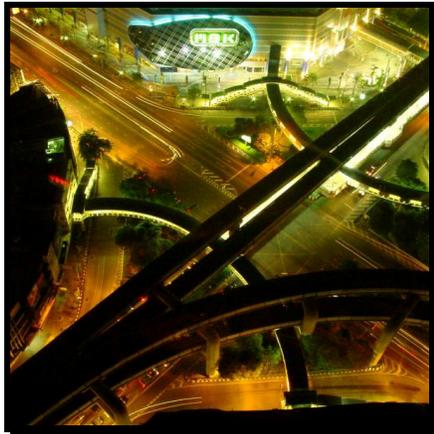


Supporting Sustainable Development in Thailand: A Geographic Clusters Approach



**NESDB - World Bank
Geographic Clusters Project
December 2006**



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December 2006

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ACKNOWLEDGEMENT

This report was prepared by Douglas Webster (Professor, School of Global Studies and Global Institute for Sustainability at Arizona State University) in extensive consultation with the Office of the National Economic and Social Development Board of Thailand (NESDB) and relevant agencies both at the central and provincial level. The study was funded, upon the request of the NESDB, by the World Bank under the Thailand Country Development Partnership for Infrastructure—a knowledge-based partnership between the Thai Government and the World Bank for analytical works and implementation support in key areas of the country’s infrastructure development agenda. The report aims to provide technical inputs to the Thai Government’s on-going effort in formulating strategies to strengthen sub-national development performance through the development of strong geographic clusters and supporting infrastructure.

A number of individuals from the Thai Government, the World Bank, and the private sector provided inputs and assistance to the study. They are: Utis Kaothien (Deputy Secretary-General, NESDB), Arkhom Termpittayapaisith (Deputy Secretary-General, NESDB), Ian Porter (Country Director for Thailand, World Bank), Zhi Liu (Infrastructure Sector Coordinator, World Bank), Chanin Manopiniwes (Infrastructure Analyst, World Bank), Pranee Nantasenammat (the Department of Public Works and Town & Country Planning, Ministry of Interior), Santichai Euachongprasit (Tourism Authority of Thailand), Pornsil Patchrintanakul (Thai Chambers of Commerce), Ruengsak Suethigawatin (Office of Designated Areas for Sustainable Tourism), Yong Rungreunghanja (Thai Chambers of Commerce), Wirote Jirattigalachote (Thai Chambers of Commerce). Ms. Rachadawan Pasugswad (Program Assistant, World Bank) provided able administrative assistance.

NESDB staff worked closely with the author in the preparation of this report. Particular thanks to Sunisa Boonyopas, Jurun Suthiprapa, Wilawan Tanrattanakul and Amnard Poldelcha.

The findings, interpretations and conclusions expressed in the report are those of the author and do not necessarily reflect the views of the NESDB and the World Bank.

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EXECUTIVE SUMMARY

Market forces and government policies, including the Tenth National Development Plan (2007-2012), are moving Thailand toward a more geographically specialized economy.

There is a growing consensus that Thailand's comparative and competitive advantages lie in *amenity services* that have high reliance on the following: (i) fashion and design; for example, jewelry, garments, ceramics, advertising, media; (ii) human interaction in the application of technology, often high technology; for example, world-class medicine and spas; (iii) cuisine; for example, high-value processed foods and specialized restaurants; and (iv) high quality natural and built environments, in support of beach tourism, retirement communities (domestic and international), and second home and footloose knowledge worker lifestyles. Such an economy places a higher premium on the quality and accessibility of so-called *place*. Successful development in Thailand will require higher quality landscapes and better natural resource management.

At the same time, the manufacturing economy is becoming more specialized, around vehicle production (pickup trucks), petro-chemicals, consumer appliances and electronics, certain types of electrical and mechanical intermediate goods, and agro-processing. Increased value added in these areas requires deepening of economic clusters and geographic clustering to realize agglomeration economies, including creation of learning communities.

On the *supply side*, the increased importance of the amenity economy is consistent with the concept of *sufficiency economy*, a core principle underlying the Tenth National Development Plan. Production of amenity services can potentially utilize high levels of domestic inputs; for example, labor, agricultural products, local knowledge, specialized Thai higher education. This utilization is more so than in most mass production manufacturing that is often dependent on high levels of imports and demands routine disciplined labor (which is abundant globally), rather than culturally specific skills.

Risks to successful implementation of an amenity-based development strategy include energy crises, urban terrorism, environmental degradation—especially in amenity regions—natural disasters, political instability, congestion and pollution in core Bangkok, and shortages of appropriately skilled labor.

Rapid change in Thailand's economy is resulting in major changes in the spatial economy of Thailand. In particular, the Gulf of Thailand arc (see Map 1) is emerging as the most dynamic region. Secondary cities will exhibit increasingly differential growth and development trajectories, depending on their abilities to position themselves vis-à-vis external markets. New large scale amenity regions will develop, particularly Greater Phuket and the *Thai Rivier*; that along with the eastern seaboard and Ayutthaya peri-urban areas will be the main challengers to Bangkok in terms of economic dynamism. Dynamic regions based on Thailand's new economy, such as greater Phuket and the *Thai Riviera* are supplanting in importance secondary cities that perform regional service functions, creating a new economic geography of Thailand.

