This paper describes the preliminary results of efforts to build competitiveness in the inland fishery industry of Cambodia through cooperation with the fishery industry of Thailand. The basic presumption was that intra-industry cooperation across countries — between a more developed country and a less developed one — would benefit both industries and countries and yield joint gains. The willingness of stakeholders within the Cambodian industry to change was augmented by the presence of facilitators who acted as change agents. The efforts and study covered the period from early 2003 up to mid-2004. Since building competitiveness is a long-term effort, no firm conclusions can be derived about the effects on the Cambodian industry; however, the title of this paper indicates the tentative conclusion is positive.

I. INTRODUCTION

This paper describes some of the work accomplished during a two-year project, from 2002-2004, aimed at enhancing competitiveness in three Mekong countries — Thailand, Cambodia, and Viet Nam. The South East Asian Competitive Initiative Project was funded by the United States Agency for International Development (USAID), and the author was the Regional Competitiveness Advisor for the three countries. The primary objective of the project was to improve the competitiveness of specific industries in the three countries by developing clusters within those industries.

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In the course of the project it became obvious that fishery production, products and markets in Cambodia and Thailand were linked through trade. Investigation of cross-border linkages in these two industries thus became a secondary component of the competitiveness project. This paper is based on interviews and papers that were produced in the course of the project.

Thailand and Cambodia are countries at different levels of development. Thailand is the more developed of the two countries. Thailand’s economy is export-oriented and flexible enough to have weathered the recent SARS and Avian crises, the shrimp export anti-dumping case, as well as the 1997 Asian financial crisis. In regards to aid, Thailand now is regarded as much a donor country as a recipient country, and its government has been relatively active in promoting external investment in the region. It is worthwhile to note that Thailand ranked 34 in national competitiveness out of a sample of 104 countries, according to World Economic Forum’s Global Competitiveness Report 2004. Cambodia is not listed in either that report or in the Institute for Management Development’s World Competitiveness Yearbook 2004, probably because of a lack of statistics, although Cambodia is clearly less competitive than Thailand.

Cambodia has a much smaller population and started, not many years ago, from a very low economic base after years of terrible civil strife. While economic growth since the late 1990s has been steady, GDP per capita in 2001 was less than $250. Statistics are still not widely available, but Cambodia has a bimodal economy, with a few large, dominant and well-connected corporations and very many small firms. There seem to be virtually no medium-sized firms, and apparently no significant middle class as yet. Cambodia’s economy is dominated by the agriculture sector and is among the least diversified. It is dependent on only tourism, textiles and garments, footwear, and wood products for foreign exchange. At the same time, small-scale entrepreneurship is thriving around the capital city of Phnom Penh; the same is true beyond the capital, for instance in and around Battambang, the next largest city and business center.\(^1\)

This paper focuses on the process of building competitiveness and on the role of cooperation across borders, rather than on competitiveness per se. Competitiveness is a concept and a process applied by both the private sector and development practitioners. There are several “traditional” indicators of competitiveness in the private sector that

emphasize market leadership, such as rising revenues and increasing market share. Other indicators emphasize sustained productivity coupled with innovation, either of the incremental or of the “breakthrough” type.

Competitiveness in the developing environment has different nuances. As James Austin of the Harvard Business School notes: “The Third World’s distinctive competitive environment arises from its different process and level of development.” There is less concern over dominance and more focus on creating opportunities for improving productivity in a sustained fashion as a means of increasing both industry output and worker incomes. One important approach to building competitiveness in the developing economy is through the use of clusters to achieve productivity gains.

As defined by Michael Porter of the Harvard Business School: “Clusters are geographic concentrations of inter-connected companies and institutions in a particular field.” The cluster as a competitive tool appears in the literature of several multilateral organizations, such as the Asian Development Bank (ADB), the World Bank, and the United Nations Industrial Development Organization (UNIDO). In an address to the World Bank, Porter stated: “Competitiveness is a lot about attitudes; it is a matter of getting people to think the right way about the problem.” To enhance attitude change, for example, UNIDO has designed a training program for Cluster Development Administrators.

