

Final Report

Thailand Competitiveness Initiative

Accelerating Economic Recovery in Asia

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Introduction

The purpose of this report is to present the results of an internal assessment of project results of the Thailand Competitiveness Initiative (TCI). The project was implemented by the Kenan Institute of Asia (KIASia), working in partnership with J.E. Austin Associates (JEA). As part of its Accelerating Economic Recovery in Asia (AERA) Program USAID decided to support a competitiveness initiative because similar initiatives had proven successful in other countries. A competitiveness initiative was chosen because it promised to provide value to a large number of SMEs and other companies while putting Thailand on the way to a sustainable recovery based on the ability to compete effectively in world markets. The project was formed from the “Proposal to Support a Competitiveness Program – *Building a Cluster-based Competitiveness Process in Thailand and the Region* (August 29, 2002).

The Thailand Competitiveness Initiative (TCI)

TCI was designed to develop the competitiveness of selected industry clusters in Thailand and the region. Improvements were sought in terms of productivity, which can be either strategic or operational in nature. TCI focused on improvements in the strategic process.

Clusters were selected using a common sense approach. TCI engaged with seven clusters which varied from high tech digital content to tourism to silk. Variety was sought in the types of industries (manufacturing, services, high tech / low tech) and their geography – where possible TCI sought to engage with clusters located in all four regions of the country as well as in Bangkok. All clusters were selected because they were significant contributors to the national economy, and showed some characteristics of “a cluster”.

TCI therefore, was undertaken with groups of inter-related businesses (clusters) to develop strategic plans for improvements in productivity that were grounded in market realities. Such clusters included companies further up and down the value chain, competitors, and various government agencies and universities. The process required extensive research capabilities and sound economic analysis, including a strong familiarity with the local economic environment. While KIASia clearly had the capacity at the project outset to undertake certain aspects of the initiative, JEA was selected to partner with KIASia because JEA had extensive experience in competitiveness initiatives in other countries around the world.

The proposal called for KIASia and JEA to work together to ‘build a cluster-based competitiveness process in Thailand and the region’ and had four main components:

- **Enhancing KIASia Capacity to Facilitate Cluster Competitiveness**
- **Public Outreach and Coordination**
- **Competitiveness Cluster Facilitation Activities**
- **Administrative Support for JE Austin**

The following paper will address each of the four components and highlight the success indicators for each as they were identified in the project proposal. However, additional description is useful since it captures KIASia efforts to look to larger goals beyond the minimum requirements.

Enhancing KIASia Capacity to Facilitate Cluster Competitiveness

Capacity development in KIASia was achieved through training and cooperation and partnership with JEA over the lifetime of the project. KIASia staff has gone through more than 20 training sessions. The bulk of training was conducted by the JEA Chief of Party (COP). Eight JEA executives and more than 6 consultants each conducted brief (half-day) training sessions. Topics included cluster building, value chain analysis, Porter diamond, branding, internet research skills, and benchmarking.

In addition, KIASia's executive director participated actively in TCI activities as a speaker and consultant. He led several TCI sessions and worked with the team to develop conceptual materials, including a strategy for a cluster-based approach to investment promotion.

Success Indicators

- a. **“KIASia will have a “competitiveness team” with at least three staff consultants capable of facilitating cluster competitiveness programs. The team will have developed the knowledge to clearly convey understanding of cluster competitiveness and the skills to assist a cluster in improving its competitiveness”**

Since the project began in September 2002, TCI has developed slide presentations for training purposes up to a total of 116 PowerPoint files (80 megabytes). The competitiveness team of six full time professionals has developed materials which analyze the competitiveness of respective clusters, lead discussions on market analysis, and facilitated strategic planning.

- b. **“The KIASia competitiveness team will have the ability to develop customized cluster competitiveness materials for two different clusters in the Thai language”**

Competitiveness materials including various analysis tools such as SWOT and Porter diamond and were drawn up for each of the clusters. The work done for Gems and Jewelry and HVAP are particularly robust and are included in an Appendix to this document, which can be found on www.kiasia.org. All clusters developed materials in either Thai or English, and often in both languages, and these documents are located on the KIASia website.

- c. **“The KIASia competitiveness team will be an accepted part of a network of professionals working on competitiveness in Thailand”**

TCI has cooperated and partnered with NESDB, FTI, and IFCT on numerous occasions. They regularly attend the same conferences; know each other well and have strong cooperative relationships in supporting various initiatives.

Moreover, NESDB has repeatedly approached TCI for advice on competitiveness related issues and policy formation. TCI is credited for contributing to several publications including the GAP (Good Agricultural Practices) training manual, (see GAP Training Manual, located on www.kiasia.org).

In 2003 KIAAsia was selected to sit on the National Competitiveness Council along with NESDB and others including Prime Minister Taksin Shinawatra. The purpose was to operate as a network of advisors (competitiveness experts) for the Prime Minister to advise on policy development.

Most importantly, TCI was approached in 2005 as a leading member of a network of competitiveness professionals to undertake a sophisticated cluster mapping initiative for the country, and which would include all 76 provinces.

TCI was awarded such a large-scale high-profile project because it had clearly demonstrated itself as a leader among competitiveness professionals and government agencies in Thailand with solid experience facilitating cluster competitiveness.

Overall, KIAAsia and JEA staff worked together effectively to execute the project. As the project progressed and the capacity of KIAAsia staff increased, KIAAsia staff were able to take on more and more of the work until the time when JEA staff left the project.

Public Outreach and Coordination

Although there was significant interest in the concept of cluster competitiveness in Thailand and a variety of organizations were involved, understanding of the idea was uneven at the project outset. TCI endeavored to undertake several conferences over the project life, including four regional conferences that included professionals from outside Thailand, and numerous conferences within Thailand.

Success Indicators

- a. “The regional training workshop shall attract participation from at least six of the eight key organizations.”**

Regional training workshops were held on four separate occasions and were attended by persons from NESDB, FTI, National Competitiveness Committee, Thai Chamber of Commerce, Foreign Chambers of Commerce, and the Association of Thai Software Industry, among others.

- b. “Participant evaluations of the regional training workshop should rank organization of the workshop at four or higher out of six.”**

Participant evaluation consistently ranked the workshop at better than 5/6 on many criteria, including organization of the workshop, speaker's material, appropriateness of topics, practical application, and others.

c. "The media workshops shall attract participation from at least 40 journalists"

TCI organized a conference in June 2003 with 50 participants, including over 30 business journalists representing 23 media institutions who were all members of the Economic Reporters' Association. The conference gave TCI the opportunity to meet with the economic journalists and more specifically, to establish relations with the Editor of The Nation (one of two national, English-language dailies) and with specific journalists who were provided information of cluster activities and invited to cover specific events. The Editor of The Nation sponsored a competitiveness conference in 2004.

TV, radio & newspaper journalists covered the five cluster MOU signings, as well as special cluster events such as local product fairs, launching of the new offices and projects. For example, the journalists covered the attendance and speech of the Prime Minister when he met with a JEA policy advisor on national competitiveness, and when he went to the HVAP launch of the CIDES project and again at the digital content/multi-media cluster's TAM 2004. The journalists also covered the (Global Competitiveness Report (GCR) conferences.

There were other events covered in the two years. However, since all the clusters with the exception of the digital content/multi-media cluster, are based outside of Bangkok, most of the coverage was confined to local newspapers and television, and was almost entirely in Thai.

d. "Thai media will publish at least 25 articles or television programs on cluster competitiveness that show understanding of the process"

TCI used a University of North Carolina intern to track articles on competitiveness (including those articles unrelated to TCI) in the two national, English language dailies, The Nation and the Bangkok Post. According to his search, there were 24 articles in 2002. The number of articles rose to 71 in 2003. From January to July (seven months), there were 39 articles; if the number is "annualized", then the projected articles for 2004 would reach 66. The rise in published articles on competitiveness reflects increased awareness of competitiveness and the government's "push" to expand exports, tourism, and other sectors of the economy.

TCI: Cluster Facilitation Activities

KIAsia cluster facilitators carried out the bulk of these activities. TCI staff were based at the Bangkok office of KIAsia, with the exception of one staff member who was based at the Chiang Mai office of KIAsia to focus on activities in the northern sector.

The Thailand Competitiveness Initiative engaged with 11 separate groups who were in various stages of development, and endeavored to improve the competitiveness of them all. The 11 are differentiated for reporting purposes by the level of engagement they received.

“Heavy Engagement” typically included an MOU signing, a full time cluster facilitator, and depending on the stage of development of the cluster, a full strategic plan with action items might be included. Short-term technical assistance, was also allocated.

- Western Provinces High-Value Agricultural Produce Sector (HVAP)
- Chiang Mai Tourism Cluster
- Bangkok Digital Content Cluster
- Chantaburi Gem Cluster
- Cambodia Fish Cluster

“Light Engagement” meant engagement was undertaken for a shorter period of time, with fewer expected results. In some cases the cluster was in a pre-formative stage of development or would otherwise likely not have benefit from additional engagement.

- Southern Marine Food Cluster
- Northeast Silk Cluster

“Special Activities” were those that could not be engaged for specific reasons, though unique to each situation.

- Udonthani One Tambon One Product Initiative (OTOP Initiative)
- Phuket Tourism Initiative
- Vietnam GAP
- Southern Oil Palm

Success indicators as outlined in the project proposal called for results with at least two clusters. TCI showed excellent results with five projects, and acceptable results with another 6 projects.

In the case of OTOP, as the engagement developed over the two-year period of the project (2002-2003), it became apparent that geographical proximity and a long tradition of working on particular products do not automatically create the conditions for a cluster. The three villages were at a “pre-cluster” stage. That is, there was no production system; output was seasonal, based on household production, often relegated as another less-important task of the household. The villages were also in dire need of basic management training—on standardizing production, maintaining uniform output, understanding costs and cash flows, etc. Most of the KIAsia team

assigned to the project therefore came from its BAC (Business Advisory Center), to undertake this type of work.

Phuket Tourism spanned from January to April of 2004 and remained a special project for several reasons, primarily because the emerging leadership was lobbying strongly to restrict cluster membership. A certain influential local government representative also owned several businesses which were the key central players in the cluster as it was developing. Therefore, it appeared the cluster would not enjoy open-ended membership. Furthermore, TCI had finite manpower resources available and it was decided that given the way things were developing it was not a prudent allocation of time and resources.

Vietnam GAP was undertaken in late 2004 and essentially sought to address a developing cluster of agricultural businesses' interest to develop and export high value added agricultural produce (HVAP). This was based on the demonstrated success of the HVAP – GAP program developed by the Thai cluster. Engagement was undertaken to facilitate development but given the manpower and resources available to TCI, it was not possible to engage beyond initial meetings, although leadership was forming and attendance and enthusiasm were high.

Oil Palm cluster of Thailand was in very early stages of development. Engagement was undertaken in 2005 by TCI but despite initial excitement among selected members, a cluster representing various interests of the industry had not developed or coalesced by late 2005. Again, TCI assets were not sufficient to undertake extensive engagement, and in the case of Oil Palm it is not clear if cluster formation would have developed in such a short period of time. As of late 2005, it appeared the forming cluster would require a much longer time horizon if it were to develop into a full cluster.

Therefore, special projects Phuket Tourism, OTOP, VietNam GAP, and Oil Palm are not considered cluster initiatives. These efforts have been captured in documents which are located on www.kiasia.org. Moreover, it should be noted that TCI's efforts to engage with numerous projects and more importantly its perspicacity to distinguish between projects with development potential and those with different characteristics, shows evidence of competitiveness expertise and a keen understanding of what works in Thailand.

Success indicators:

a. At least two clusters will:

- **“meet regularly to deal with cluster competitiveness issues and companies and organizations within those clusters show clear evidence of a willingness to collaborate”**

In total five clusters would fulfill the spirit of this indicator. There are three clusters in particular which have shown a “willingness to collaborate” and “have contributed their own funds” and “have established sustainable BSOP partnerships which can continue after AID funds are spent”. These three would be HVAP, Chantaburi Gems, and Digital Content. Examples of success among these clusters include the

development of a four-year marketing plan with budget, by the Gems cluster. The high-value agricultural cluster has a well-established secretariat that undertakes food fairs and monitors activities of the cluster members, and the digital content cluster has institutionalized an annual Thai Animation and Multi-Media (TAM) Fair.

- **“demonstrate the emergence of collective governance of the cluster and have contributed their own funds for either cluster facilitators or joint activity”**

All the clusters are showing varying degrees of success in cluster leadership and a willingness to collaborate. On average, each cluster holds a small group meeting attended by its leaders or executive committee either weekly or bi-weekly, with about 8-15 participants in attendance. Furthermore, each cluster holds membership meetings of 20-30 participants approximately every month or every six weeks. Finally there are “large” conferences, held 2-3 times a year, ranging from 40-120 participants that include guests invited by the cluster, such as journalists or government officials.

Analysis Tools of Cluster Facilitation Activities

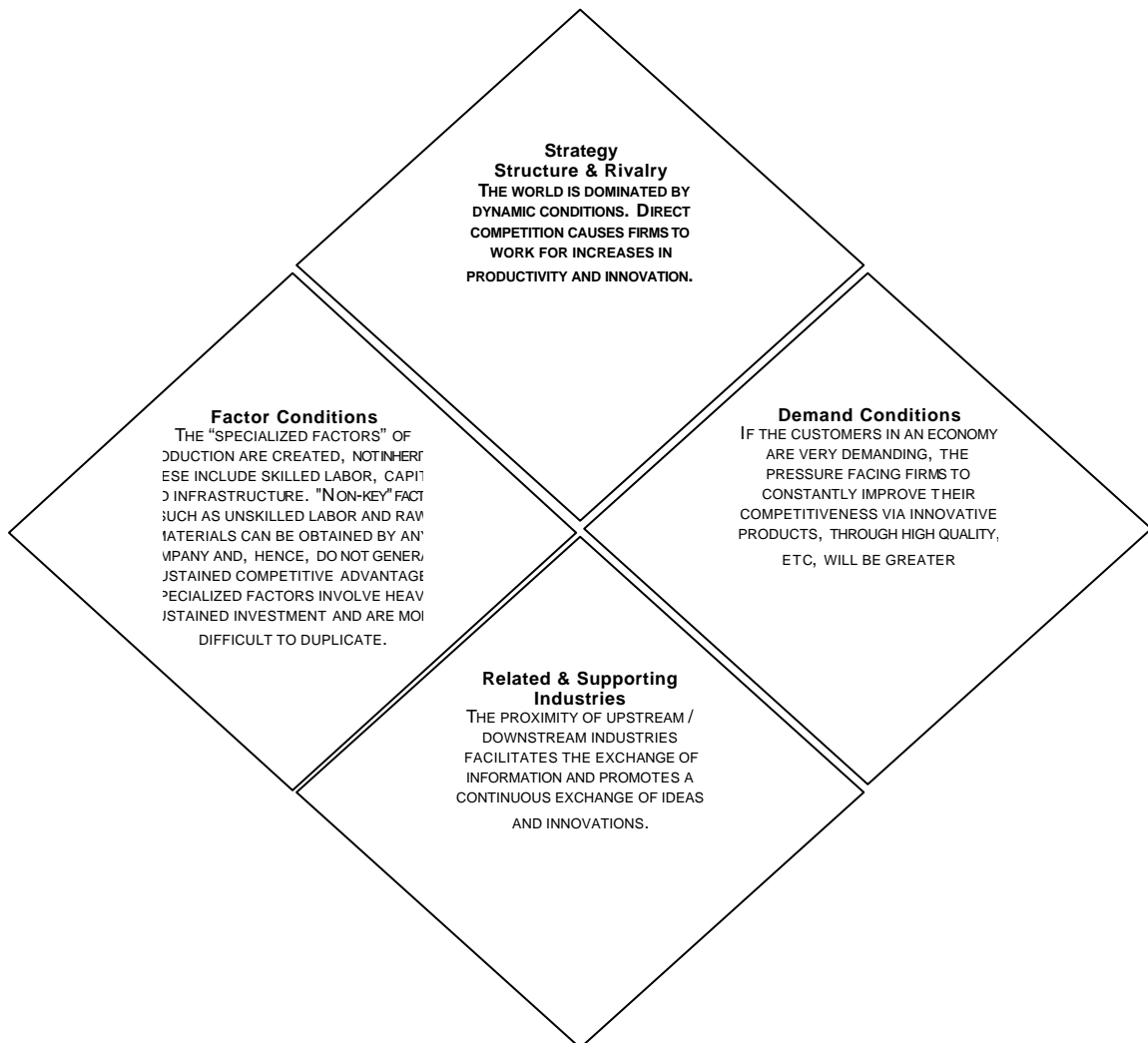
The TCI team used many analysis tools when working with the clusters. These included Porter’s Diamond, SWOT analysis, benchmarking, value chain analysis, GAP analysis, and others. However, few tools communicate the dynamics of competitiveness of a region or country as clearly as Porter’s competitiveness diamond. Therefore, included below is a brief introduction to the tool which was utilized during the initial stages of engagement with each of the clusters.

The Diamond Model as conceived by Michael Porter in his *Competitive Advantage of Nations* (1984?) offers a way to understand the competitive position of a nation in global competition. The model can also be used for major geographic regions. Diamond analysis was one of several analysis tools used to help cluster participants better understand their industries.

Traditionally, economic theory cites land, location, natural resources, labor, and local population size, as the determinants of economic success of a region or a country. Since these five factors cannot be easily influenced, the economic opportunities of a nation appear pre-determined. Economic opportunity is inherited, according to this reasoning.

