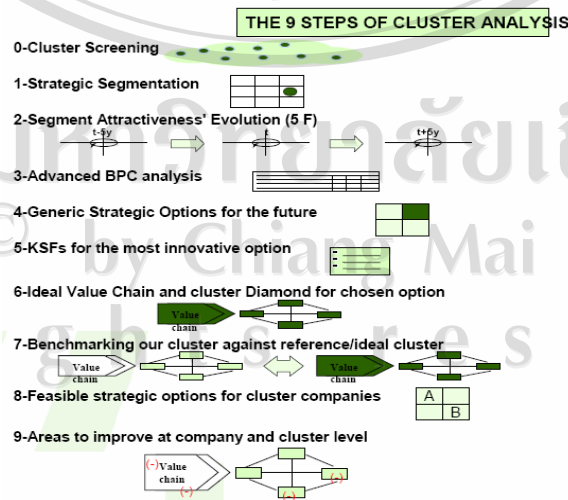
Figures 4.7 Clustering Implication Mapping
Source: Duch,2005

The 9 Steps Model (Figures 4.7) from Mr.Emiliano Dulch is anther proven cluster implementation method similar to CPIM model. The model is also focus success on certain number of contributing factors for the benefit of cluster initiative success. These factors are also essential but different from the contributing factors from CPIM model. The following is the list of contributing factor included:

1. Potential of Cluster (Screening Process)
2. Business Strategic Segmentation
3. Business Positioning
4. Demand Analysis
5. Innovation Driven
6. Value Chain Realization
7. Benchmarking for Competition
8. Strategic Options to Kick of the Implementation
9. Clustering and Expand the Networking

Evidently, 9-step model is still following up the main concept of cluster development from Porter's Diamond model. It is also used firm analytical positioning strategies by 5 Force Model. However, it focuses more on the action oriented and outcome as an enhancement feature of the model. The contributing factors from Dulch's mode is therefore different since it focus on the process but the by product of the process is clustering. This is noticeable different from CPIM Model.

Motivation is also another implied contributing factor in 9-step model. According to the Figures (Figures 4.8), motivation can be change over the course of cluster life cycle therefore it is essential for any cluster initiative to manage the motivation effectively through it's life since it's changes significantly impacted the outcome of any cluster initiatives. These factors can be considered as the hidden dynamic contributing factors and must be value significantly as a part of the determining factors for the cluster actions.
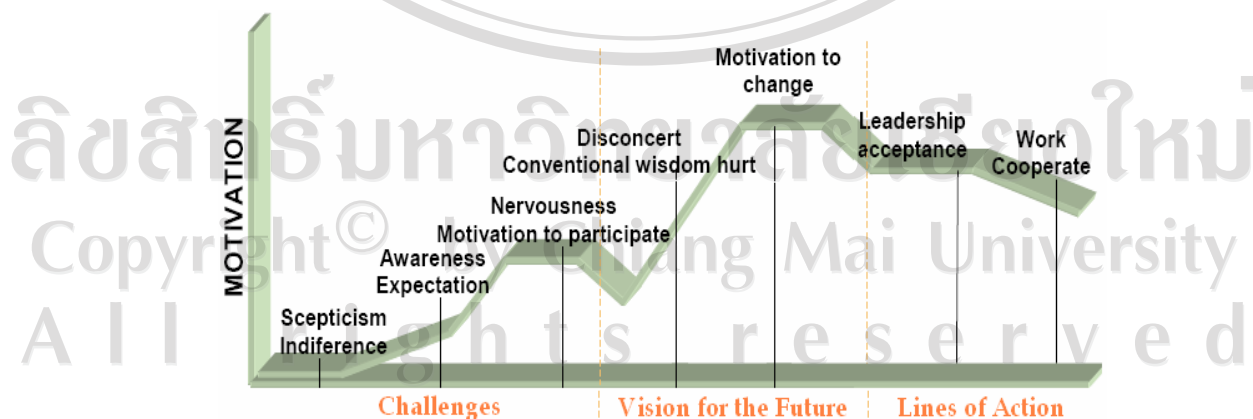
Figures 4.8 Cluster Motivation Landscape
Source: Duch,2005