The paper examines four case study geographic clusters as discussed below.

The national Government has designated the provinces of Petchaburi, Prachuap Kiri Khan, Chumporn, and Ranong as the *Thai Riviera*. This represents an excellent regional development decision, given that in the 1990's the region was previously designated as an industrial zone, known as the western seaboard. Support to development of an amenity economy in the region should result in much improved socio-economic and environmental outcomes. However, the relatively developed northern provinces, Petchaburi and Prachuap Kiri Khan, with a well-developed amenity economy, stands in sharp contrast to the southern provinces of Chumporn and Ranong where tourism has actually been in decline since 1997 (measured in terms of real output). Since implementation of the Thai Riviera concept will result in a coastal amenity city of approximately one million people, the paper stresses the need for high quality clustered development (*necklace* urban form) based on public-private partnerships. An over-reliance on tourism can be prevented by encouraging development of a more diversified amenity economy; for example, boutique agriculture, higher education, retirement communities, and medical services. The Chumporn Airport should be revitalized to provide direct international access to the region; at present the Thai Riviera suffers from remoteness from Suvarnabhumi and Phuket International Airports.

The eastern seaboard (ESB) has been the core industrial area of Thailand and Southeast Asia for the last two decades. However, since 1997, its economy has faced both increasing competition, particularly from China, as well as a decreased role as the driver of the Thai economy, the result of the rapid emergence of high end services in core Bangkok such as medicine and design. This has implications in terms of competition for skilled labor. Nonetheless, the recent opening of the Suvarnabhumi International Airport immediately to the west of the region has given this geographic cluster new life. The national government has designated the concept for revitalization of the ESB, *Green and Brown Eastern Seaboard*. The Brown (industrial) core of the region has been expanded from the three traditional core provinces of Chachoengsao, Rayong, and Chonburi to include Samut Prakan, a traditional heavy industrial province near Bangkok. It has also been expanded northwards to include Prachin Buri, where automotive and particularly Japanese electronics FDI is increasingly evident, as well as industries utilizing bio products; for example, cosmetics. The Government is supporting development of a green periphery to the region, designed to contribute to a more diverse regional economy by developing an amenity and high-value agriculture periphery. The periphery includes Nakon Nayok—where KaoYai National Park, the closest large green space to Bangkok, is located—as well as three provinces along the Cambodian border known for agriculture, beach tourism (in the case of Trat), cross-border tourism, and gems. Of particular importance for the development of the region's periphery is Koh Chang island, Thailand's newest major tourist destination. Future development of the overall ESB region faces a number of challenges, particularly water supply, labor shortages (both high end in electronics and low end in harvesting agricultural crops), and fierce industrial competition from east Asian competitors, many of which have lower cost systems for industrial structures such as factories. Priorities identified include the need to continue to

upgrade Pattaya as the transportation and amenity hub of the region, including five-star hotels that are built/upgraded; improve intra-region transportation, particularly logistics systems in the brown zone and links to the Suvarnabhumi Airport; and to market the region better among the international business community as a place to diversify investment risks while resident and visiting executives enjoy a high quality living environment.

The *northern axis* cities of Chiang Mai, Chiang Rai, and Lampun have exhibited disappointing performance over the last decade. Population is falling and real economic growth has been stagnant in this region. The region has failed to position its tourism product effectively, while suffering from an international shift toward beach tourism; Thailand enjoys more comparative advantage in beach tourism. Many opportunities have been lost; for example, high end agro-business such as cut flowers and temperate mushrooms, undertaken very successfully in nearby Yunnan Province, and distinct boutique tourism. In terms of economic relationships with nearby China, there has not been enough emphasis in marketing products and services in which Thailand enjoys a comparative or competitive advantage; for example, in spas, jewelry, Southeast Asian oriented international education, excellent hotels enabling circuit tourism, and Thai and traditional Chinese cuisine. There is a need to deepen the region's role as a design center, and position it as a knowledge interface between Southeast Asia and China. The foregoing should be facilitated by strong strategic planning for the region; emphasizing its advantages, and improvement of cross-border infrastructure, particularly the A-3 surface link to China.

The fourth geographic cluster explored is *greater Phuket*, which has successfully overcome the impacts of the tsunami disaster in economic terms and numbers of visitors. Unlike the south of the Thai Riviera, emerging provinces in greater Phuket, including Phang Nga and Krabi, already have viable tourist economies which by 2015 will draw more tourists than the region's center, Phuket Province. We advocate that the latter restructure its economy to become a truly *international knowledge city*, a concept promoted by Thailand's National Economic and Social Development Board. For example, the lack of adequate office space for national and international footloose knowledge workers should be addressed, and tourism should be facilitated in moving up market, given emerging carrying capacity constraints on Phuket island. There is a need to better integrate the region as a whole, both through better transportation, such as with an arc highway, and international marketing to take advantage of Phuket's brand name. Beach communities need improved infrastructure; for example, sidewalks and waste water treatment.