Porter on the other hand said that sustained industrial growth has hardly ever been built on these inherited factors. Porter explained that clusters of interconnected firms, suppliers, related industries, and institutions that arise in certain locations often are much more responsible for economic opportunity than such inherited factors alone. According to Porter, competitive advantage is the outcome of four interlinked advanced factors and activities in and between companies in these clusters. These can and should be influenced in a pro-active way by government in order to develop sustainable competitive advantage. As an analysis tool, the Porter Diamond is typically portrayed in the shape of a diamond to show their inter-relationship.

Porter's Diamond Analysis Tool



The Role of Government in the Diamond Model

The role of government in the Diamond Model of Porter is to act as a catalyst and challenger; it is to encourage, or even push companies to raise their aspirations and move to higher levels of competitive performance. Government can and should encourage companies to raise their performance, to stimulate early demand for advanced products, to focus on specialized factor creation and to stimulate local rivalry by limiting direct cooperation and enforcing anti-trust regulations.

Further to evaluating Competitiveness Cluster Facilitation Activities, this report will utilize a methodology developed by TCI partner JEA in a report dated 9/30/04. Evaluation in that report follows a Process-Action-Investment-Delivered results

framework (PAID)¹, which was created to monitor and evaluate cluster competitiveness initiatives².

A cluster competitiveness initiative will normally last between 3-5 years, and the framework suggests that the kind of indicators used during the life of the project should vary. A brief explanation of these is provided below:

Process Indicators track the ability of the project team to engage the leadership of industry, elicit a strong response, and to structure a collaborative agreement. These indicators should be set at the project outset, and are very important during the first year of activities.

Action Indicators track whether progress is being made or not in implementing the strategic initiatives identified in the first phase of the project. These cannot be programmed at the outset.

Ivestment Indicators track co-investments by counterparts. Co-investment typically begins modestly (through the contribution of cluster executive time, provision of workshop venues, etc) but then accelerate as the project moves to maturity. It may take time to prepare feasibility studies and projects, and to secure financing. The most significant investments occur at the stage of implementing action initiatives and should become significant in years 3 through 5.

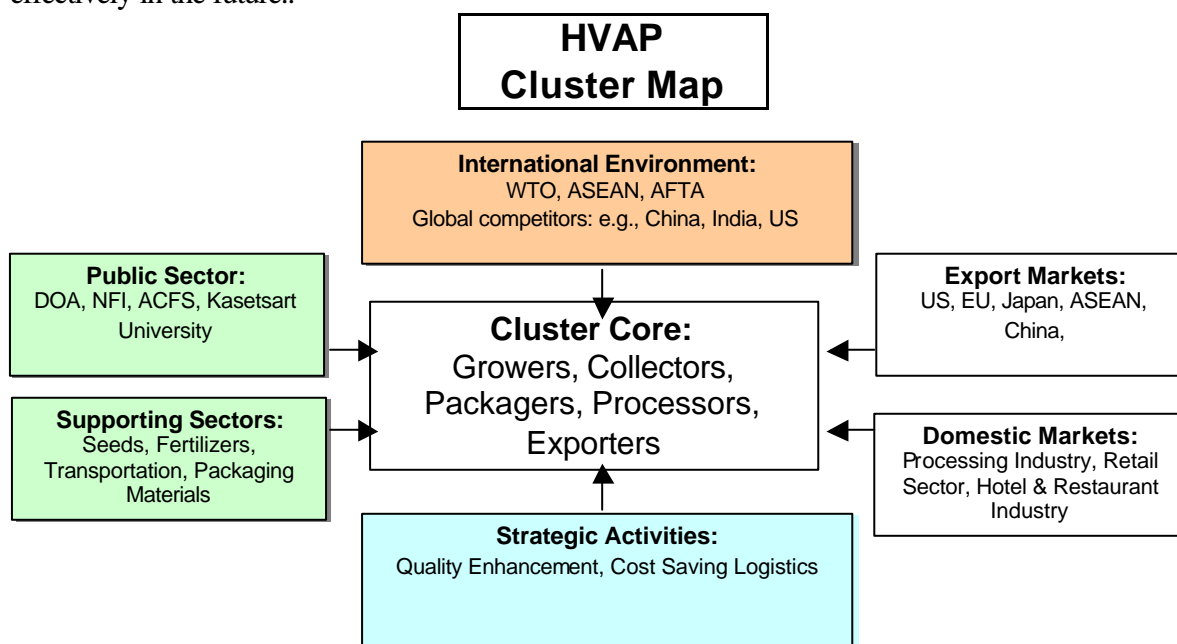
Delivered Results Indicators focus around increases in productivity and value-added, but may also include export revenues, employment growth, new enterprise growth, average wages, and average profitability in the industry. It must also be demonstrated that the project contributed directly (wholly or partially) in delivering these results. These results become measurable in years 3-5. However, there are delivered results that are more qualitative. The emergence of trust and cooperation within a industry, business-government and academe collaboration, change of mindsets, and spread effects can be observed but not easily quantified.

¹ The full framework is presented and discussed in Kevin Murphy, “Monitoring and Evaluation of Cluster Competitiveness Initiatives”, September 2003.

² Kevin Murphy, “Monitoring and Evaluation of Cluster Competitiveness Initiatives”, September 2003. Indeed, “there are two extremes to avoid in monitoring and evaluating a cluster competitiveness initiative. The first extreme is to create milestones and performance measurements that unduly straightjacket those carrying out the initiative. Examples are projects that specify which clusters someone must work with before it has been determined that the cluster can coalesce and that the appropriate leadership and commitment will be forthcoming. There is a need to preserve flexibility in project implementation. On the other hand, indicators that remain vague and amorphous well into the project life cycle are also not helpful. At the outset, the specific strategic initiatives may be left to be determined, but this should be fixed later in the project life”.

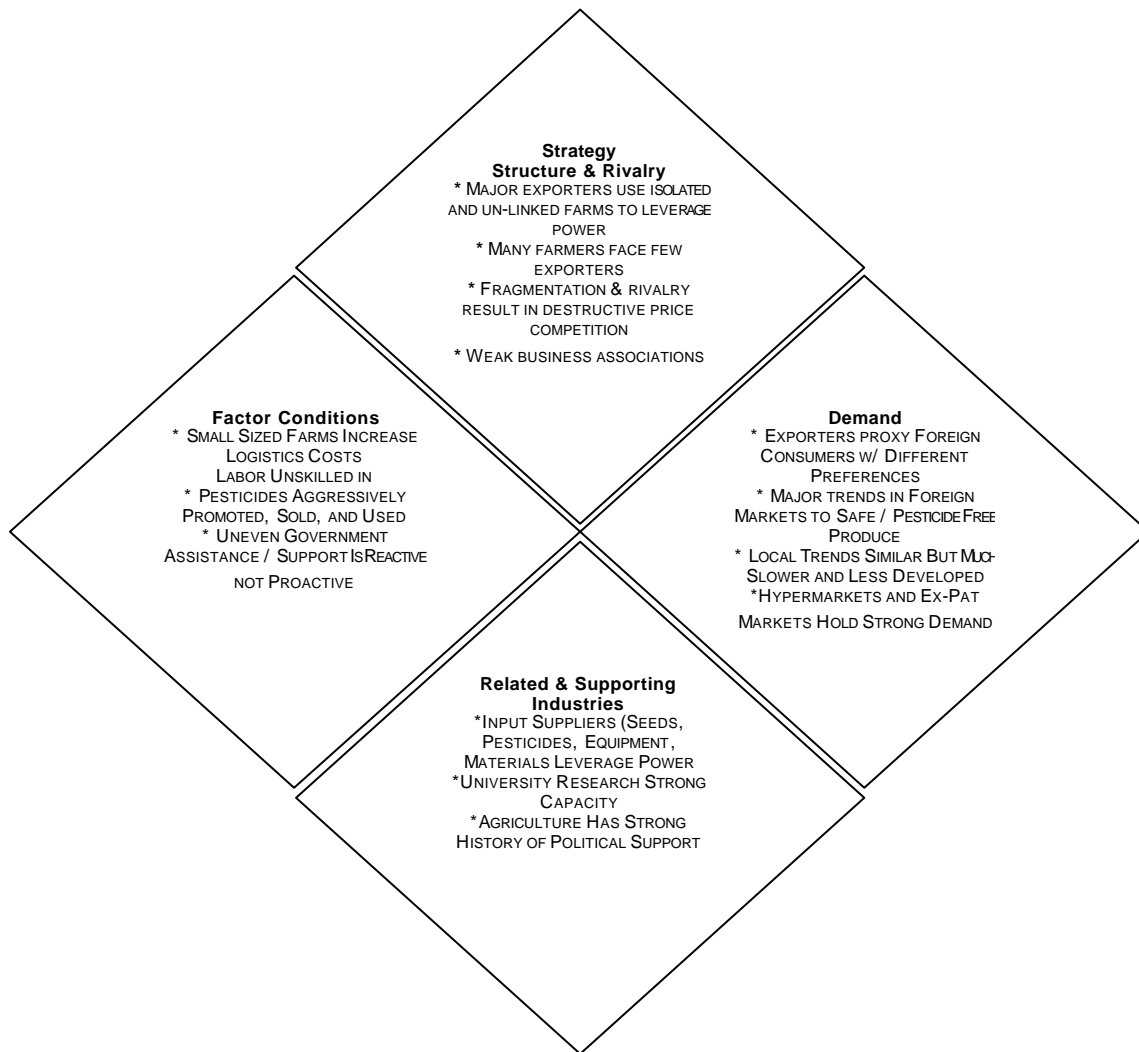
Western Provinces High Value Agricultural Produce Cluster

The western provinces of Central Thailand, has growers, processors, packagers, and exporters of certain agricultural products who were identified as developing certain cluster characteristics. Individually, they faced critical trends in both local and international markets. Moreover, they felt the industry held clear potential to compete effectively in the future..



The agricultural sector in Thailand is an important contributor to the country’s economy. Thailand has one of the most developed agricultural products sectors in Southeast Asia; the country has been a net exporter of agricultural products for several decades. It is known in international markets for the quality of its fresh and processed products, and producers from both developed and developing countries view it as a strong competitor. However, the agricultural sector in Thailand is facing many challenges. The Thai growers are highly inefficient—with over 40% of labor working in agriculture and related industries, the agricultural sector still contributes only 10% to the country’s GDP. Once known as a low-cost producer, Thailand is now facing stiff competition from new low-cost entrants within and without the region. To maintain its market position and reach the government-established goal of becoming the “Kitchen of the World,” Thailand needs to continue developing and expanding its market presence in both foreign and domestic markets.

The cluster concentrates its activities on four vegetable crops and related products: baby corn, asparagus, okra, and chili peppers. Cluster members have met to define the cluster’s mission statement and set strategies for the near future. The strategies identified by the cluster include transformation of the cluster into a GAP (“Good Agricultural Practices”) cluster based on the EU’s GAP standards; a better understanding of Thai domestic market trends and requirements; and an improvement in supply chain and logistics in order to bring fresh quality products from producers to consumers in the least amount of time.



Process Indicators

In the year 2000, businessmen in the vegetable export business began to be concerned with increasing demand for Good Agricultural Practices (GAP) certification in world markets for vegetables. Exporters started to lend technical assistance to contract farmers with the objective of growing GAP certified produce. The business sector asked Kasetsart University for assistance with this immediate need. According to the now cluster secretary, little action followed.³

In 2002, TCI conducted presentations to the stakeholders focusing on enhancing industry competitiveness through higher quality, better pricing strategies, and market development. A number of industry diagnostics were applied, including Porter's diamond, strength-weaknesses-opportunities-threats (SWOT), industry and market trends, and cluster mapping.

³ The cluster Secretary expressed this to the authors in an interview conducted on Kasetsart University on August 27, 2004.



Analysis of the Competitive Environment of High Value Agricultural Products Using Porter's Diamond

On December 2003, the first Memorandum of Understanding between TCI and the cluster stakeholders was signed, stating their disposition to work together towards to promote the cluster competitiveness. Mr. Piyabutr Cholvijarn, Vice Minister of Commerce, attended the MOU signing ceremony on December 6, 2003, marking the official opening of the Western Provinces cluster. A total of 3 MOUs were signed with the HVAP cluster.

The core of the cluster is composed of 2,000 growers, 10-20 packers, 5 large exporters, Kasetsart University, and the Ministry of Agriculture. Other concerned parties, such as chemical suppliers, transport businesses, etc. participate in cluster meetings invited to share their expertise and views on particular issues.

A strategy document was drafted and its content agreed to by cluster participants. The three main strategic initiatives identified by the cluster are: 1) transform the farmers and exporters into a GAP (“Good Agricultural Practices”) cluster based on the European Union’s GAP standards (EUREGAP); 2) achieve a better understanding of Thai domestic market trends and requirements; 3) and improve the supply chain logistics in order to bring fresh quality products from producers to consumers in the least amount of time.

Action Indicators

In order to standardize and spread GAP, the cluster has:

- Coordinated with DOA & ACFS to design the training program and to schedule the workshops to the farmers of the core cluster on how to apply GAP.
- Prepared GAP promotional brochures and manuals used to educate the farmers in the core cluster, and to spread this training to other farms.
- Established a “Western GAP Logo” a private sector-initiated equivalent of a quality guarantee ahead of but, in coordination with the national government’s own efforts.

TCI started the engagement with 30 farm families, and by the end of 2003, TCI was engaged with about 2,000 farms, whose farmers employ “GAP” according to a framework and specifications devised by TCI and its cluster participants from the Department of Agriculture, Public Health, and Kasetsart University. The objective is for farmers (from each of the 2,000 “GAP-trained” farms) to in turn train five more farms, in order to achieve a complete coverage of the 10,000 growers in the area that focus on the four crops.

The Cluster received funding from the government to set up a center of intelligence at Kasetsart University, Kamphangsaen Campus, Nakornpathom. Prime Minister Dr.



Taksin Shinawatra presided over the opening ceremony on May 13, 2004. The CEDIS (Center for Education, Cooperation and Development in Agricultural and Information Technology and Safe Agro-industrial Production) website was created to network all database management in the western region consisting of 4 provinces and extending associated linkage to other agricultural sectors both private and public.⁴

To assist the cluster to achieve a better understanding and opportunities in the domestic market, TCI commissioned a market study on consumer behavior and preferences. The study tested the concept of whether “safe and healthy” agricultural produce is a differentiating factor in the local market as it is in the export market. The results are being utilized to craft a “strategy of domestic market entry and development” for high-value, GAP-certified, produce from the western provinces. Developing a domestic market for high-quality produce will provide a balance to export market volatility.

Investment Mobilization

- Cluster Secretariat and other materials: For over a year, Kasetsart University covered the costs of housing the cluster’s secretariat. Several of the large exporters/growers have contributed to the meetings needs, their time; and have invested in booths and food fairs with the supplementary brochures and print ads. TCI estimates that to date, the cost of meetings and staff salaries are equivalent to B 250,000 (\$6,250 USD), and that cluster participants have invested about B 100,000 (\$2,500 USD) in booths, fairs, and printed materials.
- Center of Intelligence, CEDIS (Center for Education, Cooperation, and Development in Agricultural and Information Technology and Safe Agro-Industrial Production); Training Program: The cluster received funding from the government of B 12 million (\$300,000 USD) to the cluster secretariat (Kasetart University) to develop a product-tracking database for GAP-exports that can be extended to other tasks, such as tracking productivity, and for the training program.

In total, the High-Value Agricultural Produce cluster has invested B 12.35 million (\$308,750 USD) towards the implementation of its strategic initiatives.

Delivered Results (actual and potential)

With the adoption of GAP, cluster participants will ensure the acceptance of their products in export markets, and establishing an image of high quality and safety through an identifiable GAP logo its also likely to improve their competitiveness through product differentiation and positive customer perceptions.

⁴<http://www.ceds.or.th>; <http://www.nakhonpathom.info>;
<http://www.ratchaburi.info>; <http://www.kanchana-buri.info>;
<http://www.suphanburi.info>

At the farm level, a farmer adopting Good Agricultural Practices (GAP) will have the benefit of obtaining a premium price for his produce. Exporters purchase from farmers a “mixed bag” of both high and low quality produce. In the case of asparagus, for example, farmers outside contract arrangements with exporters receive 30-35 baht per kilo, while in 2004 exporters offered a fixed price for farmers that are producing according to GAP standards of 50 baht per kilo (a premium of about 40-60%).

The Western Provinces (Nakornpathom, Ratchaburi, Kanchanaburi, Supanburi) have a total population of 3.11 million, of which 1.56 million are farmers (approximately 50%). The average yearly income ranges from 35,684 in Supanburi to 80,878 baht per year in Nakornpathom. The average yearly income for the four provinces is 54,878 baht. This year, 1,400 farmers are registered to obtain GAP certification, of which 250 are expected to obtain it (close to an 18% success rate). Thus, we can expect that at least 250 farmers will be obtaining a premium price of about 50% for their produce; although in practice, exporters offer a premium to many farmers upon adopting good agricultural practices (even before obtaining certification).

Assuming that most of the income comes from producing vegetables, and that the price premium for asparagus to GAP farmers (50% on average) holds for the other high-value vegetables (okra, baby corn, chili peppers), 250 farmers could see their yearly income increased by 50%. That would amount to 27,439 baht per year per farmer (about \$685 USD).

According to interviewed cluster members, operating costs of producing vegetables following GAP do not increase. The costs associated with GAP are the costs of developing training materials, the time the farmer spends in learning the procedures, and a yearly farm inspection that costs about 4,000 baht (\$100 USD). In fact, operating costs might actually decrease, since adopting GAP might lead to reductions in the use of pesticides and other chemicals.

The table below is a rough attempt to measure the potential effects of GAP adoption at the farm level. It assumes, modestly, that 250 new farmers will obtain GAP certification each year, leading to a price premium of 50% on their produce, and using the average yearly income in the Western Provinces as a proxy for the value to which the premium is applied. 4,000 baht per certified farm per year is subtracted to account for the inspection cost.