4.1.6 Selecting Contributing Factors from Scottish Enterprise Model
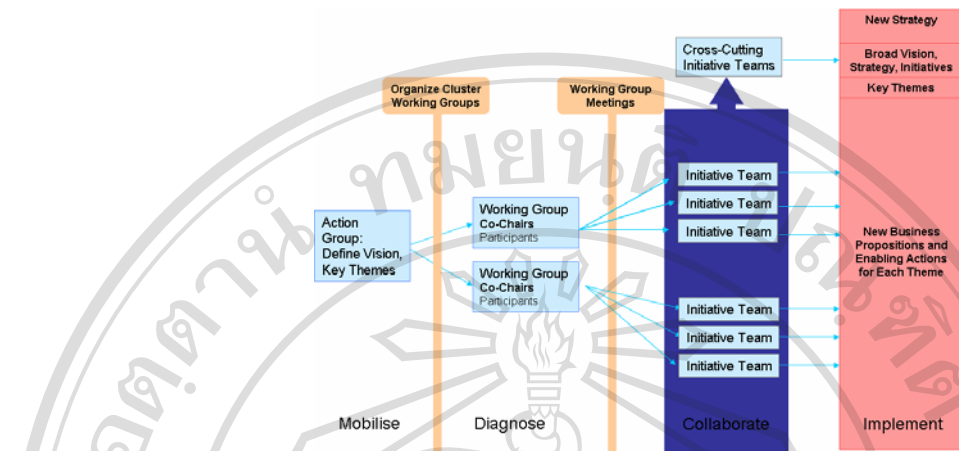
Figures 4.9 Scottish Enterprise Implementation Model
Source: Chakpitak, 2002

From the collaboration between Changmai University and the Government of Scotland, the Scottish Enterprise cluster model was introduced in Thailand in the early 2000. According to their success and experience in many cluster initiatives in Scotland i.e. tourism, digital media and etc., the model was proposed as part of Changmai cluster development over the years. This research was adopted their contributing factors into two categories. First, the well-defined factors of the four phase base implementation model according to Dr. Porter's diamond model. And, the implicit factors of the GEM cluster linkage measurement methodology. The following is the list of selected elements from the model mention above (Figures 4.9).

Predefined factors from Scottish Enterprise model according to Dr. Porter's Diamond model:

1. Mobilization
2. Diagnose
3. Collaboration
4. Implementation
5. Hypothesis of cluster initiation for cross-cutting implementation action teams.

Implicit factors of GEM Measurement Method:

1. Engagement of key people and leaders
2. Availability of finance
3. Workforce, labor and technical knowledge
4. Vision for the cluster
5. Government and institutions
6. Linkages
7. Physical Infrastructure

8. Supplier Competitiveness
9. Related industries
10. Local company rivalry
11. Company ownership structures
12. Number of firms
13. Local markets
14. Value Chain
15. Freight access to customers and suppliers

4.2 Considering Other Contributing Factors

Other than the contribution factors known to the competitiveness theoretical frameworks by which they are already well aware of the direct implication. In additional, this method is also considered different aspects of economic elements that deal with the social implication even if these elements initially excluded from the theoretical model. In theory, economic and social parameters are different and far too complicate to cross over. However, the projection of the implication of these paradigms coexisted and unable to separated especially the impact of the economic and social development which derived from the benefit of the firm strategies and government interventions.

The following is the applicable frameworks chosen from this method.

4.2.1 Contributing Factors from the Sufficiency Economy
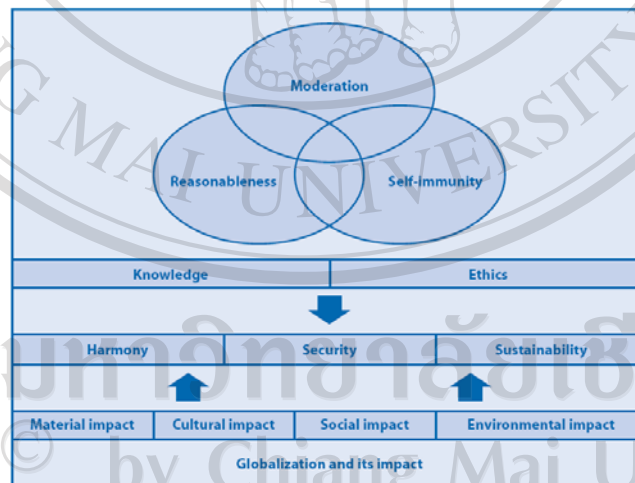
Figures 4.10 Sufficiency Economic Model
Source: Baker, 2007

Sufficiency Economic Model is proposed as the "new economic theory". This "right-sized" economic model (Figures 4.10) focused from the inside-out perspective which different from the outside-in approach which most of the cluster for competitiveness model predefined. This framework focuses on the

economic of the local resilience of the globalization. It consists of 3 major components and 2 conditions.

Noted, part of these contributing factors included in this research i.e. reasonableness, moderation and etc. are drastically different from the basic profit driven factors usually considered in the western competitiveness concepts. Evidently, these factors are essential for most of the developing countries.

The opposing contributing factors included in this study are the following:

1. Moderation
2. Reasonableness
3. Self-Immunity
4. Knowledge and
5. Ethics
6. local knowledge and indigenous

In addition to the Sufficiency Economy, one of the proven success cases of the global resilience from the local community is the Social Enterprise framework documented from the success of Spanish textile conglomerate established in 1956.