The report identifies a number of national infrastructure initiatives that would support development of Thailand's economy, and high potential geographic clusters in particular. These include the following: (i) An improved national rail system; for example, LCT passenger trains to key destinations, phased double-tracking, and state-of-the-art dedicated container trains. (ii) A four-axes national expressway system—to the south, north, northeast, and ESB. (iii) More energy efficient transport (mode split, equipment specifications) and urban/regional form, given that Thailand spends 9.9 percent of its

GDP on petroleum imports (compared with 2.8 percent in Japan). (iv) Improved logistics systems, including “soft” systems such as customs clearance. (v) Improved linkages among amenity regions, utilizing road, rail, and hydrofoil. (vi) Continued facilitation of low cost airline service to improve geographic mobility of labor and support tourism. And, (vii) Acceleration of mass transit development in the Bangkok region.

A number of recommendations in support of *place-based* development are put forward. These include the following: (i) Implement a national strategy to improve the quality of the environment and regional amenity, especially in high potential geographic clusters; for example, beach areas such as Pattaya. (ii) Better align vocational and university educational systems and focused R&D with emerging geographically based economies. Standardized national curriculum mixes are not conducive to geographic clusters based development. (iii) Increase promotion of Thailand as a tourism and retirement destination. (iv) Change the role of the Office of Designated Areas for Sustainable Tourism (DASTA) to incorporate wider amenity-based development approaches into its mandate, rather than its current narrow, and thus more economically vulnerable, tourism focus. (v) Place more emphasis on spatial aspects of development planning. (vi) Upgrade, differentiate, and position the tourism product by region. For example, it is unclear what the *northern axis* is offering potential tourists.

In sum, given the growth of Thailand’s amenity economy and increased economic clustering in manufacturing, the quality of places and agglomeration dynamics are becoming much more important. In depth assessment and strategic planning for high potential geographic clusters is urgently needed. This exploratory paper represents a first step in that direction.

Supporting Sustainable Development in Thailand: A Geographic Clusters Approach

1. Introduction

Scope of Work and Approach

This exploratory paper examines the role that geographic clusters can and should play in the ongoing restructuring of the Thai economy. Given the increased importance of *place* and spatial agglomeration, and specialized economic clusters in Thailand's socio-economic development, the spatial dimension is increasingly critical. The geographic dimension of development will become even more important during the Tenth National Development plan period (2007-2012), which emphasizes happiness, environmental quality, and self-sufficiency; all *place-based* concepts. Through market forces, and Government guidance, Thailand is increasingly becoming a more amenity-based and specialized economy. Successful development in Thailand will require both higher quality landscapes and better natural resource management, as well as increased clustering of specialized activities to benefit from agglomeration and creation of learning communities.

Thirty professional days were allocated to this task. Therefore, it is not a technical study, per se; rather, it is an exploratory paper that should be followed up with deeper technical analysis focusing on specific high potential geographic clusters, and national policy frameworks to support the *place-based* development of these clusters. On the other hand, the author acted as senior advisor to the National Economic and Social Development Board (NESDB) for ten years (1993-2003), and was directly involved in Thailand's developmental planning over that period, particularly at the sub-national level. Thus, although this monograph is the product of a short-term assignment, it reflects analysis and learning from the early 1990's to the present.

Economic Restructuring Toward Happiness/Green/Sufficiency Development

Thailand is facing significant challenges, and undergoing substantial economic restructuring, driven by both internal policy, such as the 10th National Development Plan core themes of *happiness, green, sufficiency economy*, and external drivers. The drivers include the following, for example: the rapid industrialization and competitiveness of Vietnam, manifest in high FDI flows into Vietnam; increased economic interaction with China, illustrated by rapid growth in trade and infrastructure connections; and continuing high oil prices, nearing US\$60.00 a barrel, that mark the onset of the post-petroleum age.

The core theme of the Tenth National Development Plan (10NDP) is to facilitate development of a *green and happiness society*. Such a society would be knowledge and culturally based, built on a population that is curious, engaged in continuous reading and learning, and values research and development. Economic value would be generated by the application of knowledge and cultural attributes of *Thainess*. Given that Thailand's

high dependency on imported energy (discussed below) is the root of many problems the nation now faces, the 10NDP stresses the need to dramatically improve energy efficiency and develop alternative energy sources. An important implication of the foregoing is that there is a need to apply knowledge and *Thainess* to the service sector, where such human assets are likely to yield the most economic and societal value, and thereby moving the service sector up-market. A second major implication is that transportation and logistic systems need to be rethought, to reduce Thailand's high dependency on imported energy.

There is a growing consensus in Thailand that the nation's comparative and competitive advantages lie in *amenity services* that have high reliance on the following: (i) fashion and design; for example, jewelry, garments, ceramics, advertising, and media, (ii) human interaction in the application of often high technology; for example, world-class medicine and spas, (iii) cuisine; for example, high-value processed foods and specialized restaurants; and (iv) high quality natural and built environments, in support of beach tourism, retirement communities (domestic and international), and second home and footloose knowledge worker lifestyles. This does not mean traditional manufacturing, which has driven Thailand's economic development for two decades, will cease to be important, but it is likely to become more concentrated around a few successful economic clusters; for example, pickup trucks and automotive parts, electronic components,² consumer appliances (white goods), and mechanical and electronic intermediate goods. Thailand is now uneconomic as a location for most mass production labor-intensive manufacturing, with some exceptions such as garment manufacturing along the Burmese border, which utilizes very low cost, or often illegal, migrant labor.