Average Income per Year in Western Provinces 54,878 Baht					
	Year 1	Year 2	Year 3	Year 4	Year 5
Number of GAP farmers	250	500	750	1000	1250
Additional Revenue @ 50% Increase	6,859,750	13,719,500	20,579,250	27,439,000	34,298,750
Additional Net Income (subtracting inspection @ 4,000 Bhat)	5,859,750	11,719,500	17,579,250	23,439,000	29,298,750
Additional Net Income in USD @ 40 Bhat per \$	\$ 146,493.75	\$ 292,987.50	\$ 439,481.25	\$ 585,975.00	\$ 732,468.75

These estimates, although imperfect, still represent a very conservative and lower bound estimate of the benefits at the farm level of adopting GAP. First, the 50% increase is being applied to an income measure, and not a revenue amount. Secondly, the argument could be made that farmers with higher incomes would be the most likely to lead and succeed in GAP adoption (although this is not necessarily the case, as explained by the cluster secretariat). Additionally, the argument could be made as well that the number of farmers obtaining GAP certification will increase each year; however, the estimates keeps the number fixed to 250. Finally, as expressed, even without GAP certification, exporters are offering to pay premium prices to farmers following good agricultural practices.

Under these assumptions and qualifications, GAP adoption should at least bring \$146,493 USD of additional income to the Western Province's farmers next year, and \$732,468 on the 5th year, once 1250 additional farmers have success in adopting GAP.

Naturally, GAP adoption by more farmers will also lead to increased value further down the value chain. That is the reason why exporters pay a premium to farmers that adopt GAP. Additionally, another important effect can be expected of producing to GAP standards: over time (3-4 years), exporters have noticed an improvement in the high quality/low quality ratio of farmers produce. Interviews with people in the industry indicated that in the case of asparagus, where 50% of the yield per hectare met export quality, an improvement to 70% was observed over a few years. In the case of chili peppers, an industry source revealed improvements from a 50:50 ratio to a 90:10 ratio.

Such improvements would lead to increased revenues and profits. Indeed, once exporters have purchased the "mixed bag" and process the vegetables, they either export or sell in the local fresh market. The exporter will earn more profits from exports of GRADE A produce (high quality), than from lower quality produce. Thus, improvements in the ratio of high/low quality produce will lead to increased margins and profits for the exporters. This in turn could lead to improvement in the premium offered to farmers.

For illustrative purpose, we include a list of current prices for different qualities of asparagus in the table below. The price differential between the export price and the local market price is higher for GRADE A asparagus than for GRADE B and C asparagus. While the difference between the export price and the local market price of Grades B and C is 12.5 baht per kilo, the difference in GRADE A is 30 baht per kilo (2.4 times that of the lower-quality grades).

Current Prices for Asparagus GAP standards⁵

⁵ The table shows the mid-point of a range of prices. For example, in the case of the FOB price for Asparagus Grade A, prices were quoted as between 90-100 baht per kilo. For simplification purposes, the mid-point price, 95, is shown in the table.

Asparagus GAP Standards	Fresh Market(local)	FOB Price	Price Difference
Grade A L. 25cm/D. over 1.0cm.	65	95	30
Grade B L. 25cm/D. 0.8 – 1.0cm.	35	47.5	12.5
Grade C L. 25cm/D. under 0.8cm (Length and Diameter)	22.5	35	12.5
Price to Non-GAP farmers: 30-35 baht/kilo			
Premium Price to GAP farmers: 50 baht/kilo			

The analysis, though, could not be carried further due to the unavailability of data at this time on production volumes per farm, premiums on contract farming for other vegetables, export margins, and improvements on the ratio of high-low quality yields for the four types of vegetables once good agricultural practices are adopted. Furthermore, industry experts point out that GAP adoption will also lead to productivity increases; however, these are difficult to estimate at this point.

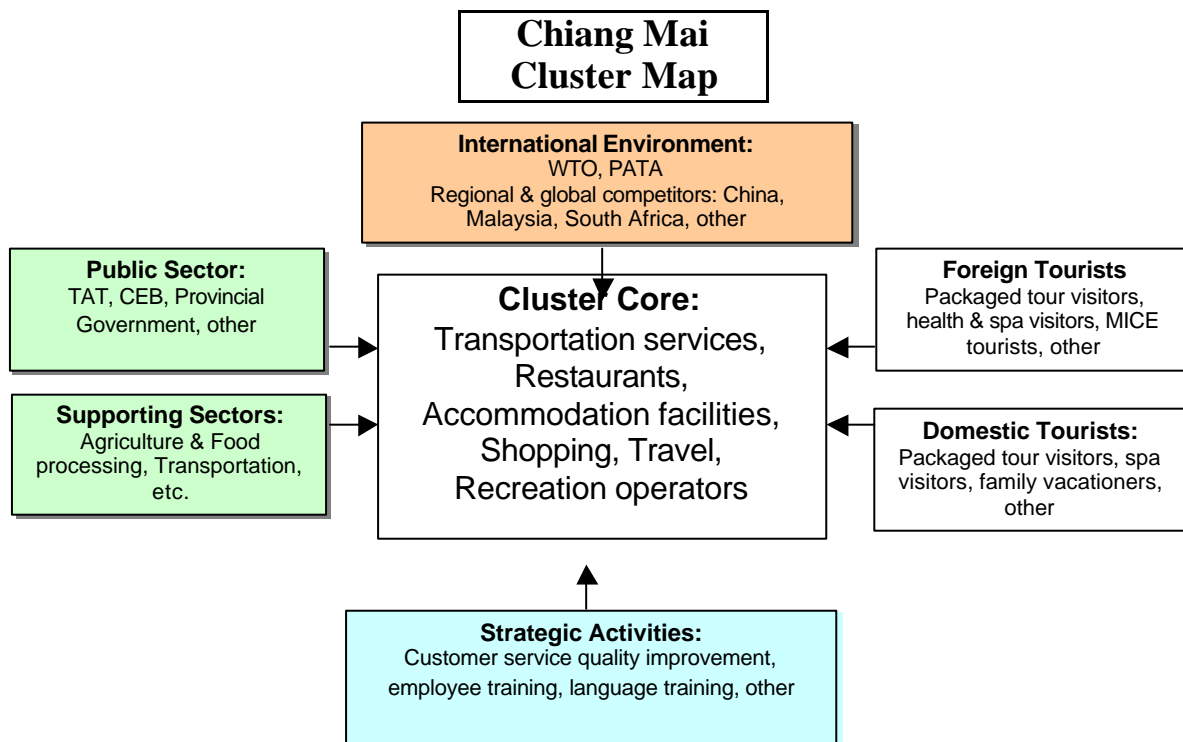
There are also many qualitative results that should be noted. The cluster has coalesced, with a secretariat and budget, and it undertakes initiatives on their own. The cluster engagement also seems to have institutionalized university-business collaboration.

The activities that seem to have worked well within the cluster region are now being implemented in other areas. The government and the cluster secretariat through Kasetsart University are preparing a “train the trainers” program to spread the GAP model beyond the HVAP cluster within the four western provinces. Thus, the project that began as a means of improving the competitiveness, market penetration and diversification of one cluster is likely to have a beneficial ripple effect on the further development of the agricultural products sector in the entire country. The government now plans to implement GAP on a nationwide basis, modeled on the experience of the cluster.

Furthermore, the successful GAP-model is being exported to the region (Vietnam in particular). Members of the Vietnam fruit and vegetable association as well as representatives of the government attended a 3-day conference in Kasetsart University on “Joint Cooperation to apply GAP to Enhance Regional Competitiveness”.

Chiang-Mai Tourism Cluster

The tourism industry of Chiang Mai faced increasing price competition and various problems due to unmanaged growth in the sector. However, in recent years this has resulted in coalescence among local companies and increase in attendance in trade associations and planning forums.



The number of international tourist arrivals has grown considerably in recent years—over 699 million people worldwide traveled to foreign destinations in 2000, an increase of 52% over 1990. Thailand ranked fourth in the Asia/Pacific region in terms of the numbers of international visitor arrivals in 2000, after China, Hong Kong, and Malaysia. Thailand holds many attractions for foreign tourists. It boasts several distinct regions and cultures—from the cosmopolitan vitality of Bangkok, to the relaxed atmosphere of Phuket, to the historic beauty of Chiang Mai. The tourism sector is an important contributor to Thailand’s economy, generating US \$7.4 billion in 2002. Realizing the significance of the industry to the national economy, the Thai government has called for improvements in the quality, diversity, and standards of service in the tourism industry to improve its competitiveness and attract new and returning visitors.

The Chiang Mai Tourism cluster participants have arrived at a common mission that aims to reposition Chiang Mai as a premium tourist destination providing world-class customer service. The cluster members are concerned that the tourism sector in the area is suffering from a cheapening effect, and that there is a need for changes in many different aspects of the industry—from the definition of the area’s unique selling qualities to the targeting of higher-end tourist market segments, to the adoption of international quality standards and ratings. The cluster has already begun carrying out activities aligned with the strategic initiatives identified during cluster meetings and discussions. With the help of a professor from Chiang Mai University, the cluster is cooperating with the provincial governor in crafting a strategy for the city and the area. The cluster is also actively working on arriving at a better understanding of the current state of the MICE (“meetings, incentives, conventions and exhibitions) sector in Chiang Mai. Although no published data exists on MICE tourism in Chiang Mai,

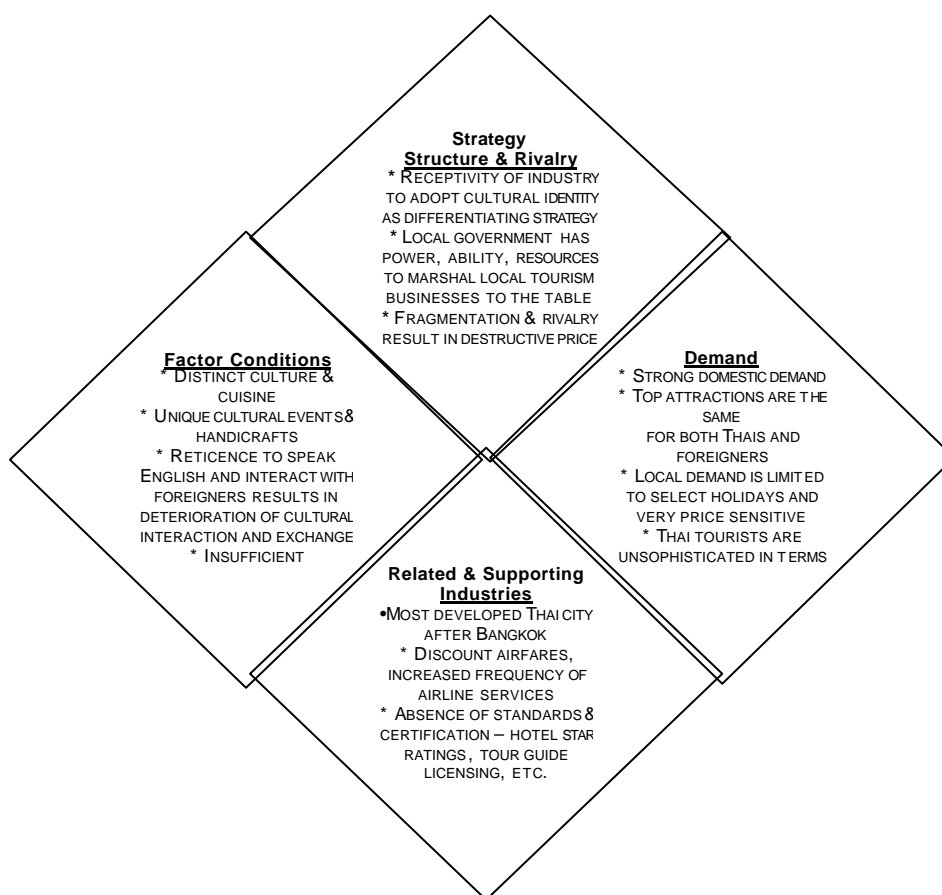


the cluster has identified this segment as a priority and is working to gather both supply and demand information necessary for creating a marketing plan and starting to actively target the sector and promote its development in the Chiang Mai region. As part of the cluster's efforts to develop an action plan, TCI staff guided cluster members in using several analysis tools to better understand the dynamics of the competitive environment.

Process Indicators

The project started activities in Chiang Mai on July 2003, by conducting preliminary analysis on tourism. In October of 2003, the Chiang Mai Tourism Business Association (with a membership of 60 businesses), the Chiang Mai University, and TCI signed an MOU, stating their intention of continued collaboration on improving the competitiveness of the Chiang Mai Tourism Industry. At different points of the process and in support of initiatives, the cluster has had cooperation from the Sports and Tourism Authority of Thailand, Tourist Association Thailand, Chiang Mai Municipality, Chiang Mai Provincial Government, as well as Payap University.

Initial industry diagnostics were completed by January 2004. This included a market and industry trends analysis, a cluster map, a SWOT analysis, and a diamond analysis. TCI made and facilitated presentations to the clusters covering topics such as cluster-based approaches to turning around the deterioration of the tourism industry, attractive market segments in the industry, and on the diagnostics completed. To date, the cluster has met 6 times, its cluster leaders 12 times, and TCI has met individually with industry leaders about 30 times.



Analysis of the Chiang Mai Tourism Cluster Using Porter's Diamond

The cluster strategy was completed on March 2004. The cluster participants arrived at a common mission that aims to revitalize and reposition Chiang Mai as a premium tourist destination providing world-class customer service. The cluster members identified five strategic initiatives and a number of action items related to each initiative that should help the cluster achieve its goal and realize its stated mission.

Subsequently, specialized technical assistance was mobilized by TCI to validate and assist the cluster in planning the implementation of their strategic initiatives. Dr. Joe Goldblatt, conducted a seminar in Chiang Mai on “How to Target Meetings, Incentives, Conventions and Exhibitions (MICE) Tourists and Grow the Industry” on June 28-29, 2004. The seminar was opened by Minister of Tourism and Sports, and was attended by 250 people. On Day 2, he led a workshop led on “How to run a major MICE event in Chiang Mai”, focusing on cooperation and leadership – a case study. On August of 2004, Dr. Don Hawkins held a workshop on Eco-tourism and Eco-lodge development, and conducted a review of Chiang Mai's Eco-tourism product offering and comment on current positioning in the global marketplace. TCI also engaged Dr. Krishna Kumar to conduct a study benchmarking Chiang Mai against other destinations in key areas of importance when targeting different tourism segments.



Action Indicators

What follows are the main strategic initiatives developed by the cluster, followed by a brief account of actions taken towards implementation:

1. Define Chiang Mai's identity to build a competitive advantage based on an indefinable yet highly attractive draw – e.g., “Chiang Mai Charm”
2. Increase average daily expenditure, length of stay, and off-season draws
3. Identify and target selected markets- such as MICE, eco-tourism, and golf &spa.
4. Develop an Internet-based direct marketing program
5. Develop customer service quality and customer resource management processes

TCI has facilitated technical assistance with the objective of assisting the clusters to understand, evaluate, target and prioritize attractive tourism market segments- such as MICE, eco-tourism, and golf & SPA. Two to three meetings of cluster leaders have taken place to review available data, and gauge attractiveness and potential. Action plans have been outlined.

C-MICE is a DMO (destination management organization doing primarily MICE) that was born through the process of TCI's MICE meetings and workshops. To date, the business owner has conceived the business plan, invested in training staff, hired 2 more staff (secretaries) and one project manager and has serviced 2 events to date.

A private company, The Track of Tiger Tour group, has developed the Chiang Mai Street Directory and Shopping Guide. The publication is designed to encourage tourists to spend an extra day in Chiang Mai. The first edition is expected to circulate before the end of 2004. The company's owner, Mr. Shane Beary, gives credit to TCI's strategic planning sessions and diagnostics for being instrumental in prompting the idea. TCI supported the initiative with the printing costs.⁶ Additionally, TCI's tourism advisor supported the initiative with the conceptualization of the write-ups for each of the sections to educate the consumer, endorsements, promoted the competitiveness dimension of the initiative through meetings with key officials (President of CMTBA, VP of COC, President of the Thai Hotel Association, key cluster stakeholders, and at the full-cluster level).

The cluster has agreed on the need for a website, and has prepared a blueprint of it, regarding its functionality and content. Other destination websites for Southeast Asia and the world have been surveyed. Four cluster members are extremely interested and have pledged B 200,000 (\$5,000 USD) to support the idea.

⁶ The authors of this report interviewed Mr. Beary in August of 2004.

The cluster strategy was presented to government officials. Several projects were adopted for in the provincial government's strategic plan for the following three years.

With the purpose of encouraging communication and cooperation between the tourism schools and the local business community, TCI facilitated the organization of a Business Plan Competition for Tourism / MBA Students, in collaboration with Payap University. Nine teams of 4 students (36) students entered the competition. TCI trained students on how to write a business plan in August of 2004, and a list of suggested topics was provided, including acute problems in the Chiang Mai tourism industry, such as the deterioration of the Night Bazaar, relationship within tour operators and tour promoters above, and the cheapening effect within the hotel complex. The business community is supportive and engaged in the initiative, since it is designed to facilitate curriculum development, reward students for professional work and, identify best and brightest students.

Investment Mobilization

- Cluster executives have allocated a significant amount of time to meet and attend presentations and conferences. Likewise, they have provided workshop and meeting venues at their expense.
- MICE seminar and workshop: Cluster expenditures on venue, translators, and equipment are estimated to have a value of B230, 000 (\$5,750 USD).
- Government investments: The Tourism and Sports Ministry (Chiang Mai) earmarked B3 million (\$75,000 USD) to English Language Training for Tourism (expanding the original concept to include government officials) for fiscal year 2005, based on TCI's project draft submitted to the government in June.
- C-MICE (destination management organization targeting MICE) has reported B240, 000 (\$6,000 USD) of investment during the first 6 months of operation.
- Chiang Mai Benchmarking Study: The cluster will cover B 200,000 (\$5,000 USD) towards the costs of this study.
- Chiang Mai Street Directory and Shopping Guide: The Track of Tiger Tour group (a private business) has invested about B 2.7 million (\$67,500 USD) in this initiative.