II. BUILDING COMPETIVENESS IN THE CAMBODIAN FRESHWATER FISHERY INDUSTRY AROUND TONLE SAP LAKE

The USAID-funded project on competitiveness went through two stages in the course of an 18-month period. A primary object of Stage 1 was to bring together participants of the fishery industry of Tonle Sap lake (also known as the Great Lake). The local NGO SME Cambodia acted as facilitators with the task of “coalescing” the industry — no mean feat given the recent history of low-level conflict and the need to rebuild trust

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in the different communities. The second stage involved exploring linkages with Thailand, given its role as the primary export market for lake fish. Stage 1 was therefore a process of “looking in,” while Stage 2 was a process of “looking out.” In both stages, the prime mover was the local NGO, Small and Medium Enterprise (SME) Cambodia, assisted by the Thai NGO Kenan Institute Asia and consultants James E. Austin Associates, Inc. The project undertook several studies of the Cambodia fishery industry cluster based at Tonle Sap lake. The following description is derived from one such report.

A. Stage 1

The accuracy of statistics on Cambodia is uneven, but it is estimated that the country produces over 500,000 tons of fish annually, at an estimated value of about $500 million. The contribution of this production to GDP is estimated to range between 8% to 15%, with over half coming from Tonle Sap Lake. Annual fishery production in the Lake is estimated at anywhere between 180,000 to 500,000 tons. Over a million people in the Lake area, out of the total population of 1.2 to 1.4 million, depend on fishing for their livelihood; the total population of Cambodia is 13 million. Most of the country’s animal protein supplies come from fish from the Lake and its estuaries. Fish is especially important for rural households, which comprise almost 90% of the country’s poor. Total exports are estimated at about 50,000 tons, and are thought to account for about 10% of the total Lake production. Thailand receives roughly half of overall exports (25,000 tons).

SME Cambodia initiated the process of building competitiveness with the objective of securing sustainability for both the Cambodian fishing industry and the crucial basic resource: the Lake fish. The project focused on post-harvest activities, i.e. those associated with processing, trading, and exporting freshwater fish in Cambodia.

Project participants came from the fishery industry in six provinces that surround the Tonle Sap Lake and its estuaries and primary fish landing sites: Siem Reap, Banteay Meanchey, Kampong Thom, Battambang, Pursat, and Kampong Chnang. Among the participants were 54 business people representing businesses of various size — processors, traders, exporters, meal producers, and fish farmers.

The process of engagement began with persuading a small group of traders, exporters, and ice plant operators to meet to discuss ways of increasing the income of their operations. A large number of support
industries are dependent on Tonle Sap fishing activities: salt and container suppliers, ice plants, transporters, and various middlemen. Trust evolved over several meetings, and the core group was encouraged to help increase group membership. This process was carried out in different locales in the project area.

The next step was bringing members of the different groups together to discuss common problems and opportunities. At this phase, some groups progressed faster than others, depending upon the willingness of a few members to help coalesce the membership around common goals. By the end of the project, one group was preparing to formally create an industry association, an entity with practical, financial, and symbolic value to its members. Formation of an association implied a degree of cohesiveness and strength among its members. Each association had leaders who would represent the group, and dues could be collected from association members.

Eight strategic initiatives emanated from Stage 1:

(i) **Associations.** To promote the advantages of association formation and activities, including capacity building and industry development.

(ii) **Access to Credit and Financial Services.** To evaluate and develop affordable financial services.

(iii) **Partner and Networking Opportunities.** To identify potential partners and linkages for components of the competitiveness initiative, and for industry objectives and actions.

(iv) **Markets and Marketing.** To increase the market, marketing capacity, and awareness of industry potential.

(v) **Product Development.** To evaluate opportunities and resource availability associated with developing and improving existing and new products, as well as different species.

(vi) **Business Analysis, Investment, and Expansion.** To conduct business analysis, as appropriate, to improve efficiency of enterprise operations, expansion, and investment planning.

(vii) **Quality Assurance.** To develop a comprehensive industry-wide quality assurance program that covers processing, handling, and storage.