The more the structural shift in Thailand's economy toward *amenity services* reflects *Thainess* the more successful it will be, because an amenity economy is significantly based on cultural attributes. In essence, the more the products and services are based on what is uniquely Thai, the more Thailand will be able to enjoy a unique market position and be able to gain global market share and exercise pricing power. On the *supply side*, this shift is consistent with the concept of *sufficiency economy*, an important core principle underlying the 10NDP; that is, production of amenity services can potentially utilize high levels of domestic inputs such as labor, agricultural products, local knowledge, and specialized Thai higher education. This is more apparent than for most mass production manufacturing processes that are often dependent on high levels of imports and demand routine disciplined labor, abundant globally, rather than culturally specific skills.

On the other hand, given that 65 percent of the Thai economy is currently based on exports, Thailand will continue to need to cultivate large and expanding external markets such as tourists, or purchasers of high quality silk and beach condominiums, medical tourists, and global purchasers of specialized food and cuisine; amenity migrants; and

² Although the recent June 2006 decision of Seagate, the world's largest producer of hard drives, to expand in Malaysia (a Thai Baht 40 billion: US\$1.05 billion investment) rather than Thailand where it currently has its largest operations base, suggests concern regarding the future of this cluster in Thailand. See: Arunmas, P, et al, "Seagate Shifts B40Bn Project to Malaysia: Investment Privileges Lure Firm Over Border", *Bangkok Post*, July 18 2006, pg B-1

footloose knowledge workers, to create sufficient demand for *happiness* amenity products, if restructuring of the economy toward an amenity orientation is to yield moderate to rapid economic growth of five to eight percent per annum. This is particularly the case given Thailand is one of the most energy vulnerable nations in the world,³ and exports obviously will continue to be essential to generate foreign currency to pay high energy import costs, at least in the short run. This will be the case until energy efficiency can be improved, and alternative energy systems introduced—for example, wind, solar, and bio-diesel—and consequently vulnerability reduced.

Thailand's trade deficit was US\$1.6 billion in the first five months of 2005, the result of crude oil imports \$2.4 billion. However, Thailand enjoyed a current account surplus of \$1.7 billion during the first quarter of 2005, mainly as a result of tourism, indicating the vital importance of the amenity economy to Thailand's economic well-being. Tourism alone is the number one source of foreign currency earnings in Thailand.

Although highly important systematic analysis of energy impacts of different economic futures in Thailand has not been undertaken, an amenity-based economy is likely to consume less energy per unit of GDP than a manufacturing based one, an important secondary benefit of an amenity-driven development model. (Export of manufactured goods that have high-energy content, is equivalent to re-exporting energy, often below real cost because petroleum products are indirectly subsidized.)⁴

Risk Assessment

As attractive and appropriate as an amenity, or *happiness*, based development model might appear, like all development scenarios, it is not without risk. Many risks such as congestion and pollution can be eliminated through good planning and management, while others can be reduced through public policies focused on risks such as terrorism. Key risks are outlined below:

(i) Energy crises: If a global energy crisis occurs, such as crude oil prices reaching US\$125 per barrel, many components of the emerging Thai economy will be significantly and negatively impacted; most importantly, tourism, automotive sales, medical tourism, international aviation (significantly including Thai International), second home purchases.

(ii) Urban terrorism: Given the importance of tourism to the Thai economy (>13 percent of GDP narrowly measured), an act of urban terrorism, particularly in Bangkok or a key beach resort like Phuket, would do significant damage, especially during the first year

³ Petroleum imports constitute 9.9 percent of Thai GDP, compared with 6.6 percent in South Korea, 4.3 percent in India, 4.0 percent in Hong Kong, 2.8 percent in Japan, 1.3 percent in Singapore, and 0.7 percent in China. Source: Bank of Thailand.

⁴ Given the current energy situation, China is assessing the energy and commodities content of exports in order to change tax structures to decrease their share of exports.

following the event.⁵ At a more mundane but important level, a systematic breakdown in the security of life and property would also undermine an amenity-based development strategy, as the experience of other countries with high levels of amenity but chronic security problems, such as Ecuador, has illustrated. (Fortunately, Thailand is currently a very safe country in this regard.)

(iii) Natural disasters: As shown by the 2004 tsunami, a major natural disaster can affect visitor levels, although the impact on tourist arrivals was relatively short-lived.

(iv) Amenity region environmental quality: Since amenity-based development—involving areas such as design clusters, beach resorts, international education, and second home purchases—depends so much on attractive settings, deterioration in the quality of amenity regions such as hill and beach resort areas, would significantly negatively impact Thailand's emerging amenity economy.

(v) Congestion and pollution in Bangkok: Thailand's economic strengths increasingly lie in business and professional services that are predominantly located in Bangkok, and include, for example, media, advertising, medicine, international governance, fashion design, jewelry, international residences for those working in east Asia,⁶ cuisine, and entertainment. Exacerbation of congestion and pollution in Bangkok, not to be confused with well-managed density, especially in core Bangkok, would negatively affect development of an amenity-based economy.