In total, the cluster has invested B 3.37 million (\$84,250 USD) towards the implementation of its strategic initiatives, not including the B 3 million earmarked by government towards an English language training program and TCI's investments.

Delivered Results (Actual and Potential)

The Chiang Mai tourism cluster is less than a year old, and many initiatives are still at the conceptualization stage, which makes it difficult to estimate the potential value-added of implementing them. At present, a great number of foreign visitors to Chiang Mai are price-sensitive segment visitors, such as back-packers. The cluster

participants are committed to identify and target MICE and other tourism segments whose visitors spend much more than most of Chiang Mai's current visitors. In particular, the MICE tourism represents a lucrative market segment valued at \$200 million and growing at a rate of 8% annually. The cluster's decision to identify and actively pursue selected markets should lead to a bigger share of those tourism segments and increased revenues for the industry.

The most mature initiative, which will be fully implemented by the end of 2004, is the development of the Chiang Mai Street Directory and Shopping Guide. Of all the possibilities to increase the average 3 days that tourists spend in Chiang Mai, shopping is arguably the one activity that could immediately provide the incentive to stay an extra day and improve Chiang Mai's tourism industry competitiveness. Shopping activities require no investment in infrastructure; and it is an existing and significant contributor to the local economy and cultural identity. This reasoning was the motivation for a private company, the Track of Tiger Tour group, to move ahead and develop it.

Mr. Beary, the tour group's owner, expressed to us during a recent interview that the project's strategic planning sessions were very helpful in giving birth to the business idea. In his own words, "TCI's strategic planning sessions' emphasis on promoting the industry's competitiveness through increasing the average length of stay and the amount of tourist expenditures prompted me to think on what were our competitive advantages and how we could achieve those goals in Chiang Mai. Of all the possibilities, shopping seemed to be the most immediate attraction that could provide an incentive to increase the tourist average length of stay".

According to Mr. Beary, who conducted extensive surveys prior to investing in the initiative, most businesses in Chiang Mai do not advertise in the 14 existing publications because it is not cost-effective to advertise in publications that do not reach the tourist before their arrival to Chiang Mai. Surveys as well as anecdotal evidence revealed to him that tourists have trouble finding good quality merchandise, and that tourists' options are in practice limited to what they can find or to tour guide's recommendations, who recommend places based on commissions (ranging from 30%-50% of the sale price) and frequently stir the tourist towards shops featuring mass-market items, as opposed to those boutiques with quality items.

Chiang Mai's Shopping Guide will offer the tourist a robust information tool. It will include detailed maps of 15 key shopping districts, 30 articles (with illustrations) to educate the consumers on the history, making, availability and quality of furniture, textiles, paintings, handicrafts, silk, ceramics, home décor, etc. The Guide will be distributed by bookshops in the main points of entry to Thailand and Chiang Mai (international and domestic airports), hotel chains, tour operators, and duty free shops. The company is working on a Japanese version to be introduced in a year or so.

The Track of Tiger Tour group expects to distribute 60,000 copies on a yearly basis, presumably reaching as many tourists (a very small fraction of the 2.3 million who visited Chiang Mai in 2002). If one-third of those 60,000 tourists extended their stay for an extra day, the Chiang Mai's tourism industry would obtain additional revenues

of \$1.36 million USD per year (the average spending per tourist per day in Chiang Mai for 2002 was \$68 USD). If 33% of those revenues represent business profits⁷, the initiative has the potential of generating extra profits (return on capital) of \$448,000 USD each year, under these assumptions. Table 2 shows the calculation of additional at various degrees of success of this initiative. This measure is only a fraction of the potential increases in value-added of the initiative, since it does not include the potential job creation effects that the additional sales would have.⁸

It should be noted that the estimation leaves the expenditure level unchanged at \$68 USD per day, which could be affected both by the Guide itself and the lengthening of the tourist visit. Additionally, no other potential effects are considered that could result from the initiative, such as additional number tourists visiting Chiang Mai.

Potential Benefits of Chiang Mai's Street

Directory and Shopping Guide

% of Tourists staying an extra-day*	10%	30%	50%	100%
Additional Revenue (USD)**	\$ 408,000	\$ 1,224,000	\$ 2,040,000	\$ 4,080,000
Increase in Business Profits @ 33% of sales	\$ 134,640	\$ 403,920	\$ 673,200	\$ 1,346,400
*Assuming 60,000 tourists purchased/received the Guide				
** Assuming an average expenditure per tourist per day of \$68 USD				

The project had also several qualitative outcomes. For example, university-business collaboration was promoted through the Business Plan Competition and seminars. Additionally, the Cluster is cooperating with the provincial governor and a professor from Chiang Mai University in crafting a strategy for the city and the area.

The Tourism and Sports Ministry adopted several projects and used TCI's model for their strategic plan for 2004-2006. One of the cluster's initiatives adopted by government, an English training program for tourism employees, can bring significant benefits to the workforce, since employees fluent in English can between 50-100% more than those who are not.

The sector is very fragmented and is characterized by stiff price competition that hampers communication and activity coordination among different sector participants. Quality has been sacrificed in the face of cost-cutting pressures. Public and private industry participants have recognized the need for changing the mindset. In this regard, it is significant that cluster participants have arrived at a common mission that aims to reposition Chiang Mai as a premium tourist destination providing world-class customer service.

⁷ A brief informal survey with restaurants, hotels, and boutiques indicated that the average profitability of these businesses was 33% of revenues.

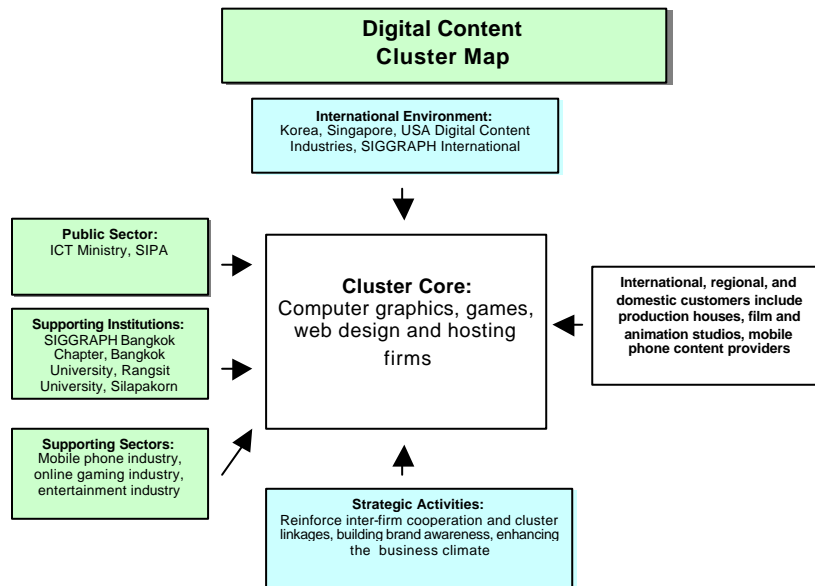
⁸ Due to time constraints, the evaluation team could not gather enough data to estimate this.

Additionally, as TCI tourism advisor observed during cluster meetings, cluster participants are beginning to abandon quick fix solutions, such as advocating for subsidies or special incentives. Instead, many cluster participants have adopted principles promoted by TCI, such as the industry's need to offer more sophisticated services and products that encourage customers to spend more and stay longer.



Bangkok Digital Content Cluster

Several firms engaging in computer graphics and animation, games design, and web design were enjoying considerable growth in recent years. Centered in Bangkok, these firms knew each other well as they bid for international projects. They were identified as exhibiting certain cluster characteristics. They desired to grow further and were highlighted as desirable contributors to the national economy.



The digital content industry embraces a variety of products and services in the entertainment, education, communications, business/professional related content, and other sectors. It is a high growth industry projected to grow at an average annual rate of 30% through 2006. Thailand's digital content industry includes companies in the gaming, animation, mobile applications, e-learning and other sectors. However, the size of the digital content sector in Thailand is quite small, especially in comparison to those of its competitors in the region. The cluster includes approximately 50 companies divided into three tiers in terms of financial position, number of employees, product reach, brand equity, and market orientation.

Thailand enjoys a number of factors favorable to the development of the digital content industry. The country boasts a rich and distinct history and a culture that awards creativity and talent. Thai media products are recognized and acclaimed throughout the world for their creative content. The country is also a welcoming tourist destination, as well as an attractive relocation and retirement destination. Indeed, the quality of life Thailand offers has been attracting IT professionals from other countries in the region. The Thai government has been supportive of the IT sector through promotion of IT initiatives, such as the Software Industry Promotion Agency, the Software Park, and others. However, Thailand's IT and digital content industries lack sufficient home-grown labor resources to fill all available IT positions, in large part because the country's labor force lacks the necessary technical and business skills. The low level of English proficiency is a disadvantage in comparison with other competitors in the region. Similarly, the lack of a well-developed Thai IT diaspora to the major technological centers of the world has hampered Thai efforts to

expand its distribution network. The country also needs to continue improving its infrastructure to accommodate the needs of the business and consumer communities.

The digital content industry has evolved through the convergence of such previously distinct areas as traditional content, media, and entertainment, software and multimedia, and electronic hardware and telecommunications. It is a fast growing industry driven by the rapid growth in information and communication technologies, by the Internet, and by broadband fixed and wireless access and associated devices that are encouraging the ever-expanding demand for the electronic distribution of content. The industry is complex and varied, consisting of a range of products and services across multiple applications, platforms, tools, and industry sectors.

Thailand's digital content cluster is still relatively small compared to the overall size of the Thai software industry. In 2002, Thailand exported US\$46.25 million in software products and services, out of which US\$37 million (81%) was earned by the software services and packaged software sectors, and US\$8.8 million (19%) was attributed to the digital content sector. Within the digital content exports, animation accounted for US\$2.55 million (29%) followed by mobile content, games, e-learning, CAI, and web-design.

The ultimate goal of the Thai digital content cluster is to transform the Thai multimedia and animation industry from its present state of fragmentation and disorganization into a well-integrated and solid collaboration among professionals and business firms, thus providing Thailand with a competitive advantage in its pursuit of an increased share of the global digital content market.

The Thai digital content cluster has the potential to create high paying jobs, bring in foreign exchange earnings, and make Thailand a center for the digital content industry.

Process Indicators

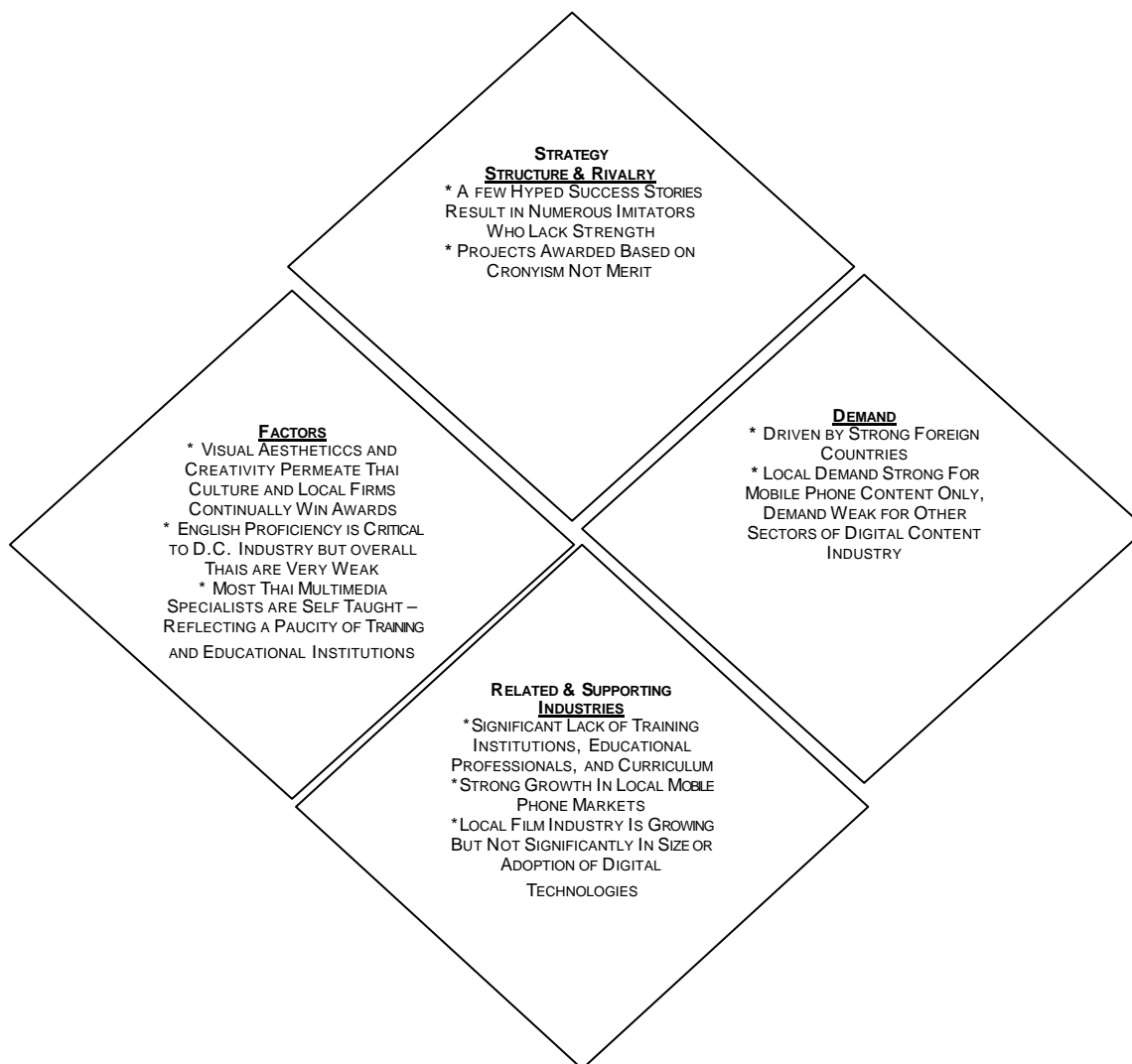
TCI engagement with the Digital Content Cluster started in April 2002. The cluster consists of about 50 firms that could be classified into three tiers, 4-6 large firms, 20+ smaller ones, 3-4 universities, the government agency Software Investment Promotion Agency (SIPA), Bangkok-SIGGRAPH & 3,000 students. To date the full-cluster has met six times, but there have been many more meetings with parts of the cluster. TCI staff members have met with industry leaders, government officials and universities 31 times.

TCI made presentations to the cluster covering topics such as CMM (a software production quality standard), Project Management, IT outsourcing, "New Paths into Global Markets", Benefits of SIGGRAPH, Software Training Needs, Cluster Approaches and E-education.

TCI and SIPA mobilized technical assistance to assist the cluster to validate and refine their strategic initiatives. Mark Frazier and Ann Ruengsom, ICT industry experts, conducted a global benchmarking study analyzing the competitive context of the digital content cluster.

In June 2004 TCI brought in Mark Nydham, a business strategist, to help the members finalize the cluster strategy and the industry diagnostics; including SWOT, Industry and Market Trends, and a diamond analysis.

Analysis of the Digital Content Cluster Using Porter's Diamond



The Digital Content Cluster participants arrived at a common mission: to build a sustainable competitive advantage and to raise standards of living for its employees through skill training. The overall strategy is to combine the creativity-oriented strengths of Thai companies, workers and freelancers and transform them into financially risk-acceptable projects through branding, mastering production skills and solidifying foreign distribution channels. Untimely the cluster will produce original content for regional and international distribution to create real value within the industry.



Action Indicators

The main strategic initiatives are listed below, followed by a brief account of the actions taken towards their implementation.

1. Reinforce inter-firm cooperation and cluster linkages
2. Improve work-force workforce skills development
3. Build brand awareness
4. Assist in facilitating global linkages and empower efficiencies into the marketing process
5. Improve the business climate

To reinforce inter-firm cooperation and cluster linkages, TCI created a digital content membership database and provided it to SIPA in order to send out invitation lists for a proposed digital content group (e.g., Thailand Animation & Multimedia (TAM) 2004). TCI has created a directory and currently the Chairperson of Bangkok-SIGGRAPH maintains it. The directory at this point has over 3,000 members listed.

Efforts towards this goal also included TCI's research to find an international organization committed to graphics and animations for the cluster to join. As a result, TCI recommended ACM SIGGRAPH. TCI interfaced with the ACM SIGGRAPH committee and the cluster to help establish the Bangkok-SIGGRAPH committee. The by-laws of the Bangkok-SIGGRAPH chapter with ACM SIGGRAPH (USA) were registered on January 2004.

The annual SIGGRAPH conferences helped build brand awareness and facilitate global linkages with the Thai digital content cluster. TCI encouraged the cluster to attend the 2003 & 2004 SIGGRAPH conference. A 12-member Thai delegation participated in the 2004 SIGGRAPH Conference in Los Angeles (7 from the private sector, 4 from government and 1 from TCI.) Although the SIGGRAPH conference is mostly technical in nature, the Thai delegates were also able to visit two American firms: Electronic Arts and Rhythm and Hues as well as two American universities.