(viii) **Merging Commercial Activities and Sites.** To increase the viability of the fishery sector businesses by combining processing activities and sites.
B. Stage 2

Most fish from Tonle Sap Lake is consumed domestically. The portion that is not consumed locally usually moves southeast to Phnom Penh, or northwest to the provinces in that area and the Thai border. It is estimated that only about 50,000 tons, or 10%, of Lake production is exported. Since the majority of SME Cambodia’s staff and operations were in Battambang, the fisher folk under study tended to be from that city and its environs. These fisher folk primarily exported their fish to Thailand, transporting it overland across the border through Poipet and Aranyaprathet, from where it was marketed in the northeastern provinces of Thailand.

The logical next step in the study was thus to “follow the fish” into Thailand to determine whether better market linkages could improve competitiveness and incomes in the Tonle Sap fishery industry. SME Cambodia and the Cambodia Development Resource Institute (CDRI) carried out this portion of the study, in the course of which participants from the Tonle Sap fishery industry undertook study trips in Thailand and met with fish traders and retailers, cold storage operators, and staff of specialized university research institutes.

1. Tonle Sap Fish Crossing the Border with Thailand

From Cambodia, the trucks are unloaded in Poipet, usually the day before going into Thailand. The fish are transferred to large 20-ton wooden carts with ice pulled by as many as 10 men, or taken by truck across the border into Aranyaprathet town and the Long Khue Market — the largest border fish market, where it is off-loaded by as many as a dozen people. Cambodian fish that arrives at the market in the morning would have crossed the border by noon the previous day. According to the owner/operator of the largest wholesale stall at the market, each 20-ton cart used to bring fish across the border was charged about $150 (Baht 6,000) in customs fees. During the period of the study, the operator received an average of 5 tons/day. Prior to the current season, a minimum of about 20 tons/day was received. During the January to May period, however, 100 tons/day were received, with a maximum of 500 tons/day in January and February. July—August were dead months. The operator believed that more fish were being sent to Viet Nam and that the customs taxes were lower there.
The market operator believed that Tonle Sap fish resources had already changed permanently and was distressed by this. However, the number of similar stalls in the market remained the same at, by her estimate, 22 vendors. The same operator wished that Cambodian fish were kept cleaner and that chemicals were not employed in Cambodia. She noted, however, that spoilage was not an issue for her and that the fish compared favorably with Thai fish. The smaller fish were packaged in clear 20-liter bags, each estimated to contain up to 7 kilograms of fish. The bags were all tossed off the cart onto like-fish piles. The bags were then emptied onto other like-fish piles, re-bagged and reweighed. This was the official tally of kilograms received. The larger fish — catfish, carp and featherbacks — were roughly handled, not bagged, but otherwise treated similar to bagged fish.

All fish were then thrown into large double-walled totes, where they are layered and iced. Typically, “toting” of whole fish in high-quality operations requires icing between layers of fish. More often, however, only top-icing was employed before closing the tote lid.

The previously-mentioned operator owned six 6-wheel, 10-ton trucks to move fish to markets in Thailand, and one forklift used to load the trucks. Fish were delivered to markets in Ang Thon and Khon Kaen, among other towns. She operated on one-day credit and cash only basis.

Some stall operators received the fish for processing into paste — first splitting the fish, then using a spoon to separate the meat from the skin, and finally forming patties of meat. The patties were then bagged, iced, and put in containers for shipment. The method involved several people — up to a dozen or so, usually young women, moving product very quickly.

2. Thai Markets

Thai market vendors appeared to be quite familiar with Cambodian fish. One business owner, for example, preferred to buy *Trey Khchoeung*, a high-quality, visually appealing, small and mottled snake-like fish — also known as the “tire track eel” because of the skin pattern. However, the owner readily substituted Thai fish when Cambodian fish were not available. Further, fish from Viet Nam also found its way into Thailand.

The same owner typically sold 50–100 kilograms of Cambodian fish daily over the three-month period from December to February. Customers came from as far as Korat, 80 kilometers away. The peak season was...
November-December, while May was the slow season. Fish was delivered by truck straight from the distribution point at Aranyaprathet to the owner’s stall at or before 8 in the evening, where it was unloaded and put on ice for sale the next day. Other stalls in the market shared use of the delivery truck.