(vi) Political and social instability: Uncertainty plays havoc with economic development, but especially amenity-based development. Political and social instability, often exacerbated by mixed messages, deters both domestic and foreign investment, and unstable conditions deter visitors. For example, direct foreign investment approvals fell in 2005 to about ThB 330 billion from over ThB 350 billion the previous year, and have continued to fall in 2006.⁷ This is possibly related to the current political uncertainty.

However, investment in hotels and amenity facilities continues to increase, demonstrating strong confidence in the amenity economy, which is likely to counter the current uncertainty. This is unlike in the case of manufacturing; for example, Seagate in 2006 diverted over US\$ one billion in plant expansion investment to Malaysia, originally destined for Thailand (see footnote 2).

(vii) Shortages of human resources: Happiness-based societies require high levels of human skills; for example, in medicine, design, graphics, tourism (language and management skills), and cuisine. In addition, high-value leading manufacturing clusters require high level skills—automotives and consumer electronics in the Thai case. Yet the

⁵ Unfortunately, bombs exploded in Bangkok on December 31 2006, indicating the reality of this threat. At time of publication, it is too early to determine the damage to Thailand's socio-economic restructuring. Much will depend on whether such events recur in Bangkok or major amenity / tourism regions.

⁶ Especially China; for example, many knowledge workers; for example, consultants, prefer to live in Thailand, but work in China, commuting weekly.

⁷ Data Source: Board of Investment, Thailand

quality of education in critical areas related to amenity-based development and leading manufacturing clusters; and the alignment of educational/training resources with these rapidly developing clusters, is not keeping pace with demand for talent. If this situation continues, development prospects will be severely threatened.

Spatial Implications

The ongoing economic transition to an amenity economy has important *spatial* requirements and implications, which are the focus of this exploratory paper. These include:

(i) The quality of the natural and human built environment will become more important; attractive, high environmental quality, landscapes and cityscapes are more important if Thailand is selling tourism and medical services, rather than steel or petro-chemical products. Essentially, amenity-based development is highly place specific; that is, very sensitive in terms of the environmental quality and overall attractiveness of local geographic areas.

(ii) Distinctions between rural and urban areas will become more blurred, as rural areas are linked increasingly to the amenity economy through tourism, food production and processing, circular migration, and day tripping tourists to scenic and culturally significant sites. Some rural locales will attract retirees and amenity migrants. In other words, environments similar to those of France, Italy, Spain or Japan that blur the distinction between urban and rural—not to be confused with urban sprawl—are outcomes of amenity-based development. Such blurred and linked landscapes have the potential to attract high-value economic activity and support a high quality of life.

Typical of most east Asian developing countries, rural Thailand is losing people, although at the relatively mild rate of -0.22 percent of the rural population per year. Yet, at the same time, most population growth is occurring outside traditional municipalities (*teseban*), in surrounding peri-urban *TAOs* and *teseban tambons*. Figure 1 conceptualizes this re-ordering of Thailand's settlement continuum. In other words, Thailand's demographic, built environment, and economic growth is focused in semi-urban areas (often termed *peri-urban*). The key exception is core Bangkok, where a rapidly growing and talented creative class drives development based on high-value services.

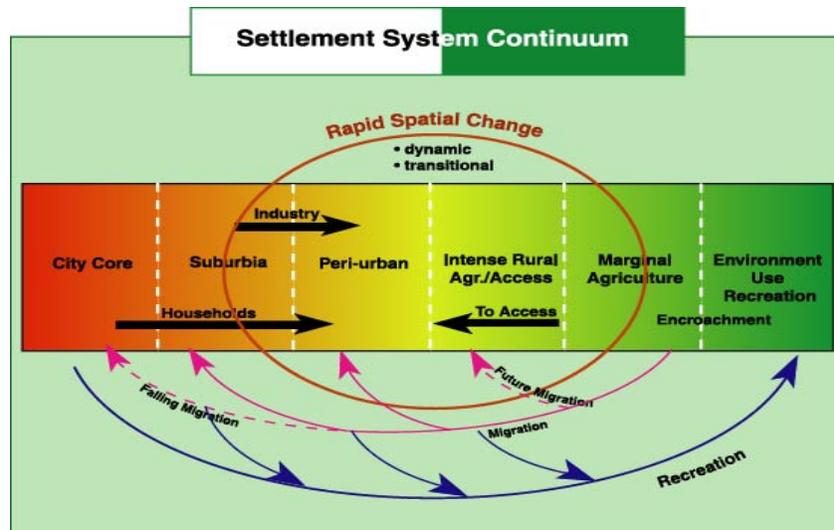


Figure 1: Thailand's Settlement Continuum

(iii) There will be major regional shifts in the economic geography of the country. For example, if well planned and promoted, the *Thai Riviera region* discussed below will create a *necklace* conurbation (manifest in geographically clustered, relatively dense, coastal communities along the western shore of the Gulf of Thailand) of approximately one million people stretching from Petchaburi to south of Chumporn. Traditional Thai secondary cities are likely to perform increasingly differentially. Some will decline in relative importance. Others, such as Udon Thani, will increase their demographic and economic importance, given Udon Thani's increasingly international role, serving Lao residents and Vientiane-based expatriates with shopping, medical services, and conference facilities.