Additionally, TCI engaged several US IT consultants interested in outsourcing ICT work to Thailand. A representative from Eware.com (specializing in smaller scale software projects) gave an informative presentation at the Thai Software Park, explaining US market segmentation and offering insights on the markets Thailand is best aligned to penetrate. Max Rosenblatt, President of ITonTime (Los Angeles) also expressed interest in establishing contacts with TCI. Mr. Rosenblatt emphasized the importance of raising Thailand's level of brand awareness in the US, e.g., through publishing articles by Thai digital cluster expatriates in trade magazines, and arranging for the participation of Thai industry experts as speakers at industry conferences in the US.

To strengthen and facilitate linkages between the digital animation sector, local universities, students, free-lance animators and the international firms, TCI provided financial support and helped to organize **Thai Anima 2003**. This event showcased the creative talent of Thailand's digital content cluster to a local and international audience of close to 300. In addition, animation experts from the US and Japan conducted workshops and seminars for local digital artists and university students. In

2004, SIPA hosted the festival under the name **Thailand Animation & Multimedia (TAM) 2004**. Activities of TAM 2004 consisted of workshops, seminars, and showcases conducted during the Children's Day (January 8-12, 2004). Approximately 100,000 people participated in this event, including students, universities, public and private companies, and individuals interested in Animation and Multimedia. Several animation experts from the US (Warner Bros.), Japan (Pokemon), and Korea (KIPA) lead seminars.

To provide the cluster with greater market knowledge, TCI hired a specialized consultant, Ann Ruengsorn, to do a market study on the US animation market. Ms. Ruengsorn gathered and summarized existing studies on the global animation, multimedia, and related digital content industry; and analyzed overall market context and trends in the digital content industry in North America, specifically:

- Definitions and scope of market size and opportunity
- Analysis of niche markets such as animation and gaming
- New trends and technology shaping the industry
- Demand side assessment through the identification of opportunities and other potential niche markets for Thai firms in North America

With a view towards implementing improvements in the business environment, TCI engaged two consultants in March 2004 to assist in-country stakeholders and SIPA in identifying opportunities relative to regional competitors and identifying opportunities that enable Thailand to achieve near-term results. The benchmarking report was completed by the end of the month and was distributed to the cluster and SIPA. The cluster is considering many of the consultant's recommendations, and several like the Anima Exchange and Fast-Track Visa for ICT Workers are already at the implementation stage.

The Board of Investment (BOI) handles visa applications for ICT workers. Under the current system for an ICT worker Visa, the company has to be registered with BOI and then goes through 2 procedures: evaluation of the submission and certification of the application. SIPA now has an agreement with BOI to handle the first procedure, and expects to do the same for the 2nd. The company would **not** have to be registered with BOI, but could get the VISA processed in 3 hours if all the paper work is filled out correctly.

In discussions of cluster problems, the problem of companies raiding one another's staff for critical skilled staff was raised. Some company executives said they were reluctant to have staff participate in cluster meetings for fear they would be offered jobs by competitors in the cluster. After some discussion and private meetings it was recognized that this problem was a symptom of inadequate training of the workforce at the university level and a general shortage of workers with digital skills. Workforce development therefore became an important issue for the cluster to address collectively. In taking steps to address the workforce development issue, , TCI organized a roundtable meeting to seek collaboration with the university network. It became clear that some of the skills taught and the software used in the universities

was out of date or inappropriate to the digital content companies' needs. Trainers at the universities, it was agreed, themselves needed training to update them on current industry needs. Representatives from some of the leading universities including Silpakorn, Sri Patum, and Rangsit University attended the roundtable and gave feedback on a proposed "Training the Trainers Program". In August & September 2004 Bangkok-SIGGRAPH met with TCI and re-focused itself on student enrollment and education initiatives, and working with the universities in curriculum development and having a SIGGRAPH student drive event.

Investment Mobilized

The Digital Content Cluster had several initiatives driven by TCI that generated B19.9M (\$497,500 USD) in investments to date. Of the total, TCI invested B1.19M (\$29,700 USD), the government provided funds for B8.59M (\$214,800 USD), the private sector B9.54M (\$238,500 USD), and other donors provided B500K (\$12,500 USD).

These investments are listed below:

1. Thai Anima 2003

TCI promoted the first Thai Anima Multi-Media Fair in 2003, with a total budget of B800K (\$20,000 USD) TCI invested B300K (\$7,500 USD) and UNCEF contributing B500K (\$12,500 USD).

2. TAM 2004

Although the first event was small it created enough excitement in the industry that government and the private sector contributed most of the money for TAM 2004. The total cost was about B17.08M (\$427,000 USD), including booths, rental of conference facilities, etc. SIPA contributed B8M (\$200K), TCI invested B80K (\$2,000 USD) and the private sector contributed B9M (\$225,000 USD), (B7M (\$175,000 USD) from direct sponsorship and B2M (\$50,000 USD) from Booths.)

3. Benchmarking Study

TCI brought in 2 Short Term consultants to do a benchmarking analysis of the digital content cluster. SIPA paid B160K (\$4,000 USD) toward the consultant fees while TCI paid B780K (\$19,500 USD).

Probable Future Investments

Future investment in Digital Content Cluster initiatives estimated to be a total of B119.34M (\$2,983,600 USD) in investment: B200K (\$5,000 USD) from KIAAsia, B95.14M (\$2,378,600 USD) from the Government and B24M (\$600,000 USD) from the private sector.

4. Anima Exchange

The benchmarking study suggested the creation of an Anima Exchange where students and free-lance animators could get a chance to work on mini-projects in country and abroad, like a virtual internship. The total cost of the project is estimated to be B84M (\$2,100,000 USD) SIPA thought this would be a great idea and has pledged to put in B80M (\$2,000,000 USD) toward the project over 3 to 4 years. Oracle and Sun Microsystems have pledged to put in B4M (\$100,000 USD) together in technology investments (Oracle the software platform and Sun the servers to run the system). A local Thai software and animation company Thomas Idea will develop the project.

5. Thai Anima 2005

Because of the success of Thai Anima 2003 and TAM 2004, TAM 2005 will be even bigger. It is estimated that the conference cost will be B35M (\$875,000 USD). More private sector companies now understand the importance of the supporting the conference and will participate. SIPA plans on increasing their investment to B15M (\$375,000 USD) while the private sector is expected to contribute B20M (\$500,000 USD) (Direct investments and advertising B10M (\$225,000 USD) and booths B10M (\$225,000 USD).) Because this has become a sustainable event between the government and the private sector, TCI will not have to invest any money into this.

6. Bangkok-SIGGRAPH Sustainability

Because of the success of Bangkok-SIGGRAPH both KIAAsia and SIPA are pledging investments for a total cost of B344K (\$8,600 USD) to make it a more structured organization. KIAAsia has pledged B200K (\$5,000 USD) as seed funding to be used for staffing, organizing and managing future activities such as outreach and membership drives. SIPA is interested in sponsoring and recommending Bangkok-SIGGRAPH to be a subcommittee of the Association of Thai Software Industry. This would allow for it to have free office space in the Associations of Thai Software Industries offices at an estimated cost of B144B (\$3,600 USD)

Delivered Results (Actual and Potential)

The digital content industry in Thailand is fairly young and the cluster is just starting to coalesce. Many of the initiatives are still being implemented, and their outcomes are very difficult to measure. However, it is clear that the USAID project gave this cluster an important boost at a critical point in its development. We can point to the following outcomes of TCI's engagement with the cluster:

One of the major weaknesses of the cluster identified through cluster meetings was the lack of skilled professionals. This was clearly noted in the Thai Digital Content Cluster strategy document. Thus, many of the TCI initiatives were geared at expanding the pool of skilled professional in the industry. The increase in the number

of participants from 300 in Thai Anima 2003 to 100,000 in TAM 2004 shows how these conferences are increasing awareness among the local population of the digital content industry. This increased awareness has had an impact in 3 areas:

- 1) An increase in the number of Thais interested in joining the Digital Content Industry. Interviews with Vithita Animation, Thomas Idea, How Come Entertainment & Imagimax Animation & Design Studio showed that all had an increase in the number of people applying for jobs after TAM 2004. To illustrate, Imagimax pointed to an increase of 200 job applicants in the week after TAM 2004.
- 2) An increase in the number of universities offering specific Digital Content programs. A year ago there were no universities offering specific programs on Graphics and Animation. Due to increase in demand, 12 programs were created. The universities are not able to create their programs so quickly and are working with private sector firms who have been offering the training previously. Thomas Idea, Imaginmax, Vithita and Digital Asia School of Animation reported that they are working with universities in supplying instructors, curriculum and technology.
- 3) An increase in the number of students entering into Digital Content Training Programs. Because of specific TCI initiatives like TAM 2004, more students are taking Digital Content training. For example, Imagimax reported a 20% increase in the number of students taking their training programs after TAM 2004.

With an increase in demand of digital content training, KIAAsia will carry out an education initiative “Training the Trainers Program” for TAM 2005, during the project’s follow-on after September 30, 2004. This will increase the universities capacity to carry out these programs. At least 40% of people who go through these training programs get jobs in the digital content industry.⁹, where entry-level positions offer wages amounting to almost 2 times that of the average (increase from an average \$1,800 USD/year to \$3,420 / USD year¹⁰).

Before the project’s engagement, SIPA did not seem focused in the digital content industry, but concentrated on embedded and enterprise / PC software development¹¹, with thoughts of following the example of India. In meetings with government officials, the TCI suggested that the Indian example was not appropriate for Thailand because of the shortage of trained software development and an underlying weakness in mathematics in the Thai education system. TCI suggested that attention to the digital content cluster would be productive because of Thai strengths in the visual arts, strong customer base in games and mobile phones and a certain Thai cultural flair for decorative innovation and style. Because of these arguments, backed by information from the cluster, SIPA expanded its support for software development to the digital content portion of the industry. Major successes like TAM 2004, led SIPA

⁹ From data provided by Imagimax and Digital Asia School of Animation

¹⁰ Average entry level wage for a animator compiled from an industry survey

¹¹ From interviews conducted during the M & E process, August & September 2004



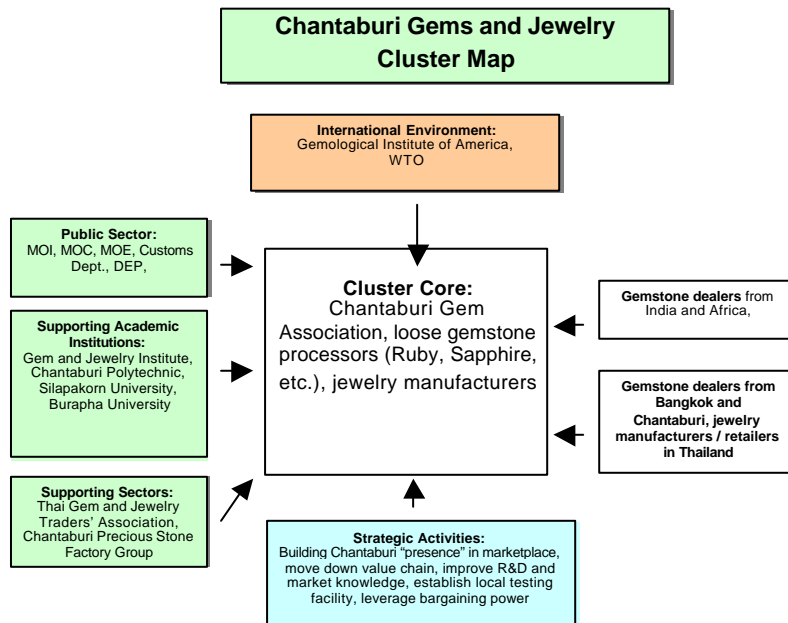
to realize the importance and potential of this cluster for Thailand. Below are some delivered results driven by TCI and SIPA.

1. SIPA helped to produce improvements in the business environment by implementing the Fast-Track Visa application for ICT workers (which is estimated to reduce the amount of time to get a work visa greatly from 2 months to 3 hours.)
2. The benchmarking study suggested creating an Anima Exchange where students and free-lance animators could get a chance to work on Mini-projects in country and abroad, almost like a virtual internship. SIPA thought this would be a great idea and has pledge support most of the project over 3 to 4 years. The project is scheduled to begin later this year. The exchange will create efficiency within the small project market that will give needed experience to Thai students and free-lancers, by increasing the amount of projects and internships available.
3. SIPA is creating public service Edutainment games on issues like Drug Abuse and Good Nutrition which has given some of animation studios and gaming companies needed experience. SIPA is also opening an animation studio in Northern Thailand to give the rural area access to the technology that is currently only available to Bangkok animators.

Finally, some of the initiatives are having spread effects beyond the specificities of the digital content industry. Such is the case of the Anima Exchange, which has prompted SIPA to plan a similar exchange for software developers called sme.net.sc.

Chantaburi Gem Cluster

The Chantaburi Gem Cluster is composed of companies engaged in processing raw gem stones and jewelry. In recent years, trade associations and educational institutions were seeking new and improved methods of supporting the industry. There appeared to be a desire for coalescence among several industry members.



The gem and jewelry industry is perhaps one of Thailand's competitiveness success stories. Thailand's export of gems and jewelry has demonstrated double digit growth figures that went on despite the Asian Financial Crisis in 1997. At almost \$2.4 billion in 2003, exports of gems and jewelry account for almost 3% of Thailand's total exports. Thailand has several gem clusters including Bangkok, Chiang Rai in the north, Kanchanburi in the western region, and Chantaburi which is near the Cambodian border.

The Chantaburi Gem cluster attracts buyers from all over the world, of which Indians and Africans are the most evident. It is also a major employer, providing jobs for 55,000 persons in 700 factories; another estimate suggests that "some 20% of the province's population is directly employed in the gem sector."¹² Thailand is probably the world's largest exporter of colored gemstones, precious and semi-precious, excluding diamonds, and it is the second largest exporter of fine jewelry after Italy. Gems and jewelry figure prominently within the national economic strategy of strengthening Thailand's positioning in the global fashion industry.

The gem cluster in Chantaburi is at a strategic crossroad. The area is well-established in the country and in the region as a world-class center for processing rough

¹² "Thailand's Gem Capital" by Michael Spencer, Asia Times Online, Dec. 4, 2002.

gemstones into gems for jewelry. However, there are clear trends underway that are demanding attention from the cluster. Over the past decade, the mines in Thailand have been depleted. In recent years Chantaburi has been purchasing its rough gems from other gem-countries, such as Sri Lanka, Myanmar, Australia, Madagascar, Tanzania, etc. These countries in turn have been developing their own processing capabilities. While perhaps not as well-known as Chantaburi, one immediate consequence is that the bulk of the “best” gemstones remain in the country of origin, and Chantaburi is left largely with “second grade” smaller stones. Furthermore, while Chantaburi focused on gem processing, Bangkok developed export quality jewelry using Chantaburi’s gems. And over time, with the rising cost in developed countries of setting stones into jewelry, and as Thai jewelry design and quality improved, the proportion of Thai exports (in value) of gems declined relative to finished jewelry products. Chantaburi is therefore “stuck-in-the-middle”.

Process Indicators

TCI made an initial presentation to gem manufacturers in Chantaburi on September 11, 2002. From this date onwards, TCI made more than 4 presentations to cluster members on competitiveness, industry diagnostics, and other topics.

A Memorandum of Understanding was signed between TCI, the Chanthaburi Gem Association, and the City of Chanthaburi on 19th of August 2003. The co-signers agreed to develop Chanthaburi gem cluster to enhance its competitiveness, expressing their commitment to collaborate and share resources to undertake agreed upon activities. The cluster met regularly on a monthly basis and TCI participated the meeting when requested, which was about four times a year.

The original core cluster was composed of 100 firms from the Precious Stones Factory Group, (PSFG) representing 50% Chantaburi capacity. Most firms are gem manufacturers, although a few also manufacture jewelry. Following TCI presentations on competitiveness and the introduction of the cluster concept, the cluster decided to create the Chantaburi Gem Association (CGA), whose membership has grown to 300 firms and is expected to include up to 500 firms. The following institutions beyond the core also participated in cluster activities: a) the department of export promotion, Chanthaburi Office, b) The department of Labor and skills development; c) the Gems and Jewelry Institute of Thailand, and d) the Rajapat University Chathaburi. This showed that although the association is a major element of the cluster, it extends to many other organizations and agencies that do not produce gems, but which are important to the success of the gem industry

During the course of TCI’s engagement with the cluster, several diagnostics were applied to the gem industry in Chantaburi to facilitate the development of strategic initiatives to improve the cluster’s competitiveness. These diagnostics include an industry benchmarking analysis, a value chain analysis, global market and industry trends analysis, a cluster map, a diamond analysis, as well as a SWOT exercise.

Analysis of the Gems and Jewelry Industry Using Porter's Diamond



In November of 2003, TCI mobilized Ms. Sibylle Schempf, a gem and jewelry industry specialist, with the purpose of helping cluster participants to validate and fine-tune their strategic initiatives, focusing particularly on a branding strategy for the region of Chantaburi.

With TCI's business strategist and industry specialist assistance, the Chantaburi gem cluster completed by April of 2004 a strategy to improve its competitiveness. The vision for the cluster was to be the hub for quality colored gemstones with certification of quality and excellent lapidary skills for all shapes and sizes. Their specific objective was to find new buyers for its products (primarily gems but including jewelry) that will result in additional growth of 15% per annum (slightly in

excess of the current average growth of the Thai gem and jewelry exports). The specific strategic initiatives are discussed in the following section, as well as actions and investments made to date to implement them, and potential results.