Some fish vendors dealt with live fish. A stall operator at Sakao Market reported that she received up to 200 kilograms of Cambodian fish daily through middlemen/suppliers/transporters from Aranyaprathet. The operator indicated she was satisfied with the supply process. The fish arrived by 4 in the morning in newer and larger trucks, eliminating the sometimes irregularly-spaced small-truck deliveries of the past. Up to 10 species of fish were sold altogether. Most of the fish were live snakehead (*Trey Ras*) delivered in live tanks — stackable wooden, tin-lined waterproof crates the size of medium-sized coolers. Another live fish was the eel-like catfish (*Trey Keh*), 22 to 30 centimeters in length. Some iced fish was received as well. There were six to eight similar stalls in the market, two of which were unattended during the morning of the study visit. Thirty to 140 kilograms was the weight range of live fish most often received daily, and those that were not sold were replaced in holding pens for first sale the next day. It was reported that no Cambodian fish was available from August to October. All but three months were reported as “fair to busy,” indicating a reliance on Thai fish when Cambodian fish was unavailable. The supply of Cambodian farmed fish was insignificant compared with that of Thai farmed fish. The Thai farmed fish sector typically operated out of dammed lakes.

**III. OBSERVATIONS AND OPPORTUNITIES FOR THE TONLE SAP FISHERY INDUSTRY**

**A. Study Findings**

Preliminary indications of surveys and anecdotal reports indicate that the principle areas of purchase and consumption of fish exported to Thailand from Tonle Sap Lake are in and around Bangkok, Khon Kaen, and Aranyaprathet. The cities and markets there also act as hubs for surrounding areas. Tonle Sap fish is apparently purchased by families, restaurants, small retailers, and manufacturers of fish paste for fish balls and condiments. Another area along National Highway 2/226, somewhat
parallel to the highway from Aranyaprathet to Bangkok, was indicated as a popular route for delivery and consumption of Tonle Sap fish as well.

One of the more interesting findings of CDRI involved the impact of the system of permits, licenses and fees, a system that was unregulated and subject to abuse. The CDRI survey that covered Chhnok Tru in Kompong Chhnang, Cambodia to Long Koeur Market in Aranyaprathet, Thailand, for example, noted 27 different payments to assorted institutions, 23 of them on the Cambodian side of the border.\(^5\)

According to the final report on the “follow the fish” aspects of the study, prior to the study trips Cambodians knew little about market conditions in Thailand and had almost no exposure to value-added industries beyond basic processing.\(^6\) The industry currently relies heavily on the fresh fish market and little value is added through processing. There is thus considerable potential to develop the industry through relatively low-cost processing.

For the Cambodian industry to increase its competitiveness, improved access to Thai export markets and market information is essential. Understanding is also needed of market destinations and linkages, as well as of product forms in demand for Cambodian fish exported to Thailand.

Findings suggested that Cambodian fish has virtually no chance of entering the popular, higher-priced retail chains (such as the Tesco-Lotus hyper-market and MK restaurants) without substantial improvements in grading fish by quality and size and a coordinated marketing campaign for Cambodian freshwater fish.

There also appeared to be a fair amount of competition between Cambodian fish and Thai fish — both farmed and wild. When the Cambodian season periodically declines (during the “summer months” when Tonle Sap is “officially” closed to allow fish to propagate), Thai fish filled the gap in supplies.

The study field trips created initial, if tenuous, linkages between operators in the Cambodian and Thai fishery industries that suggested a number of areas of opportunity for the Cambodian fishery industry.

- Thai retailers and wholesalers obviously prefer to add value themselves through processing and branding. However, since the


bulk of Thai fish is farmed, there is the opportunity to promote Cambodian “wild” fish as a superior product. For instance, “wild” salmon now commands a premium over “farmed” salmon, which is in excess supply.

• The seasonal scarcity of “wild” fish may allow a premium price. At the same time, fresh fish must be sold within one day, or perhaps within three days if on ice. However, rather than reduce the premium price, it may be possible to process excess wild fish into balls, smoked strips, etc. and sell it as a premium processed product since it derived from fresh fish rather than the usual waste or discards.

• Some interviewed felt that “…the Cambodian fish was of a better overall quality and meatier, being wild in nature.” Consumer preference for wild fish may be based on spurious perceptions of quality, taste, or health benefits. Nonetheless, to the extent that perception drives market decisions, opportunity exists if the industry can identify itself with this market segment.