(iv) Within the extended Bangkok region, core Bangkok will become more economically important, as a provider of high-end amenity services (hospitality, media, international governance, fashion and jewelry design, international residences, and medical services) relative to Bangkok's suburban areas, which are dependent on low value manufacturing activities (relative to the peri-urban area), or act as dormitory bedroom communities. Within the Bangkok extended urban region, growth will increasingly be eastward, rather than northward (as was previously the case), driven by at least 600,000 additional residents over the next 15 years in the Suvarnabhumi airport cluster (relative to the population forecast without the airport). Also driving development eastward in the extended Bangkok region will be increased tourism in the eastern seaboard region (ESB); for example, the current rapid up-market redevelopment of Pattaya and the development of Koh Chang, Thailand's second largest island after Phuket, as a major new tourist destination. Combined with other green initiatives, including high-value agriculture, and activities such as jewelry design and manufacturing, the ESB economy will become more diversified, not the mono-functional manufacturing economy that it is currently perceived to be, and largely is.

The old urban system of Thailand: a primate Bangkok, and a set of "regional cities" serving their hinterlands; for example, Nakhon Ratchasima, Chiang Mai, Hat Yai, is

increasingly not the reality. Thailand's spatial economy will mirror global demand. The health of urban areas will be the product of competitive positioning in the domestic and global economies rather than a reflection of bottom up forces such as the economic health of their agricultural hinterlands. Thailand is becoming a network of places flourishing (or failing) based on their ability to develop economies that take advantage of competitive and comparative advantages, catering to increasingly sophisticated, often international, markets. Cosmopolitan central Bangkok is likely to do well in the medium term, but so are other areas able to market services and products to increasingly demanding and sophisticated domestic and global markets. The comparative advantage, reflecting pronounced differences in endowments and access, and competitive advantage, reflecting pronounced differences in human resource development, local management, and entrepreneurship, of Thailand's regions is shifting rapidly, reflecting shifts in the global economy. The outcome will be a significantly different geography of Thailand, punctuated by active and successful geographic and economic clusters, with the distinction between urban and rural becoming much less clear, while Bangkok will face new upstart spatial competitors.

Overall, the trend is toward a dynamic Thailand bordering the Gulf of Thailand (See Map 1). The northeast is changing relatively slowly, with much of the region's population choosing lifestyle benefits, such as closeness to family and community and the Isan culture, over the higher incomes associated with out-migration, manifest in relatively low out-migration given the level of regional economic disparity.⁸ The north is performing relatively poorly in economic terms (as detailed below), which is surprising given its closeness to booming China. Meanwhile Bangkok's business services and hospitality economy is doing well, as is the agricultural and amenity economy to the south (Phuket is Thailand's prime international tourist destination outside Bangkok.) The ESB will continue to grow, based on a cleaner, greener, and more diverse economic base, spurred by its proximity to Bangkok's new international airport. Economic development in the far south (the three southernmost provinces) is below expectation, caused by security problems, although buffer provinces between the tourist south (essentially extending south to Krabi on the west coast and Songkhla/Hat Yai on the east) and the far south have enjoyed strong agricultural performance, particularly related to high demand and prices for rubber and palm oil (the latter gaining a second market in bio-fuels).