Action Indicators

The following are the main strategic initiatives, and a brief account of significant actions taken by the cluster towards their implementation:

1. Building the Chantaburi “presence” and awareness through trade fairs and other initiatives.
2. To improve and secure competitive access to sources of supply.
3. To implement selective forward integration to capture greater value.
4. To improve R&D, market knowledge and skills development through partnerships with local university and other institute and education and training providers.
5. To establish local testing facility as well as documentation of heat treatment and other gem processing.
6. Promote cooperation amongst members through an association and leverage their increased bargaining power.
7. Support the development of alternative sources of competitive financing

As part of their actions towards implementing selective forward integration, cluster participants opened 6 booths in the September 2003 Bangkok-based international Gem and Jewelry Fair, and have progressively increased their participation to 24 and 32 booths in the February and September of 2004 fairs, respectively. TCI provided assistance to cluster members in preparing for the events. In addition, several cluster participants opened booths and attended fairs on behalf of the cluster in Shanghai and Honk Kong.

The PSFG created the Chantaburi Gem Trading Association (CGTA) and has crafted with TCI assistance a marketing plan. Some of the elements of the plan have been implemented. On March of 2004, CGTA opened the Chantaburi Gem Center, with the purpose of building the Chantaburi name and providing an outlet for the cluster members to exhibit their gems and jewelry lines, while encouraging the processors to commence designing jewelry (in a first stage for sale in the local market, targeting tourists). The CGTA is also promoting the center with tourist operators, and organizing the first Chantaburi Gem Fair.

Additionally, the cluster has prepared, and is working on a time-table to introduce color code standards for the gems manufactured in Chantaburi, designed to increase consumer confidence in the reliability of the region’s manufacturers and facilitating transactions. Several cluster firms are moving up the value chain by developing their own jewelry lines.

Investment Mobilization

- Cluster meetings: According to interviewed firms, the cluster invests annually about B120, 000 (\$3,000 USD) for its meetings.

- Chantaburi Gem Center: Between 64 members of the recently constituted CGA, B3 million (\$75,000 USD) were raised to build the Chantaburi's Gem Center, which opened its doors in 2004. Annual expenditures to maintain its operation are estimated at \$1 million bath annually (\$25,000 USD).
- Booths at the Bangkok Gem & Jewelry Fairs: The cluster invested B7.2 million (\$180,000 USD) for 6 booths in the September 2003 Fair, B28.8 million (\$720,000 USD) for 24 booths in the February 2004 Fair, and B38.4 million (\$960,000 USD) for 32 booths in the September 2004 fair.¹³

Together, cluster investments to date amount to B 78.02 million (1,950,000 USD)¹⁴

Delivered Results

With TCI's assistance and facilitation, the cluster has established a presence at the bi-annual Bangkok Gems and Jewelry Fair. Reportedly, approximately 40% of annual export orders are booked at the two fairs (around \$830 million out of 2.5 billion USD of total gem and jewelry exports in 2003). At the September 2003 Fair, sales volume for the show exceeded US \$414 million, and official attendance figures reached 23,369 visitors from the US, Europe, the Middle East, Japan and other Asian countries. For the March 2004 event, this figure increased to 24,267. Their increased bargaining power (collective action) got them more booths (32) for the September 2004 fair. This increased participation has probably led to increased sales (and building prestige for Chantaburi's gems). No reliable data, though, was obtainable to quantify this.

Establishing direct relationships with customers (i.e. eliminating the Bangkok intermediary) is exposing cluster members to overseas buyers preferences and trends, and facilitating the establishment long-term relationships based on trust and customer service, which are key in this industry, especially in the upper end of the market where the customer is willing to pay a premium and honor relationships with suppliers who anticipate and develop gems in accordance with changing market requirements.

No published figures were found on Chantaburi's output. Industry sources estimate that total sales of gems in Thailand are 20% higher than those exported (to account for those sold domestically). Further, 80% of that value corresponds to rubies and sapphires (rubies and sapphires are the main gems manufactured in Chantaburi). The same sources estimated that 70% of rubies and sapphires are cut in Chantaburi. Thus, according to these estimates, Chantaburi's output (using 2003 figures) was of at least B5.77 billion (\$144.5 million USD). The calculations are shown on Table 3, below.

According to interviews with industry members in early 2003, middlemen from Bangkok purchasing in Chantaburi earn a 20% commission, and 70% of Chantaburi's

¹³ Industry sources reported to TCI that booths in the Bangkok fair have a cost of about 1.2m bath each.

¹⁴ The annual amount required maintaining the Gem center is adjusted in this figure to reflect 6 months of operation (March to September 2004).

sales occur through Bangkok representatives. If 75% of these sales were to be direct, Chantaburi's gem manufacturers could capture additional revenues of B606 million (\$15.15 million USD). If 50% of this extra revenue were spent in eliminating the intermediary (marketing efforts, transportation, fair attendance, and others), the additional income to Chantaburi's producers would amount to B303.4 million (\$7.5 million USD)¹⁵. Data constraints make it hard to establish the magnitude of the shift and how fast it can be achieved. However, interviewed firms seem to agree that the elimination of the Bangkok intermediary is progressing, and that their estimation is that in a few years only 25% of all sales would occur through a Bangkok intermediary.

The estimate assumes that Chantaburi's firms will be selling at the same price as the Bangkok middlemen. The possibility of capturing extra revenue and profits could provide funds for re-investment in other initiatives, or alternatively, the product could be offered at a better price and lead to gains in market share. More importantly, though, being closer to the consumer will allow Chantaburi's manufacturers to collect the necessary market information to develop a demand driven marketing strategy, and to produce the designs and types of jewelry that customers most value. Closeness to the customer is an important outcome of cluster work and, as Prof. Michael Porter has observed, tends to spur the product and process innovation necessary for continuing competitiveness.

Potential Additional Income to Chantaburi by Selling Direct

	Baht	USD
Thailand's Exports of Gems (Source: Gem and Jewelry Manuf. Assoc.)	8,600,000,000	\$215,000,000
Value of Exports + Domestic Sales of Gems (20% above gem export value)	10,320,000,000	\$258,000,000
Estimated Value of Rubbies and Sapphires (80% of Total Gems Value)	8,256,000,000	\$206,400,000
Estimated Value of Chantaburi's Output (70% of all Rubbies and Sapphires)	5,779,200,000	\$144,480,000
Bangkok Intermediary (70% of sales, 20% Commission)	809,088,000	\$20,227,200
Extra revenue if 75% of Chantaburi's sales eliminate the Bangkok Intermediary	606,816,000	\$15,170,400
Additional Income if 50% of the sales value represent extra costs incurred	303,408,000	\$7,585,200

Additionally, increased trust and cooperation is observed among cluster members. Not only are they working together to build the Chantaburi brand name (as evidenced by the Gem Center opening), but they are also working together on standards, using their increased bargaining power to gain presence in fairs, and negotiating with tourism operators. Working as a group has also raised the awareness of the group among government officials, who have pledged support and resources for cluster activities for the next fiscal year.

¹⁵ It should be noted that this is extra-income to Chantaburi at the expense of the middlemen in Bangkok. As well, to measure full value-added, the effects in the number of jobs need to be considered.

Southern Marine Food Cluster

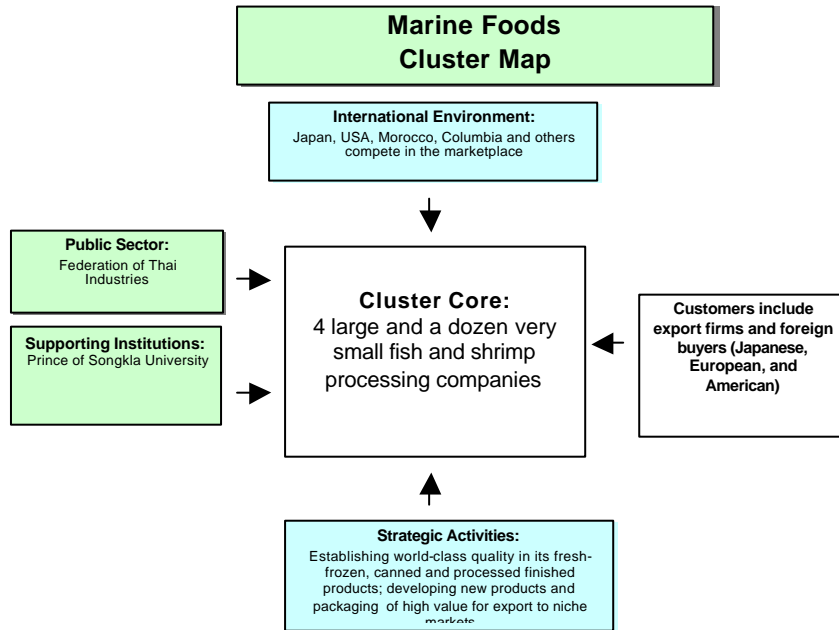
Fish and fishery products are an important part of the global food supply – they constitute a significant calorie source for people in both the developed and developing countries. As the developing countries continue to grow in terms of population and personal income, their demand for marine products will continue to increase. Because the demand for marine food products in the developing world is still well below the demand in developed countries, the potential for future market growth is high. Thailand is well positioned to take advantage of this potential future growth in market demand. Thailand has a well-developed fish and fish products industry that is one of the leading exporters of processed shrimp and tuna products to such sophisticated and demanding markets as the US, Japan, and the European Union (EU). Thailand has been able to combine its quality labor force and fishing industry experience with the latest developments in aquaculture and processing technology to create a world-class marine products industry. However, with growing competitive pressures from emerging regional and global competitors and stretched supply sources, the country is facing numerous challenges affecting its competitive position in global markets.

Whether the cluster can successfully compete in global markets depends on the ability of the cluster members to understand the cluster's goals and the strategies designed to reach those goals. The cluster stakeholders have generated a broad strategy statement to direct the cluster's activities in the near future and help it to invest its resources for the most efficient and effective development of cluster competitiveness.

Process Indicators

The southern Thai marine food cluster is the “youngest” cluster of TCI. Engagement with the cluster began in September 2003 and progressed to the signing of an MOU on cluster cooperation in January of 2004.

The cluster consists of tuna and shrimp processing companies (often owned by the same family firm), smaller local firms with fishing boats (not fleets) and shrimp farmers, other private industry firms, as well as public research institutions, and government agencies. For example, the leaders in the cluster consist of faculty members from the Prince of Songkla University, the Songkla branch of Federation of Thai Industries (FTI), plus four large processors, and a dozen smaller sub-contractor firms.

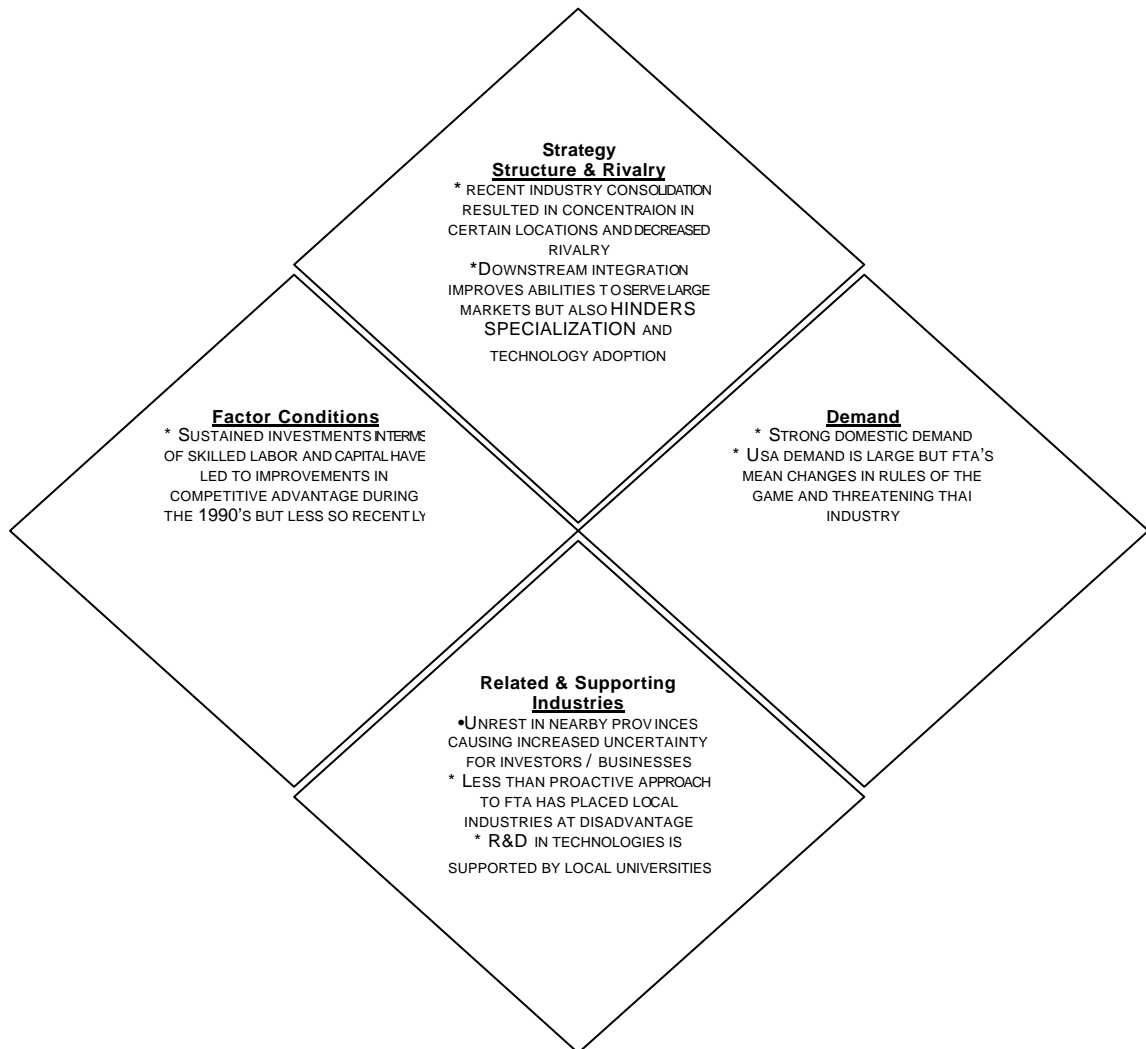


The Thai marine cluster stakeholders have participated in two “large” meetings—in October 2003 and January 2004—at which industry cluster development strategies were discussed and formulated. The conference in January 2004 brought in 120 participants from almost 40 organizations, including 20 smaller firms in the industry.

Although the leadership coalesced quickly, the TCI cluster coordinator continued to attend meetings to encourage the development of a long term strategy and shorter action initiatives. Small group meetings take place once every three weeks under the FTI auspices; however, the cluster usually gathers in a larger group when the coordinator travels south, usually once a month.

An initial MOU was signed in January 2004. The standard “set” of diagnostics was applied, including Porter’s Diamond.

Analysis of the Southern Marine Foods Industry Using Porter's Diamond



The cluster drafted a mission statement and several strategic initiatives, which are included below:

The southern seafood cluster will serve as the “raw material supplier” of choice in selected foreign and all domestic markets. The cluster will support Thailand’s goal of becoming the “food basket of the world” (1) by establishing world-class quality in its fresh-frozen, canned and processed finished products and (2) by developing new products (and packages) of higher value (than the commoditized canned seafood items) for export to selected niche markets.

A market study for specialty shrimp products was completed in May 2004, the such as an International and local Industry and Market Analysis.

A strategy document was created in June 2004, at which time the cluster decided to focus on specialty, processed shrimp products for export to the United States, to reduce their dependence on canned tuna (a commodity) and on the Japanese market.

Action Indicators

TCI funded the study of shrimp products in California. In turn, the cluster also indicated its willingness to spend approximately \$15,000 for exploratory meetings with potential buyers and purchasing officers of large supermarket chains in the West Coast that the study might identify.

The cluster indicated its willingness to undertake the costs for developing processed shrimp products. This activity was a joint effort by technical, research faculty from the Prince of Songkla University and the shrimp processors (who were also members of FTI).

Investment Mobilization

Unfortunately, the United States launched its hearings on anti-dumping tariffs against several major shrimp exporting countries in earnest in June 2004. Until the results were released in July, the cluster was unable to act on its strategy, since it depended on access to the American market. The cluster coordinator began reviving cluster interest in the strategy only in September, when it became apparent that the cluster (and the Thai shrimp industry) would not be adversely affected by the punitive tariffs.

Delivered Results

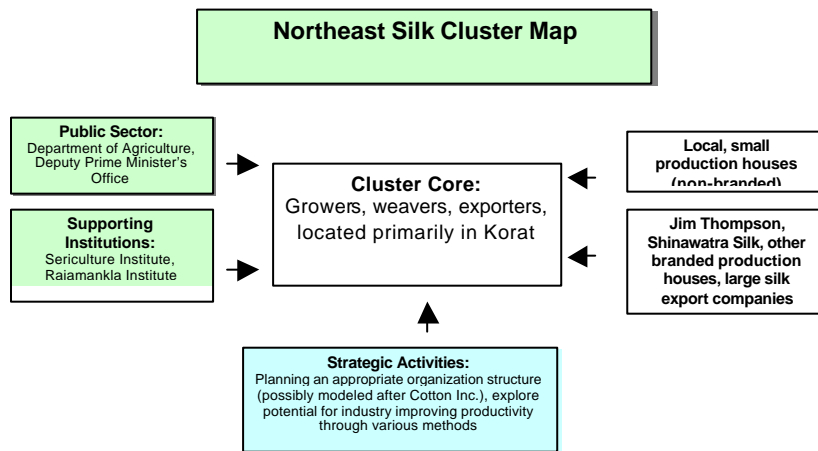
None to date.

Northeastern Silk Cluster

The silk industry is still at a “pre-cluster” stage. That is, there are many firms working within a geographic area, but there is no tradition to cooperation among them, and the industry structure is not well organized, both at the private and public sector-levels.

The two long term needs of the silk industry go beyond the project life: (1) to develop a global export market for higher-margin specialty products from Thai silk and (2) to provide a structure for the silk industry. Rather than trying to build the industry or to create a cluster from existing firms, TCI decided on a more modest effort in two areas: (1) To provide STTA in the preliminary stages of planning an appropriate organizational structure for the industry, and (2) To explore the potential for improving productivity through a “semi-mechanized” hand loom weaving process.