4.2.2 Selecting Contributing Factors from the Social Enterprise Framework

Figures 4.11 MONDRAGÓN Business Model
Source: Kasmir,1996

The social enterprise model was also introduced within the scope of the dynamic contribution for this study. The successful example represented by **MONDRAGÓN CORPORACIÓN COOPERATIVA (MCC)** model. It is a 7th largest Spanish conglomerate made of 264 companies with sales of 13,266 million euros in its Industrial and Distribution, 12,332 million euros of administered assets

and a total workforce of 81,880 at the end of 2006. MCC is the reflection the idea of a young priest, Don José María Arizmendiarrieta and the solidarity and efforts of all 1956 oil stoves and paraffin heaters manufactures. MCC's basic principle combines the basic business competitiveness with the democracy blended in organization and special emphasis on job creation, the promotion of human capital and a commitment to social development. MCC's Management Model separated into 3 following categories

The following is the driven success factors of social enterprise (Figures 4.11) were included as a part of this research contributing factors.

The Strategy

1. Corporation's Business Policy
2. Basic Co-operative Principles

The Enablers

1. Productivity classic models like EFQM (Leadership, People, Partnerships and Resources and Processes)
2. Social Responsibility, Innovation and Customers

The Results

1. Customer Satisfaction
2. Profitability
3. Internationalization
4. Development
5. Innovation and
6. Social Involvement

Form the social enterprise strategy, the success of the framework was contributed by the well blended of the cross over between the business driven and social concerning at the same time.

4.2.3 The Contributing Factors from Empirical Evident

From the consideration of the empirical events from the pilot projects used for this study. The following is the detail of the case studies used for this research. The project was organized into 4 subprojects each project had unique characteristic but managed within the same overall framework. They all driven by the CDA or Cluster Manager with given economic guidelines and acquired knowledge on the objective of economic development without massive uncontrollable factors as described by the following Figures (Figures 4.12). And, most of CDA in the projects called and believed by this as the "research in action" method.
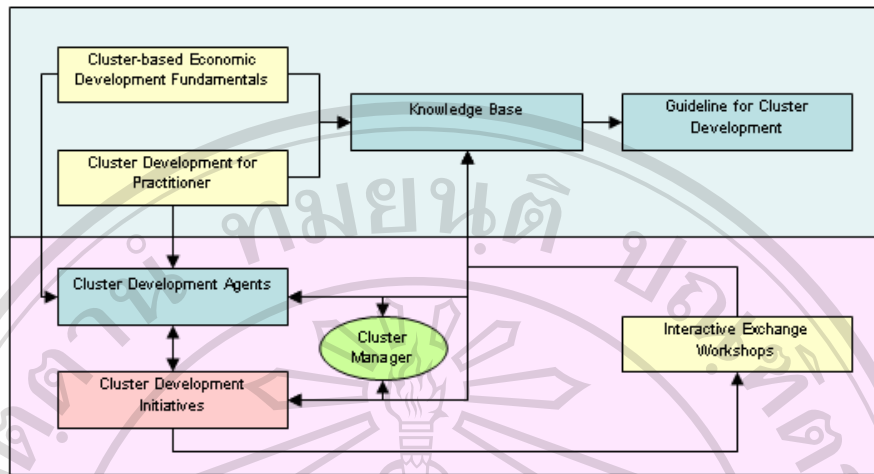
Figures 4.12 Key Development Activities and Deliverables
Source: Vanishsaree, 2005

With this, the cluster projects used as the research test cases, were separated into 2 main themes as described in the following Figures (Figures 4.13). The foundation theme focused on human capacity and the cluster development process theme focused on the "research in action". Both of these two themes were coordinated and consolidated for action driven and capacity building to fully utilize resources and budgets to the maximum extents in order to expand to the national agenda later on after the pilot projects in the initial stage completed and suitable generalization model established. The overall pilot projects were planned for 10 months and expected to expanded into the second stage for the next twenty four consecutive months afterward.

Project Roadmap for Phase I (Schematic)
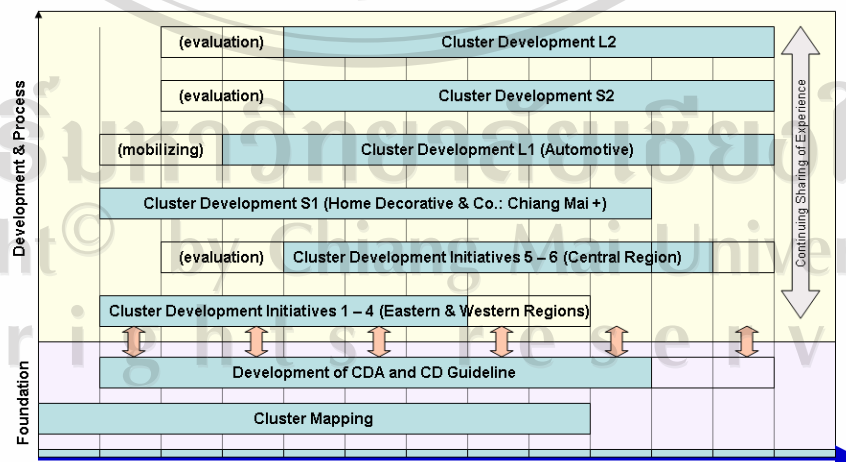
Figures 4.13 Pilot Project Schematic
Source: Vanishsaree, 2005

The over all project characteristics.