Report Objectives

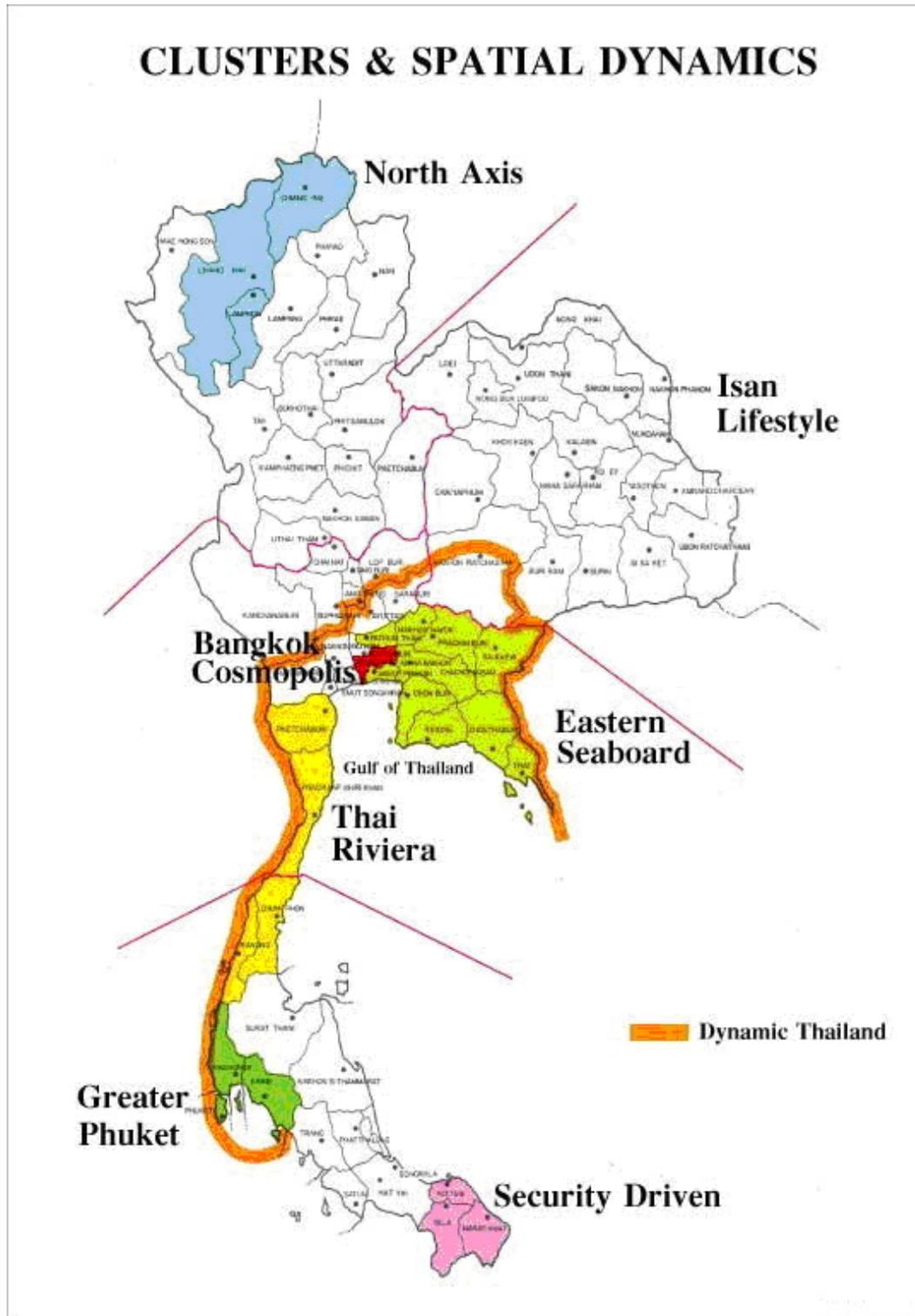
This report is a preliminary exploration of the potential to deepen leading or potentially strong economic clusters within four geographic clusters,⁹ indicate the likely spatial dimensions of the development of such clusters, and identify transportation, logistics, and infrastructure investment implications of emerging shifts in the spatial structure of these geographic regions, particularly at national, regional, and inter-urban scales.

⁸ For details see: NESDB / World Bank, Thailand: Northeast Economic Development Report, Washington: World Bank, 2006

⁹ For a critical overview of the concept of economic clusters and regional competitiveness, see: Brookings Institute, Making Sense of Clusters: Regional Competitiveness and Economic Development, Washington: Metropolitan Policy Program, Brookings Institute, 2006

It is an exploratory paper; in-depth analysis of the geographic clusters discussed is urgently needed, given that amenity-based development, as advocated in the 10NDP is so place based.

The macro spatial level is also addressed, through the following: (i) identification of high priority national infrastructure initiatives springing from the preliminary geographic cluster-based assessment of the Thai spatial system (see Section 4.1), and (ii) identification of place based initiatives to enhance amenity-based development (see Section 4.2). In setting the national context, and indicating possible national scale actions, several recently released reports were taken into account, particularly (a) the national spatial plan prepared by the Department of Town and Country Planning (currently in draft format), (b) provincial strategy plans prepared under the guidance of CEO Governors, and (c) a wide variety of secondary data. The national clusters assessment, being prepared by the Kenan Institute, was not yet available when this report was prepared, but will be a key source of information on geographic clusters in the future.



MAP 1: Clusters and Spatial Dynamics

2. Spatial Economic Context

Key Regional Economic and Demographic Parameters

Table 1 describes the relative performance of Thai sub-national regions from 1997 to 2004, using real per capita income as an indicator. As indicated, since the 1997 financial crisis, only the east and central regions of peri-urban Bangkok have gained relative to the Kingdom. Bangkok (BMA) and its surrounding suburban provinces (BMA and vicinities region) have lost, as have all the outer regions. This is not overly surprising in that export oriented manufacturing, overwhelmingly located in peri-urban Bangkok, benefited from the massive devaluation of the Thai Baht in 1997.

Focusing on the 2000-2004 period, a slightly different pattern emerges, the northeast, southern, and western regions make small gains in share, although peri-urban Bangkok continues to exhibit the largest gains. The biggest losses in ratio of per capita income to the national norm are in Bangkok, especially the suburban BMA and vicinities, indicating the slowing of development in suburban Bangkok relative to both the core and the outer peri-urban areas.

BMA is expected to regain momentum in business, professional, and hospitality services, while the south (with the exception of the three southernmost provinces) should continue to climb based on tourism and agriculture, as should the east, based on a more diversified economy, rather than its past dependency on manufacturing. The north, northeast, and west are likely to be relative laggards.