The Thai silk industry is best known through “branded” firms such as Jim Thompson and Shinawatra. The industry itself is one of the royal projects and local and international fashion shows have promoted Thai silk products. The strategy of bringing “Thai silk to the world of international fashion” is already under way. However, the industry itself is fragmented. Aside from the few well-known branded firms and several large exporters, the industry itself largely consists of community-based small and medium scale mulberry growers and hand loom weavers. This industry structure perhaps accounts for much of the charm of Thai silk, but it inhibits the transformation of the industry from a seasonal, community-based production system to a “quasi-commercial” operation that can consistently deliver quality to the export markets of the world.

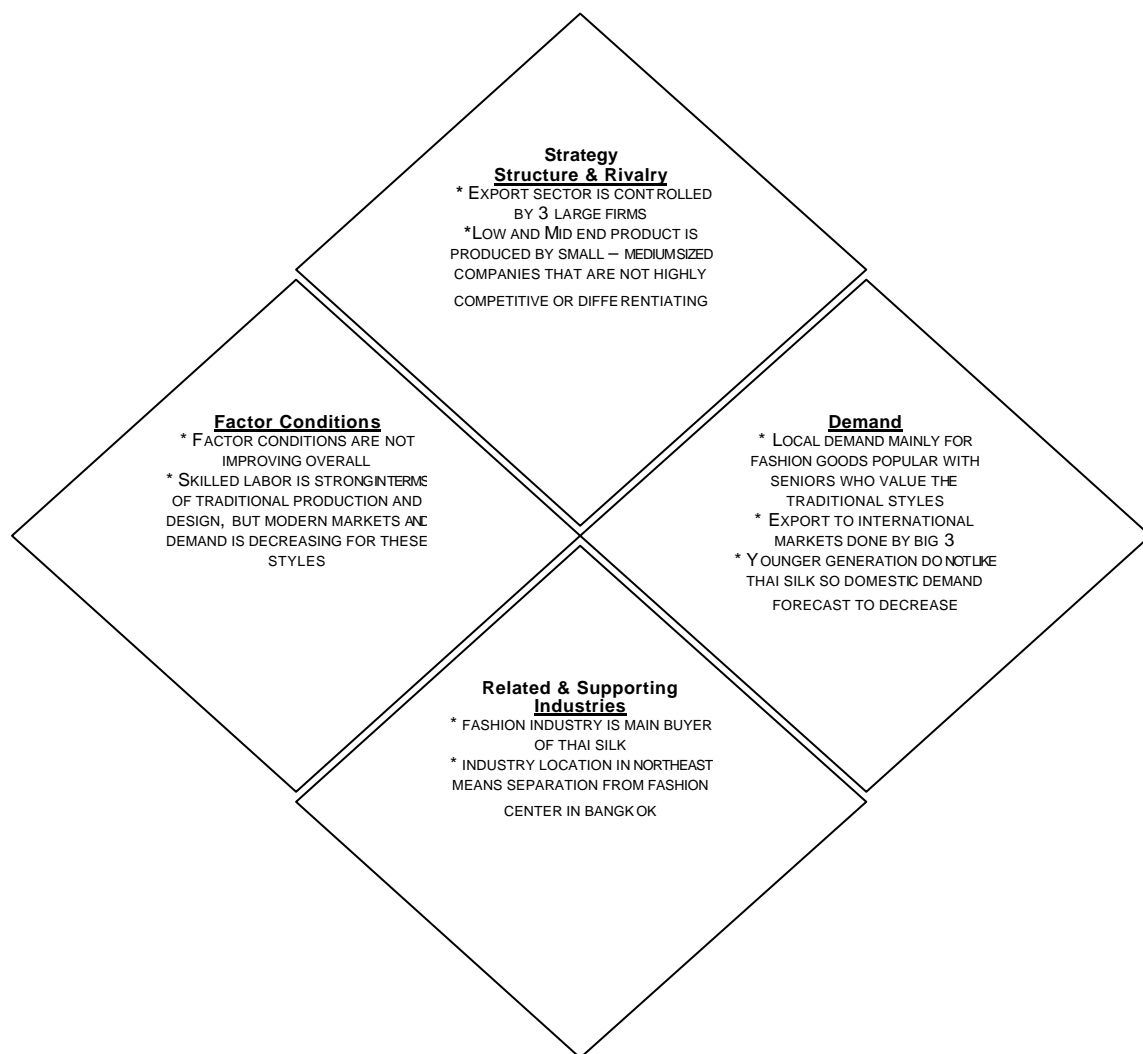


Process Indicators

The silk sector in northeastern Thailand is fragmented and in a pre-cluster stage and the engagement of TCI focused on working with the relevant government agencies to craft a national silk development plan and to create an organization along the lines of the successful American organization “Cotton Inc”. Industry analysis included application of several diagnostic tools, including Porter’s Diamond.

**Analysis of the Silk Industry
Using Porter’s Diamond**





TCI facilitated the creation of an “ad-hoc” working group from the government (the Sericulture Institute, the and Department of Agriculture) and the silk sector in Korat (growers, weavers, and exporters) that was as large as 20, but with regular attendance of about 8-12 at any one time. Meetings took place every month, both in Bangkok and in Korat. Recently, TCI began working with a newly assigned special advisor to the Deputy PM on silk.

TCI worked with a Thai company with a patent for a semi-mechanized wooden loom that will double output per worker/loom and allow for weaving higher-margin silk patterns.

Several members of the cluster sought to improve linkages between the northeast Thai and Lao silk sectors. In August 2005, TCI held its first conferences with members of the Lao silk industry. The plan beyond the project life is to focus on Laos, before making additional formal links with the Thai silk sector.

Action Indicators

1. As of September 2004, the draft legislation for a silk development board is “on the table” for Parliamentary consideration, but is unlikely to be discussed until the next calendar year.
2. Several firms from Korat examined the pilot/demonstration model of the semi-mechanized loom and four of them have been negotiating with the company to purchase the new loom.
3. A “supply-side” study is being undertaken, for completion by end September.

Investment Mobilization

Unfortunately, the company is unwilling to sell its semi-mechanized loom at the “strike price” of Baht 40,000 per loom as it wants to recover its “R&D” costs by charging Baht 80,000 per loom with a minimum purchase of 3 looms. At the same time, the silk companies are unwilling to pay Baht 80,000 since they expect the manufacturer to “come down” in price. As the project ends, the impasse remains unresolved, and the proposed worker training program has been postponed.

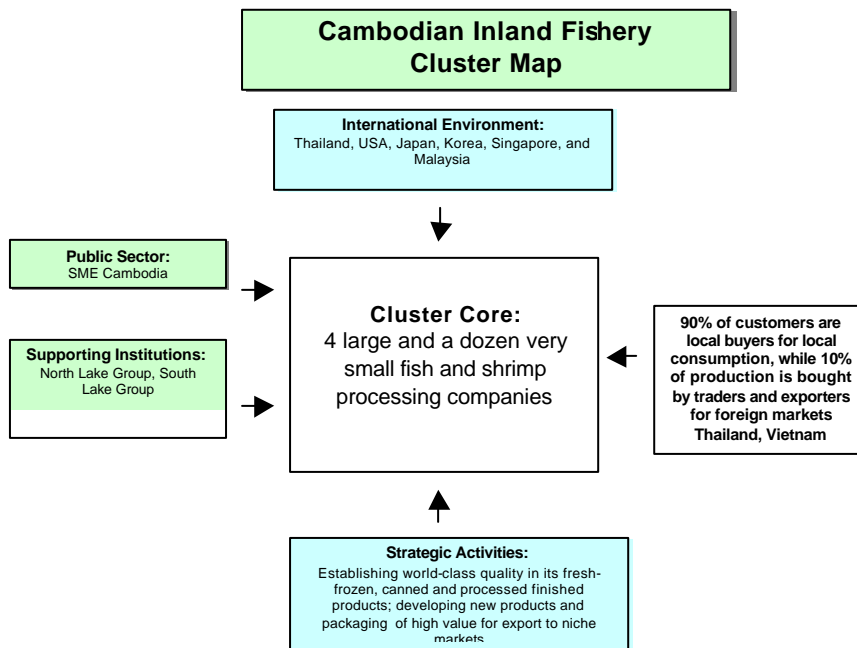
Delivered Results

None to Date.

Cambodia Fish Cluster

The annual total value of the fisheries has been estimated to be as much as \$500 million, though the industry routinely understates catch quantities and value for fear of coming under increased scrutiny by the government and paying greater official and unofficial fees based on higher tonnage and value. The value of catches (500,000 tons) at landing sites has been placed at between \$100 and \$200 million, increasing to between \$250 and \$500 million as the products move through the Cambodian value chain. Exports, however, account for only 10% of the total catch (50,000 tons), of which Thailand receives roughly half (25,000 tons).

The cluster was formed around the desire to provide sustainability to the Cambodian fishing industry, so vital for the nation's economy and survival of the Cambodian people. Furthermore, the cluster desired to strengthen and increase the competitiveness of the Cambodian fishing industry, which presently depends on abundant natural resources and cheap labor.



TCI worked with SME Cambodia to focus on those activities of the value chain –post-harvest, or post-landing, activities associated with trading, processing and exporting of freshwater fish within the Cambodia inland fisheries industry– that may provide more added value and sustainable competitive advantages. With the goal of stabilizing the unique primary resource of this industry –fish–, this Initiative also included aquaculture issues and actors.

Process Indicators

The initiative was born when industry representatives approached SME Cambodia



about the formation of working groups (with the goal of forming a registered association) to analyze industry issues and collaboration of sector participants to empower and strengthen post-harvest business activities. While no one leader has yet emerged among the multiple sub-sectors who have enjoined to form working groups, a high spirit of cooperation and positive attitudes are noted. As well, the members appear committed and eager to establish liaisons and enhance relationships across the industry. However, to ensure that the participants fully understand their roles—and in line with their expressions of interest and commitment—SME Cambodia is preparing Association membership roles, guidelines and statutes, registration activities, appointment of officers, and agreement of duties, responsibilities and activities plans.

The Fish Cluster (FC) consists of industry participants from the six provinces that surround the Tonle Sap Lake and the bulk of the Tonle Sap River and primary fish landing sites. The provinces are split into two working groups of three provinces each. The FC includes the North Lake Working Group members of Siem Reap (north of the western extent of the Lake), Banteay Meanchey (on the Thai border; home to many traders and exporters), Kampong Thom (along the southeastern extremes of the Lake) and the South Lake Working Group members of Battambang (along the northwest tip of the Lake), Pursat (on the central-western side of the Lake) and Kampong Chhnang (along the south end of the Lake).

The two working groups include 54 businesspeople and 92 separate various-sized businesses, such as processors, traders, exporters, meal producers and fish farmers. The main businesses of the cluster include exporters, traders and middlemen and processors.

Export traders typically operate in Poipet, though smaller export traders conduct business at or near other cross-border locations with Vietnam and Thailand; the two working groups have nine and 12 exporters in the North and South Lake work groups, respectively.

Traders and middlemen collect and transport fish to domestic and cross-border markets; in the North Lake Working Group there are nine traders and in the South Lake Working Group there are 16.

Processors produce low-value, locally purchased fish sauces, pastes and dried fish; there are 17 processors in the North Lake Working Group and 26 in the South Lake Working Group, including one fish meal processor.

The cluster also includes three farmers.

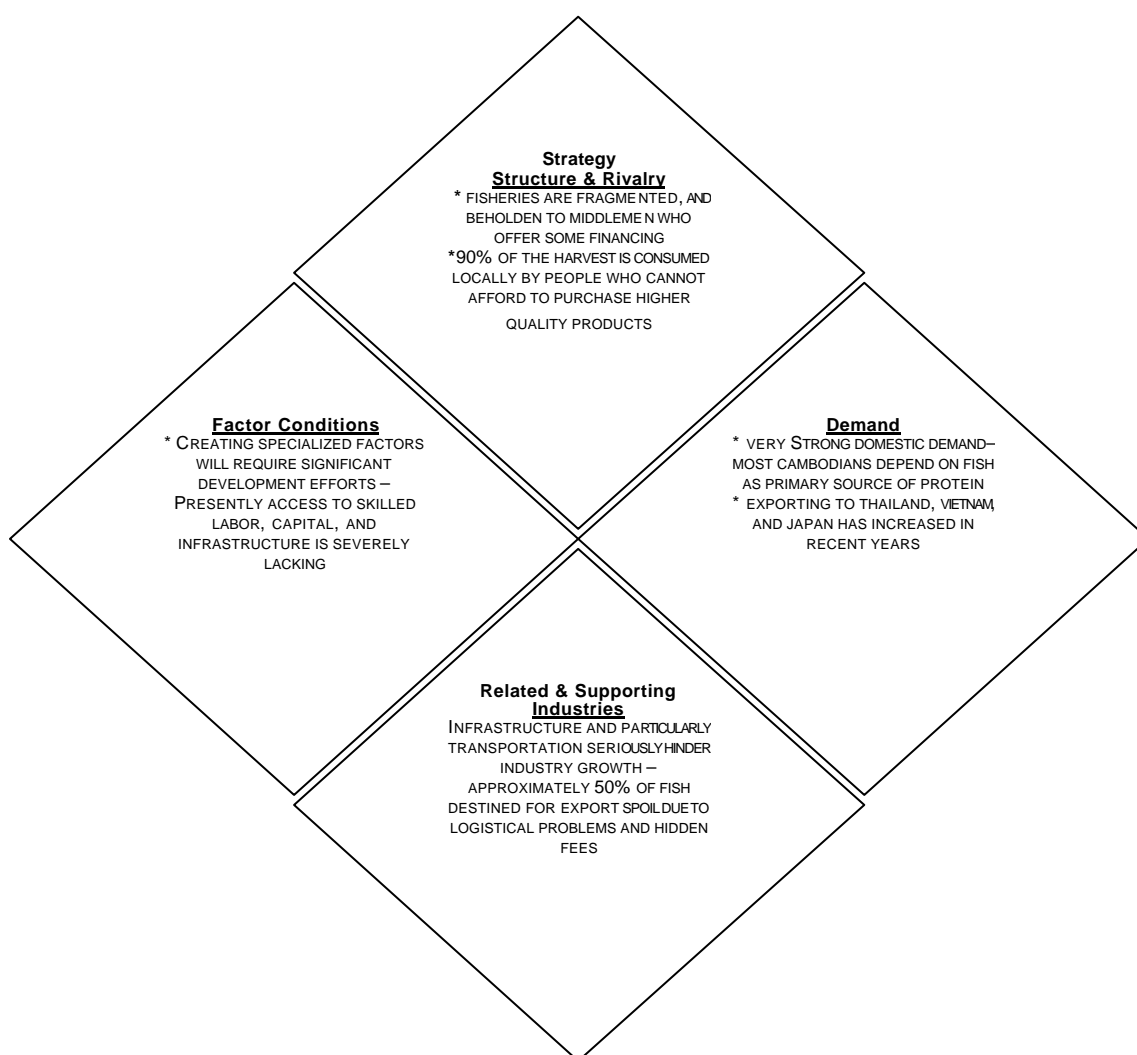
The work schedule of a total of six meetings included reviewing the groups' desire for industry assistance, identifying, discussing and refining issues, creating mission and guiding statements, documenting strategic initiatives and actions, and agreeing to a rough-order prioritization of actions. SME Cambodia staff, who specialize in association-formation, indicate that the group should be ready to form and register in October.

The following diagnoses & analyses were conducted:

‘Follow the Fish’ –benchmark. – The FC and SME Cambodia identified Thai traders, processors, retailers and end consumers in specific provincial markets in Thailand to understand the nature of trade at the wholesale/retail interface. A trip report was prepared highlighting observations and findings, and is available. The report illustrates the opportunities and constraints that the Cambodian cluster faces.

With the facilitation and direction of TCI, the cluster applied several analysis tools including Value Chain Analysis, Limited Gap Analysis, and Porter’s Diamond.

Analysis of the Cambodian Inland Fisheries Industry Using Porter’s Diamond



The following list summarizes the 8 strategic initiatives for the Cambodia Inland Fisheries Cluster that have been prioritized and developed in detail:

1. Associations: Promote advantages of association formation and activities including capacity building and industry development



2. Access to Credit and Financial Services: Evaluate and develop affordable financial services
3. Partner and Networking Opportunities: Identify potential partners and linkages for components of the competitiveness initiative, industry objectives and actions
4. Markets and Marketing: Increase market and ‘industry potential’ awareness and marketing capacity
5. Product Development: Evaluate opportunities and resource availability associated with developing and improving existing and new products, as well as different species
6. Business Analysis, Investment and Expansion: Conduct business analysis, as appropriate, to improve efficiency of enterprise operations, expansion and investment planning
7. Quality Assurance: Develop a comprehensive industry-wide quality assurance program which includes processing, handling and storage
8. Merging Commercial Activities and Sites: Evaluate economization that could result from combining processing activities and sites

Action indicators

The North Lake Working Group and the South Lake Working Group have adopted certain guiding statements:

1. Mission Statement
2. Issues Statement
3. Guiding Actions Statement, with 4 specific actions:
 - a. Formation of the North Lake Group Association and South Lake Group Association for the advancement of Tonle Sap Lake products and industry capacity building.
 - b. Gaining access to credit and capital resources.
 - c. Achieving better financial returns on business and products through market awareness, enhanced processing, value, quality and information management.
 - d. Analyzing and improving market and market linkages through ‘market group’ and improve business, management and technical awareness

TCI consultants first met with existing Thai importers, traders and retailers to understand the end products, the needs of consumers and manufacturers and to conduct initial brainstorming sessions to identify opportunities for Cambodians to increase value to their Thai counterparts. The result was a proposal to gather the various sub-sectors that SME Cambodia works with including the seven members representing Prahoc, exporters, smokers, etc. and bring them into Thailand. SME Cambodia and TCI coordinated the field visits. Participants reported that they enjoyed improved knowledge of the value chain and specifically the needs of end markets.