1. It is an integrated strategic cluster initiation started from the cluster for competitiveness conceptual framework, the strategic development plan, action taken on the activities needed to develop human capital and process, knowledge-centric and strategy learning by all in conjunction with the regional linkage.

2. Main focuses on participation based on collaboration from the bottom-up approach by the private sectors driven rather than government policy top-down approach.

3. For the cluster-based regional economic development.

4. Utilizing the economic development based from the published and well recognized research in action and best practices around the world.

5. And, these economic development initiatives based on the "need-analysis-driven" approach in order to improve industry, economic and fiscal policies.

There are some main discussion issues which CDA and cluster participation were considering at the beginning of the project. The following is the list of these issues:

1. Cluster is a business driven unit or it is a tool.

2. Thailand can not fully adopt the best success cases of cluster development from the developed countries. How Thailand can apply the cluster for "Less attractive region"?

3. Cluster must be based upon the local expertise or specialists.

4. Cluster must focus on productivity improvement as the basic requirement. It is not just a bunch of companies which is totally opposite of the cluster definition.

5. From the consideration of the local and productivity. Thailand must develop the local key measurements and indicators as part of the "research in action" initiation.

6. By definition, cluster is not precisely defined. What is the real definition of cluster for Thailand?

7. Cluster for competitiveness framework is accepted as empirical-based theoretical model. Will this evolve into proofed general theory?

The following is the key measurements and indicators for Thailand to be considered as part of the outcome from these cluster initiatives.

1. Cluster must be characterized by strategic business segmentation, value chain, distribution channels.

2. Cluster must have local business development focused on sustainable business benefit based on the local expertise.

3. Cluster must have clear strategic development and the development must also base on strategy.

4. CDA is a driving force to the initial cluster initiation.

5. Can Thailand adopt the popular cluster implementation methodologies i.e. brainstorming, focus group and others?

6. Cluster must requirement of in dept analysis and execution in conjunction with the dynamic requirement of the unique requirements from each cluster development.

7. The cluster development is the continuous activities and co-evolution and takes years to foresee the result.

4.2.3.1 The Empirical Cluster Concepts (Thailand Approach)
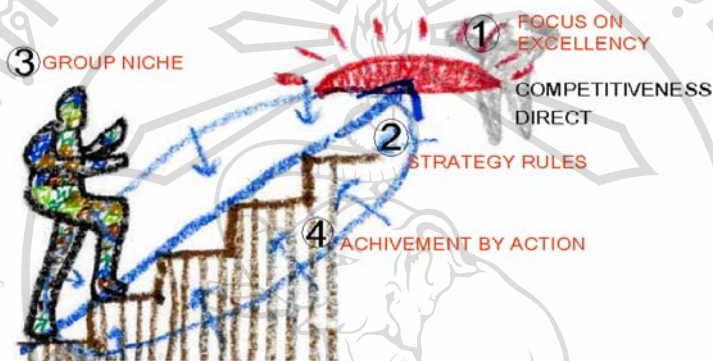
Figures 4.14 Cluster Concepts (Thailand Approach)
Source: Vanishsaree, 2005

According to cluster concepts according to Thailand definition, CDA working group had set up the strategic implementation into 4 competitiveness steps as described in the Figures above (Figures 4.14).

1. Focus on Excellency.

This competitiveness must be focusing on building craftsmanship, specialist and/or unique skill for the local resource in order to create new values and innovation.

2. Drive by Strategy Rules.

It must also focusing on the strategy as the road map for execution for the unique proposition from the local strength. It is aligned with the "positioning" of the driving force from the 5 forces model.

3. Create Group Niche Strength.

It must also emphasis on the "no-going alone". In order for Niche, high value creation, innovation products and services to be able to complete with cheap and mass manufacturing one, they must have certain key elements of "expert chipped-in" to differentiate and create uniqueness and hard to find to response to the particular selected group of target markets.

4. Achievement by action taken.

There are a number of initiatives, concepts and plans. However, they can not be realized from their initial stage no matter how promising they are due to the weakness of action taken. For this, the action taken must also considered to be one of the key elements for this project.