• Actual difference in taste between farmed and wild fish may not be that significant given the practice of cooking fish in spices and other herbs and condiments. However, taste and visual appeal are important for the large fish sold in restaurants or for gatherings. Better quality control may open Cambodian fish to this market and to upper-level Thai retailers catering to the more discerning institutional customers, such as hotels and restaurants.

• The Sakao Provincial Department of Fisheries in Thailand noted that in the 2002-2003 period, 64% of Thai imports from Cambodia’s freshwater fish industry were fish on ice, 31% were processed (dried, smoked, etc), 4% were live fish, and 1% were in the “others” category. There appears to be an opportunity to eventually reverse the ratio between fish on ice and processed fish in order to capture more value on the Cambodian side of the border.

• Distribution costs are currently cheaper for processed fish than for fish on ice because of improper packing and handling of the latter. However, even at the “low-tech” end of processing, smoking fish requires consistency, quality and standardization. On the higher-end of processing, Cambodia lacks sufficiently costcompetitive canning factories for fish and other food products to ensure quality.
According to the report of SME Cambodia, supplies from Thai fish farms (and the smaller volume from its lakes and rivers) are probably insufficient to fill demand. The Sakao fisheries suggested that the price of Cambodian fish may be very competitive, in that Cambodian fishermen do not have to pay for feed costs. However, transportation costs must be reduced to a minimum. One idea generated by the study trips was the establishment of a fish buying station inside Cambodia, at perhaps Sisophon or Poipet.

Quality is an industry-wide concern. The reputation of Cambodian freshwater fish can be affected by the malpractice of a few, so that quality control must begin in Cambodia and continue up to delivery at Thai markets. Most markets noted that spoiled fish is rare and complaints were not received often.

The preceding observations on potential opportunities must be translated into action plans, with costs and benefits fully assessed. Some opportunities require not only financial resources, but a level of sophistication not possessed by most Cambodian fishery industry participants. It is thus suggested that improving competitiveness of the Tonle Sap fishery industry must start with the basics, such as additional education. High-level talks between the industry and major retailers in Thailand could also be very useful.

VI. CONCLUSIONS

The initial process of linking segments of the Cambodian and Thai fishery industries already demonstrated positive results. At a minimum, Cambodian study participants developed a deeper understanding of what happens to their fish in Thailand and what are customer perceptions. To the extent that “seeing is believing”, they now realize what quality means and how to extract stable and even better prices through better quality. Hearing about species and product substitution directly from Thai and other fish suppliers gave study participants a better understanding of the meaning of competition and how it takes place. They saw how providing higher value can result in higher prices for the same fish. They were also provided advice on basic procedures for smoking fish and packing fish on ice.
To some extent they also glimpsed the future, where an improved road network will reduce breakdowns and delays and allow refrigerated trucks to travel to and from borders. One participant who owns an ice plant was considering a strategic investment, although his funds were not yet sufficient. Others were contemplating “low-tech” processing plants through the purchase of second-hand equipment in Thailand.

By “following the fish,” study participants learned what the middleman does, and whether the industry is in a position to take over the different roles of the middleman. One standard prescription for improving incomes and increasing productivity for operators at the initial stages of the value chain is to “do away with the middleman.” The viability of this advice depends on the role the middleman performs. Study participants saw that middlemen provide services such as packing and distribution, securing smooth “passage” through the various checkpoints, and “brokering” the swift entry of fresh fish on both sides of the border.

The presence of facilitators such as SME Cambodia was essential to the study process; not so much because of the limited funds they provided for meetings and study trips, but because study participants regarded them as “neutral” agents in the study process. In this context, multilateral funding can play a similar role, because the presence of an external watchdog (e.g. over a loan) will improve governance and help prevent improper influence by an individual or group.

Finally, connecting the Cambodian and Thai industries proved easier than anticipated in part because of the cultural and historical ties between northwestern Cambodia and northeastern Thailand. Although the two languages are distinct, both sides showed facility with Thai and Khmer. Further, the northwestern area of Cambodia bordering Thailand is part of the “Baht Zone”, where the Thai currency is quite acceptable and Thai businessmen are a regular part of the commercial scene in such places as Battambang, Siem Reap, and other northwestern provinces. It was thus possible in even the short period of the project to address directly its components on competitiveness.
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