Government relations

Tonle Sap Lake resource management is one of the most important issues that can

affect sector activity, and a platform should be developed which promotes discussion of the value of resource management with the Royal Government of Cambodia (RGC), and other sector and interest groups. The cluster can provide a natural forum for such discussions.

Furthermore, cluster participants indicated their desire to ally themselves with certain arms of the national government in order to promote regional and cross-nation discussions about the effect of up- and down-stream activities on the productivity of the entire river and river-dependant ecosystems. The sector will begin first-round discussions of developing a cluster/RGC partnership to promote private sector relations in October (in conjunction with another SME Cambodia-led initiative which is coordinating the development and promotion of private sector within northwest Cambodia—the NW Cambodia Enterprise Development Initiative, or EDI). It appears that forum will also address other-country activities that impact the freshwater fish industry. The sector/RGC relations are deemed critical if industry backslide, in terms of value, livelihoods and resource availability, is to be prevented.

Investment and Delivered Results Indicators

This cluster initiative is still at an early stage, and other than the some in-kind contributions and cluster member time, has still not registered counterpart co-investments. To this end, SMECa and the fish sector will begin involvement in a 24-month QC training program, proposed to begin in October. The program is a European Commission Asia-Invest TA program and will be managed by InWEnt, FAKT and SME Cambodia.

The following qualitative outcomes indicate successful results:

- a) Regular meetings and discussions are taking place among cluster stakeholders;
- b) Cluster stakeholders have achieved a better understanding of the Thai market;
- c) Association formation is well on its way;
- d) Sub-sectors have been identified to focus improvements
- e) Members desire to engage in a quality control program.

Further, if the strategies outlined earlier in this report are implemented, the following results can be expected:

Value creation and increased performance in the industry will be realized. Specifically, the results will be better sales prices and profits from improved, new or value-added product offerings, higher quality and assured standards, better networked and informed industry participants, better delivery and other services. SME Cambodia hopes to promote the use of information centers that it has established around Cambodia, particularly in communities around the northwest. When the target

sector is trained to use the centers to access price and industry information, it is estimated that up to 30 sector members, managing up to 60 businesses will be linked to information of the modern market environment (the remaining members will have less access to centers, but the development of information centers around Cambodia continues to be a priority for many organizations). If previous actions can be used, then as much as 66% of various sector members who venture into broad foreign markets might return with new contacts and information on new or better products, expected quality, and strategic delivery systems. When even more focused linkage trips are made (e.g., fresh fish sector members visiting factories, prahoc businesses visiting prahoc factories, farmers visiting established farmers and R&D stations), it is expected that nearly all of those who venture will return with new partners in market areas. The likelihood of some business capacities increasing by 100% or more is possible with just one of the right contacts.

The cluster will become aware of and understand its financial position, forward integrate operations, develop supporting services, improve logistics and offer higher value and processed products to a variety of markets. For example, if the industry can promote use of freezer plants to speculate on the seasonal markets of Thailand, it could see a gain: Market revenues for the cluster might increase from \$2500-5000 per ton to \$2625-5250 per ton or \$312,500-625,000 for the 10% of the sector using freezer capacity. Similar benefits can be realized if products are brought to market quicker using controlled-environment transportation such as refrigeration trucks: If ¼ of the Thailand export sector can begin to use 'refer' trucks, it may be possible to see 5% gains on revenue, or \$781,250-1.56 million for the industry employing refrigeration transportation technology. Aquaculture may decrease dependence on traditional fisheries and, hence the middlemen traders whose role in the industry is often questioned but firmly entrenched. If middlemen can be eliminated from pond farming, costs between 10% and 66% can be removed and the cluster can effectively move up the value chain.

Although presently Cambodian fish products are not allowed into the EU due to non-adherence to safety regulations and industry-wide acceptance of quality control practices, could result in 10% or 5,000 tons being sold in EU markets. This would generate an additional \$12 to 25 million in sales (based on current export values).

Effective public-private dialogue should result in minimizing or perhaps eliminating the high formal and mostly informal taxes currently being levied on transporters. It is expected that such collaborative efforts can result in increases by as much as 20-35% of current export value.

Administrative Support for JE Austin

Success indicators:

- a. **“JE Austin consultants are provided with the facilities and assistance they need to be effective” and “there is no significant disruption of services to JE Austin throughout the period”**

JEA Chief of Party and one senior competitiveness consultant were both provided with office space and given IT and administrative support throughout the duration of the partnership. This included telephones, LAN access, printing services, LCD projectors, and the like. The COP was supplied with a suitably furnished separate office. He was also assigned one administrative support person, who handled secretarial duties. KIASia expeditiously handled all related accounting and administrative services and facilitated the visas for the JEA Chief of Party and the senior competitiveness consultant. One JEA competitiveness consultant was based at KIASia offices in Chiang Mai for the duration of the project and was provided suitable office space, including the use of several conference rooms.

Furthermore, all consultants who visited Thailand under JEA contracts were given the same level of professional support. On many occasions this support included translation or interpretation between Thai and English on site throughout the country.

Thailand Competitiveness Initiative

Executive Summary

Introduction

The purpose of this report is to present the results of an internal assessment of project results of the Thailand Competitiveness Initiative 2002-2005. The project was implemented by the Kenan Institute of Asia (KIASIA), working in partnership with J.E. Austin Associates (JEA). As part of its Accelerating Economic Recovery in Asia (AERA) Program USAID decided to support a competitiveness initiative because it promised to provide value to a large number of SMEs and other companies while putting Thailand (and other regional countries) on the way to a sustainable recovery based on the ability to compete effectively in world markets. The project was established and executed in accordance with KIASIA's "Proposal to Support a Competitiveness Program – Building a Cluster-based Competitiveness Process in Thailand and the Region" (August 29, 2002) which was incorporated into the cooperative agreement between KIASIA and USAID.

The Thailand Competitiveness Initiative (TCI)

TCI was designed to develop the competitiveness of selected industry clusters in Thailand. Clusters were selected using an approach which included a variety of industries located throughout Thailand. Clusters were selected because they were significant contributors to the national economy, valued either as percentage of GDP, or in more qualitative terms. TCI endeavored to engage clusters that exhibited a coalescence among members or at least willingness to engage and explore competitiveness issues. Clusters varied in size, sophistication and location. In all cases, clusters were in industries that were highlighted by the Thai government as valuable to the development of the national economy and its ability to compete in a marketplace characterized by increasing globalization.

Enhancing Cluster Competitiveness

Success indicators outlined in the project proposal stated that two clusters were expected to "meet regularly to deal with cluster competitiveness issues" and "companies and organizations within those clusters (were expected to) show clear evidence of a willingness to collaborate". TCI achieved these results in seven clusters. Additionally, clusters were expected to "demonstrate the emergence of collective governance of the cluster and have contributed their own funds for either cluster facilitators or joint activities." TCI achieved these results in five clusters. TCI undertook an additional five engagements or 'special activities' which also showed positive results, but these amounted to less than full engagement, for various reasons.

"Heavy Engagement" describes the highest level of activity and included a full time cluster facilitator, development of a strategic plan with action items, and typically enjoyed consultation from one of the many experts mobilized by TCI for the clusters.

1. Western Provinces High-Value Agricultural Produce Sector (HVAP)
2. Chiang Mai Tourism Cluster

3. Digital Content Cluster
4. Chantaburi Gem Cluster
5. Cambodia Fish Cluster

“Light Engagement” meant engagement was undertaken for a shorter period of time and with fewer expected results. In some cases the cluster was in a pre-formative stage of development or was not ready to benefit from additional engagement.

1. Southern Marine Foods Cluster
2. Northeast Silk Cluster

“Special Activities” were those that could not be further engaged for various reasons.

1. Udon Thani Handicrafts OTOP
2. Phuket Tourism Initiative
3. Vietnam GAP
4. Oil Palm

Details of Project Results

The KIAAsia project proposal outlined four key aspects to be undertaken by TCI:

- **Enhancing KIAAsia Capacity to Facilitate Cluster Competitiveness**
- **Public Outreach and Coordination**
- **Competitiveness Cluster Facilitation Activities**
- **Administrative Support for JE Austin**

Competitiveness cluster facilitation activities were the main activities of the project and these results can be evaluated using the following evaluation methodology:

Process Indicators – evidence of the cluster conducting appropriate processes

Action Indicators – evidence of actions undertaken by the cluster

Intermediate Indicators – evidence of investments mobilized by the cluster

Delivered Results – evidence of quantitative and qualitative results

Process activities typically included organizing regular meetings where cluster participants explored the principles of competitiveness, applied certain diagnostics including SWOT analysis, Porter’s competitiveness diamond, and GAP analysis, value chain analysis, benchmarking analysis, market research, etc., and composed a strategy to improve competitiveness. The strategy contained certain action items, which typically addressed improving the factors of production (skilled labor, capital, and infrastructure), and which usually included policy action items directly addressing the role of government in the industry. At subsequent stages in the engagement, investments were made by cluster participants. Some were sizeable in comparison to USAID’s investments. Finally, although delivered results typically require longer than three years developing, efforts were made where possible to quantify these results that impacted the economies of the cluster areas.

1. Western Provinces High-Value Agricultural Produce Sector (HVAP)

Process Indicators – the cluster with exporters, growers, a university, government agencies was formed and a clear strategy was agreed upon

Action Indicators – designed a GAP training program for farmers; developed a Thai language GAP manual; established a GAP logo as a quality guarantee; trained farmers from 2,000 farms, and enlisted the trainees in a program to bring 10,000 more farms into the program; set up a “vegetable intelligence center” at Kasetsart University; established a database and website for the cluster, completed a domestic market study for “safe and healthy” vegetables.

Investment Indicators – cluster participants paid for meetings, booths, fairs and printed materials, the government paid for costs of the vegetable intelligence center and product-tracking database. In total the cluster invested at least Baht 12.35 million (\$308,750 USD) towards the implementation of its strategic initiatives.

Delivered Results – The delivered results have ended the rejection of the cluster’s exports for toxic residues and the government has agreed to shelve its plans for full inspection. Quality improvements are estimated to raise farm income by about 27,000 baht (about \$685 USD) per year per farmer.

2. Chiang Mai Tourism Cluster

P – The cluster formed around a tourism business association (membership of 85), two universities, the local arm of the national tourism agency, local city government, undertook market diagnostics and developed a strategy.

A – C-MICE (a destination management organization) was born from cluster meetings, an annual tourism business plan competition was established, specialized tourism textbooks were introduced into the curriculum of several universities, a tourist destination website plan was drafted, and parts of the cluster strategic plan have been adopted by government.

I – cluster participants contributed B230, 000 (\$5,750 USD) towards seminar and workshops on targeting MICE tourism (meetings, incentives, conventions, and exhibitions), C-MICE (a private company) invested B240, 000 (\$6,000 USD) during the first 6 months of operation, the cluster covered B200,000 (\$5,000 USD) of the costs of a benchmarking study, Track of Tiger Tour group (a private business) has invested B 2.7 million (\$67,500 USD) in a Chiang Mai shopping guide and street directory; The Tourism and Sports Ministry (Chiang Mai) earmarked B3 million (\$75,000 USD) for English language training in the tourism sector, based on recommendations from the cluster. In total, the cluster has invested B 3.37 million (\$84,250 USD) towards the implementation of its strategic initiatives, not including the money earmarked by the government.

D – The results of the project include a local street guide and shopping directory which is expected to generate \$452,000 in profits to local businesses, based on \$1.36 million USD in gross revenue, and improved collaboration within the industry and between local universities and local tourism businesses.

3. Digital Content Cluster

P – the cluster was formed with 50 key companies in animation, website development, game programming, post production services, the Software Industry

Promotion Agency (SIPA) of the government and four universities; the cluster conducted a global benchmarking study, diamond analysis, SWOT analysis, a study of market trends and developed strategic initiatives.

A – the cluster completed a cluster database; improved work-force workforce skills development; built brand awareness through an annual conference and exhibition (Thailand Animation & Multimedia); developed global marketing linkages; established a Bangkok chapter of a global industry association; sent speakers to conferences in the USA; conducted workshops and seminars; undertook a market study of the US animation market; completed and distributed a benchmarking report which recommended a fast track visa for ICT workers; cooperated with universities to upgrade professors and curriculum in the fast-changing personnel needs of digital content firms; held recruitment drives to attract bright students to the industry.

I – initiatives driven by TCI, including TAM, benchmarking, Anima Exchange, industry association setup, and training of professors have generated B19.9 million (\$497,500 USD) in investments to date. Of the total, TCI invested B1.2 million (\$29,700 USD), the government provided funds for B8.59 million (\$214,800 USD), the private sector B9.54 million (\$238,500 USD), and other donors provided B500,000 (\$12,500 USD).

D – a 20% increase in the number of Thais interested in joining the Digital Content Industry; an increase in the number of universities offering specific Digital Content programs from zero to 12; development of SIPA programs for digital content; implementation of the fast-track visa application which reduced the average time for the industry to get work visas from two months to three hours; completion of Anima Exchange to allow students and free-lance animators to work on animation projects.

4. Chantaburi Gem Cluster

P – The cluster formed around gem processors, local training institutions, and retail jewelry companies ; the cluster analyzed local and global industry trends, applied diagnostics and developed a clear strategy to improve competitiveness.

A –cluster participants opened 6, 24, and 32 booths respectively at BIG (Bangkok International Gem and Jewelry semi-annual Fair in 2004 and 2005); Several attended fairs on behalf of the cluster in Shanghai and Hong Kong in 2004; Cluster participants opened the Chantaburi Gem Center, an exhibition center designed to promote design functions, and locally produced product; a quality standards system was designed, and the cluster is planning the first Chantaburi Gem Fair; Several firms are moving up the value chain by designing their own jewelry.

I – The cluster invested B120,000 (\$3,000 USD) for its meetings; members invested B3 million (\$75,000 USD) to build the Chantaburi Gem Center, which has annual expenditures of B1 million (\$25,000 USD); The cluster invested B7.2 million (\$180,000 USD) booths in the 09/03 Fair, B28.8 million (\$720,000 USD) for the 02/04 Fair, and B38.4 million (\$960,000 USD) for the 02/04 fair. Cluster investments to date amounted to B 78.02 million (1,950,000 USD).

D – The cluster has established a presence at the Bangkok Gems and Jewelry Fair, which contributes 40% of all gem and jewelry export sales and this is directly due to Cluster’s increased bargaining power through collective action; the cluster reports enjoying increased contact with foreign customers, better understanding of popular designs and industry trends, and ultimately better relationships and improved trust among high end customer segments.

5. Cambodia Fish Cluster

P – The cluster was formed among fishermen, fish farmers, processors, traders, and exporters, and SME Cambodia. Information was collected and diagnostics were applied (including value chain analysis, gap analysis, and benchmarking study).

A – A practical “Follow the Fish” field trip to investigate each step in the value chain from Tonle Lake to the border and beyond to markets in Thailand; the cluster established a dialogue with the Royal Cambodian Government regarding the productivity of the river and river-dependant ecosystems;

I – Investments from cluster members has been limited to meeting venues, refreshments, and time allocation; Cluster formation has drawn the attention of other donors, however including EU, and SME Cambodia who have pledged to continue supporting the cluster (financially and otherwise) as action items are taken.

D – Cluster members have shown a change in mindset and view themselves as part of an industry cluster rather than simply competitors in a zero-sum game. They report a significantly improved understanding of the fish value chain, and the characteristics key export markets. Effective public-private dialogue is expected to minimize or eliminate the substantial informal (and formal) taxes being levied along transportation routes and at the Thai border, and would result in a significant increase in profitability, since informal taxes add little or no value.

The remaining projects were not considered full cluster initiatives, but they did enjoy engagement and support to undertake conferences, execute diagnostics, and in some cases develop strategy to support the cluster initiative.

6. Southern Marine Foods Cluster

This cluster initiative was formed around 14 fish and shrimp processors, and expanded to include the government, and a university. Extensive diagnostics were undertaken including a study of shrimp products in California. The engagement has resulted in improvements in public-private dialogue and a better understanding of foreign markets.

7. Northeastern Silk Cluster

Growers, weavers, and exporters were engaged by TCI and together the cluster explored the competitiveness of the Thai silk industry, trends and design preferences of certain export markets. An expert consultant in textile production was mobilized to support strategy development. Productivity improvements identified included branding strategy, loom technology improvements, and improved product design.

8. Udon Thani OTOP

TCI worked with the numerous small handicraft production houses located in northeastern province of Udon Thani. Industry diagnostics were applied and strategic planning was undertaken but the majority of work centered around basic management training - on improving production standardization, maintaining uniform output, understanding costs and cash flows, etc.

9. Phuket Tourism

The tourism sector of Phuket was coalescing around the largest local business association, together with local government. TCI engaged and attempted to raise awareness about competitiveness in a series of well-attended meetings. The majority of work included raising the awareness of the importance of skilled labor and infrastructure in improving competitiveness.

10. Vietnam GAP

This cluster of agriculture businesses explored the adoption of the successful Good Agricultural Practices already underway in the successful HVAP cluster, located in neighboring Thailand.

In the process of providing In March of 2005 TCI was approached by the NESDB, a key participant in the network of competitiveness professionals in Thailand that have developed since TCI began work in this area in 2002. As the primary government body dedicated to improving competitiveness, NESDB selected TCI to head a national cluster-mapping initiative. Earning such an award demonstrates the success of the TCI Project as developed and executed by KIAAsia.