4.2.3.2 Selecting the Basic Key Elements from the Empirical Case Studies
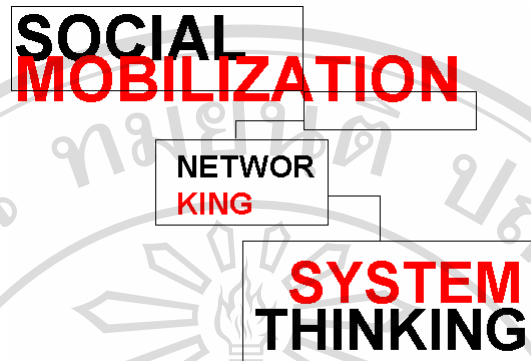
Figures 4.15 Key Elements for Thai Clustering
Source: Atipothi, 2005

The above Figures (Figures 15) displayed the key elements involved in cluster method implemented for the first phase of Thai cluster projects. This expanded the basic concept of cluster in the more psychological actionable theme. These three themes demonstrated the concept ideas to induce the buy-in concepts from cluster participants.

For examples:
1 Social mobilization is the concept to create the group "buy-in" as the social activities rather than just participation.
2 Networking is very smart "tongue twister" to expand the power of the networking as the absolute power from the king in the monarchy.
3 System Thinking illustrates the strategic system thinking for innovation.

The over all cluster elements selected from these projects can be classified into the following business domain.
Niche Business and Industries
Domain Knowledge in Niche Business and Industries requires within the scope of the hidden factors within this method. It consists of the following details:
1 Generic Business Models
    1.1 SME Model
    1.2 Micro Enterprises
    1.3 Intellectual Capital
2 Specific and Niche Business or Industry Domain
    2.1 Agro
    2.2 Fishery
    2.3 Ceramic Manufacturing
    2.4 Craft and Handmade
    2.5 Tourism

These contribution constitutes the locality contribution effected the cluster development expanded in tandem with the text book contribution collected from many school of thoughts so far.

4.2.3.3 Selecting Contributing Elements from Western Region Livestock and Vegetable Grower Clusters.

Cluster Overviews

Western Region is well known for the variety of products i.e. sweet corns and asparagus, pig farms, pottery and etc. Even though pig farming is one of the largest pork group producers in Thailand, their products are mainly for the local consumption. In the nearby area within the same region, the vegetable growers i.e. sweet corns, asparagus, okra and etc. are mainly for exporting. Each industry has different characteristic and each has it own competition complication by which all economic activities in the region are based on these products and their related services.
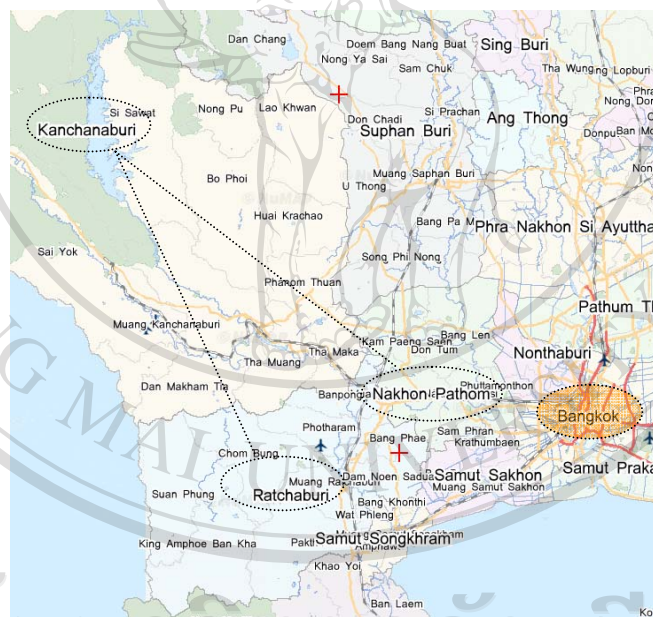
Figures 4.16 Western Cluster
Source: Amaranan, 2005

Local Critical Criteria from the First Case Study

The western region is located around 100 KM from Bangkok (Figures 4.18). With the spill over from Bangkok Metropolitan, the area is quite equipped with sufficient infrastructures and labor source. The cluster study in this region based on the statistical analysis of the known economic contribution factors. From the government official statistic from 3 provinces in the region, the most economic contributing business sectors are pig farming, food processing, Chinese style catering services, pottery and etc. The highlights of the project is the following

1. This project was starting from the cluster selection based on the bottom-up approach using economic data is the selection criteria.
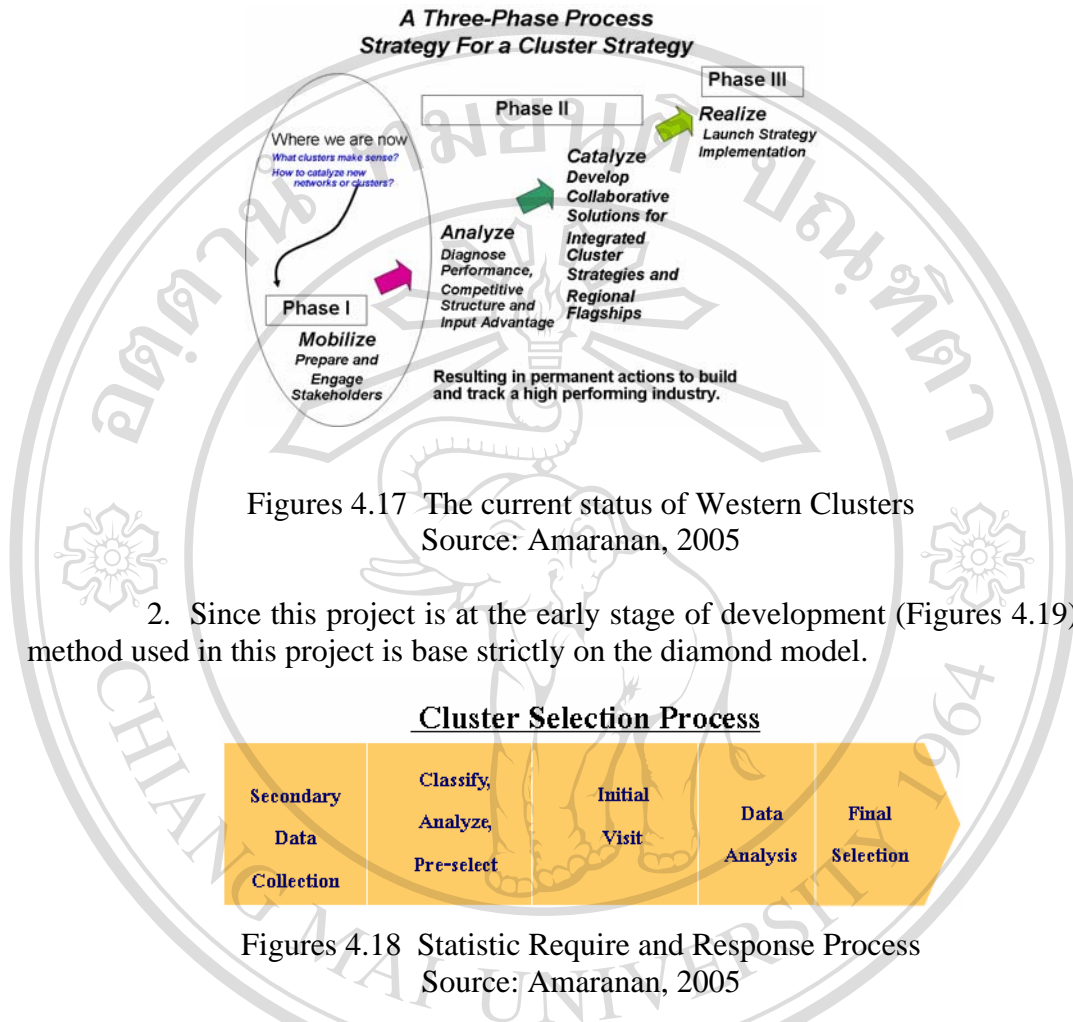
Figures 4.17 The current status of Western Clusters
Source: Amaranan, 2005

2. Since this project is at the early stage of development (Figures 4.19), the method used in this project is base strictly on the diamond model.

Figures 4.18 Statistic Require and Response Process
Source: Amaranan, 2005

3. After the clusters had been identified, cluster selection was based on the requirement and respond technique as part of cluster selection and mobilization process (Figures 4.20).

Selection Criteria
1. Critical Mass of Concentration
2. Type of Activities
3. Employment
4. Growth Opportunities
5. Cooperation between Companies
6. Urgency

4. Since the development approach is the bottom-up in which required a strong participation from involved parties, target clusters can be identified at this time. It needs to further exploring.

5. Food and Agriculture related Clusters seems to have more interested than

the others because of SMEs nature of their business and the global competition in agro-related exporting nature.

   6. Business Segments

      1. Native Ceramic
      2. Aquarium Fishery
      3. Orchid
      4. Food Processing

      However, the leading business sectors , from the secondary economic data sources , are Native Ceramic and Aquarium Fishery (Figures 4.21).

Figures 4.19 Leading business sectors in Western Cluster
Source: Amaranan, 2005

Conclusion from the First Case Study

   The development in the eastern region was quite drastically different from many developed clusters. This is an early stage of cluster development. The focus was strictly on competitiveness and clustering approaches particularly on the relation between analytical of statistic and cluster screening. On one hand, the western can discover the attributes of the potential groups on which they can be further developed. But on the contrary, the handicraft clusters are further developed into an essential of firm collaboration.

4.2.3.4 Eastern Region Fruit and Agriculture Clusters.

      Cluster Overviews

            Eastern Region of Thailand is famous for the horticulture glowers. The major exporting fruits from the area include Mangos teen, Rambutan, Durian and etc.   Rubber is also one of the growing economic crops in the area since the nature rubber products are more acceptable in the global markets. Further more rubber woods are highly demand for the raw material for furniture. The supply chains for these products are highly competitive and difficult to manage due to the nature of the Perishable goods. They will need to find the way to compete in the global markets.

Figures 4.20 Diversify Industry in Eastern Area of Thailand
Source: Amaranan, 2005

Local Critical Criteria From The Second Case Study

Eastern Region of Thailand is one of the most diversify industrial and agriculture regions in Thailand (Figures 4.22). On one hand, eastern region is suitable for deep water sea port which considered being the most potential logistic hub for Thailand as South East Asia gateway. At the same time, the area natural resources are also suitable for fruits and many agriculture growers. However, the cluster development in the areas just has been recently initiated. The direction and cluster development in the region is evermore burred and demand more learning experience. For examples, cluster screening and selection from groups of businesses, industrial, supply chain and agriculture need information and local knowledge. This is very critical for the success of the project right from the start. The fundamental issues in this include the following:

1. This area is still at the early stage of cluster development. The understanding of clustering and competitiveness concepts is driven from the top-down approach (Similar to the Western Cluster mentioned earlier), particularly from government agencies rather than the bottom-up from the local community. There is very limited involvement from both business sectors and local government bodies in the area.
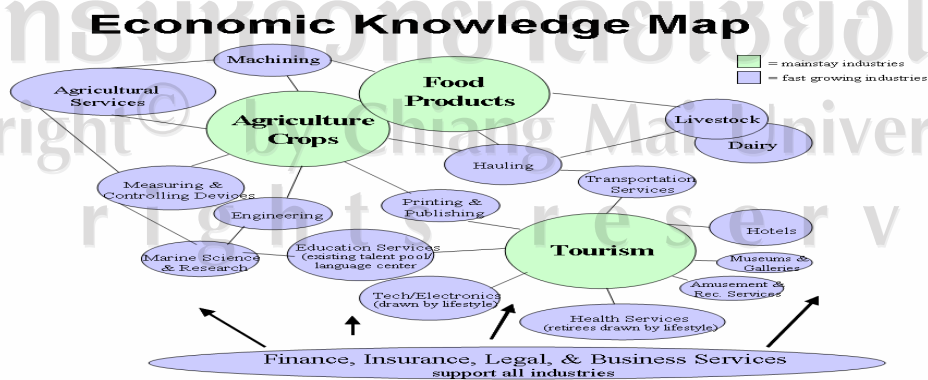
Figures 4.21 Value Creation Knowledge Map
Source: Atipothi, 2005

2. There are a number of economic driven factors i.e. Food Products, Agriculture Exporting Crops, Tourism and etc. (Figures 4.23). However, different business sectors in the areas are more focus on the problem at face rather than long-term business vision. They were driven by their own individual survivorship. Most of cluster participation are an aggregation and loosely partnership for their own business advocates at most.

3. When the cluster and competitiveness direction introduced in the area, it is rather considered as the academic activities rather than economic development since most of participants expected the short term solution to relief their current situations and did not foresee the long term vision as the value proposition benefits. Therefore, activities related in the area clearly recognized by the collaborative potential of the organizations rather than economic activities contribution.
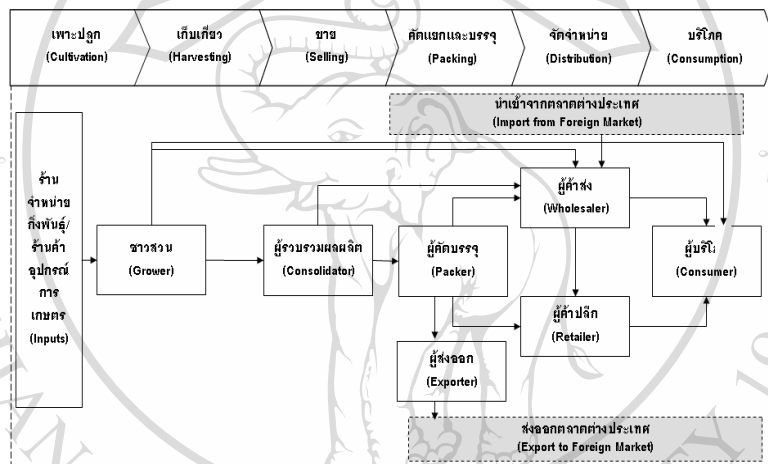
Figures 4.22 Fruit Supply Chain
Source: Amaranan, 2005

4. Project decided to select agriculture business sectors heuristically due to the characteristic since the business have been loosely networked upon trust the long-term business environment due to the nature of the value chain of perishable goods (Figures 4.24) which they need to be depending on each other fore quite sometime.

Conclusion from the Second Case Study

This fruit and vegetable clusters are govern-driven base. It is at early state of development. Their potential are depending on the social of the local agenda i.e. trust of supplies chain and etc. And, despite the academic recommendation that clusters selection should came from the group of the economic contribution, the government intervention in the are quite active and expand their networking into a group of very rapid growth of the forward thinking farmers in the region. With support from the department of agriculture, they also expand the cluster into the good agriculture

4.2.3.5 Summary of Empirical Critical Criteria

This comparison table (Table 4.1) was created from the highlight distinctive characteristics from the case studies practice (GAP) farming groups and food safety networks and etc.

Table 4.1 Distinctive characteristics of cluster development

Western Clusters.	Eastern Clusters.
This project was starting from the cluster selection based on the bottom-up approach using economic data as the selection criteria.	The concept is driven from the top-down approach, particularly from government agencies rather than the bottom-up from the local community.
The method used in this project is base strictly on the diamond model.	Different business sectors in the areas are more focus on the problem at face rather than long-term business vision.
After the clusters had been identified, cluster selection was based on the requirement and respond technique as part of mobilization process.	Activities are driven by the collaborative potential of the organizations rather than economic activities contribution.
No clusters have been selected since it is believed that the cluster will be appearing from the bottom-up natural process.	Project decided to select clusters heuristically due to the loosely networked characteristic base upon the nature of the value chain of perishable goods.
Food and Agriculture related Clusters seems to have more interested than the others because of SMEs nature of their business and the global competition in agro-related exporting nature.	

From the above case studies, the highlighted critical criteria were also selected in order to precisely convert this highlight distinctive characteristic into the contributing factors to construct the consolidated attributes (Table 4.2).

Table 4.2 Highlighted Critical Criteria

Western Clusters.	Eastern Clusters.
Diamond model	
Bottom-up approach	Top-down approach
Requirement and respond technique	Driven by Economically Potential rather than Economic Contribution.
Natural process for mobilization	Clusters were heuristically selected
SME , Agriculture	SME supply chain for Fruit Exporting
	Business Survival

From the knowledge collected from both theoretical frameworks and the impacted domain knowledge from the local evident, this method discovered at least over 170 factors in which significantly impact the cluster initiatives. Evidently, these factors are somehow influencing over the outcome of any initiative. As the result, these factors are at least the minimum criteria for the success of the cluster initiatives to be considered. This was just a few examples of the complication of cluster developments, CDA must gone through in order to manage the cluster effectively. And, this research is intended to find an alternative framework to cope with this.

4.3 Selecting Criteria Justification

The western and eastern clusters combined profiles fit the hypothesis of the knowledge construction model needed due to the nature of their opposition. Northern Cluster is also a slightly small deviation of the business competitive advantage which totally opposite to the social implication focus in Makhong case study, both of which are the very candidates for conforming testing needed (Figure 4.23).

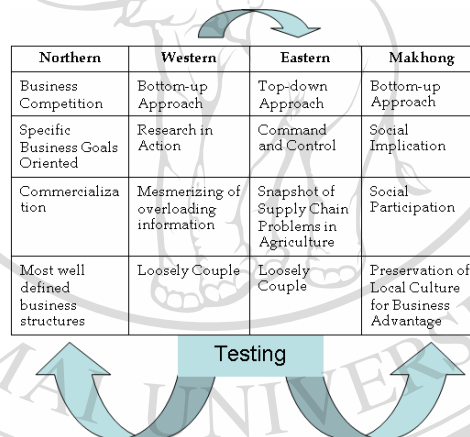| Northern	Western	Eastern	Makhong
Business Competition	Bottom-up Approach	Top-down Approach	Bottom-up Approach
Specific Business Goals Oriented	Research in Action	Command and Control	Social Implication
Commercialization	Mesmerizing of overloading information	Snapshot of Supply Chain Problems in Agriculture	Social Participation
Most well defined business structures	Loosely Couple	Loosely Couple	Preservation of Local Culture for Business Advantage

Testing

Figure 4.23 Case Study Selecting Criteria
Source : Tamprasirt,2008

By definition cluster is the proximity group of firms located within the nearby vicinity explained by the definition of Porter [12], it is however drastically distinction between the industrial and developing countries. The well-defined niche industrial structure in the developed countries i.e. vinery in California, US is incomparable with the loosely couple of associations of firms in the developing countries i.e. ceramic cluster in Chiang Mai and some provinces of the northern part of Thailand. Competitive Advantage is the undeniable underlining framework necessary for economic sustainability for both sides. However, the alternative model proposed from this study benefit more toward the developing countries.