Table 1: Regional Inequality 1997-2004

Regions	Ratio of Per Capita Product	Ratio of Per Capita Product	Ratio of Per Capita Product
	1997	2000	2004p
Northeastern	0.345	0.306	0.039
Northern	0.512	0.475	0.475
Southern	0.752	0.711	0.738
Eastern	1.975	1.916	2.201
Western	0.753	0.737	0.746
Central	1.265	1.445	1.553
Bangkok and Vicinities	2.735	2.844	2.565
Bangkok Metropolitan	2.914	3.077	2.801
WHOLE KINGDOM	1.000	1.000	1.000

Note: Current prices

Source: NESDB (National Economic and Social Development Board)

The Need to Link Rural and Urban Economies

Rural and agricultural economies should not be confused. As indicated by Table 2, even among farm households, only in the agriculturally fertile south and central regions does agriculture account for a majority of farm household income, and even in these cases

only barely, 53 percent (2005 data) of farm household income in the south region, down from 54 percent in 2000; and 51 percent (2005 data) in the central region, down significantly from 60 percent in 2000. The latter is explained by the growth of alternative income opportunities in the central region during the first five years of the twenty-first century. In the north and northeast regions, agriculture accounts for only 39 percent and 29 percent of farm household income respectively—very low, but up one percentage point in both cases, probably explained by the less vigorous non-agricultural economies in both regions. (The northeast is largely infertile, and most areas are inappropriate for growing rice, despite the profusion, albeit decreasing, of that crop.)

Table 2: Source of Farm Household Incomes (Percentage)

Source of income	Northeast region		North region		Central region		South region	
	2000	2005	2000	2005	2000	2005	2000	2005
Agriculture	27.84	28.83	38.00	38.69	60.13	51.02	54.22	52.62
Non-monetary	24.54	15.30	17.12	11.07	7.33	6.00	8.82	7.48
Non-Agriculture	47.62	55.87	44.87	50.24	32.55	42.98	36.96	39.91
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Office of Agricultural Economics, 2006

3. Geographic Clusters Assessment

3.1 The Thai Riviera

Dynamics

The commitment of the Thai Government to develop the Gulf of Thailand coastline in Petchaburi, Prachuap Kiri Khan, and Chumporn Provinces, plus the Andaman coastline in Ranong Province as an amenity region, *the Thai Riviera*, represents a reversal of earlier policy (prevailing until 1996) to turn the western coastline of the Gulf of Thailand into an industrialized *western seaboard*. Given the increasing comparative and competitive advantage of the Thailand in terms of amenity activities, the Thai Riviera concept, based on the region's outstanding coastal scenery, will almost certainly yield higher economic and environmental benefits to Thailand than the former *western seaboard* strategy would have, if implemented. It represents an excellent regional development decision.

A conceptual plan has been prepared for the Thai Riviera by the new office of Designated Areas for Sustainable Tourism (DASTA). A preliminary conceptual plan has been prepared for the region by DASTA. Detailed planning will be the responsibility of a committee chaired by the Prime Minister, with NESDB acting as the secretariat, and the Ministry of Sport and Tourism, and the Tourism Authority of Thailand acting as deputy secretariats.

There is wide variance in economic structure and performance within the region. This is a reflection of the fact that the northern part of the Thai Riviera (Cha-Am to Hua Hin in particular) already has a developed amenity and sizeable manufacturing economy, which

is not the case further south. As Table 3 indicates, using economic output of hotels /restaurants as a crude indicator of the amenity economy, the amenity economy has grown nine times faster than GPP as a whole in the core northern provinces, Petchaburi and Prachuap Kiri Khan, and 2.8 times as fast as manufacturing, the second fastest growing sector from 1997 to 2004. In the southern two provinces of the Thai Riviera (Chumphorn and Ranong provinces), amenity activities have not taken off, output of hotels and restaurants actually declining in constant terms between 1997 and 2004. Output was negligible in 2004 (0.77 million Baht), approximately one-ninth the level in the two northern provinces of the proposed Thai Riviera. In other words, development of an amenity economy in the southern two provinces of the region essentially entails starting from a blank slate. The dominant sector in the two southern provinces of the Thai Riviera remains agriculture.

Table 3: GPP of Thai Riviera Area at Constant Prices: Composition & Dynamics

Sectors	Areas	1997	percent Share	2004	percent Share	percent Change (1997-2004)
Agriculture	Established areas	5,544	16.34	7,246	16.82	30.70
	Emerging areas	9,249	40.35	11,425	46.81	23.53
Manufacturing	Established areas	5,884	17.34	11,129	25.83	89.14
	Emerging areas	2,275	9.93	2,116	8.67	-6.99
Wholesale and retail trade	Established areas	7,805	23.00	5,693	13.21	-27.06
	Emerging areas	3,911	17.06	3,140	12.86	-19.71
Hotels and restaurants	Established areas	823	2.43	2,886	6.70	250.67
	Emerging areas	221	0.96	189	0.77	-14.48
Others	Established areas	13,874	40.89	16,133	37.44	16.28
	Emerging areas	7,265	31.70	7,538	30.88	3.76
GDP	Established areas	33,930	100.00	43,087	100.00	26.99
	Emerging areas	22,921	100.00	24,408	100.00	6.49

Absolute Units=Million Baht

Note: Established areas consist of Phetchaburi and Phachuap Khiri Khan provinces

Emerging areas consist of Chumphorn and Ranong provinces

Source: NESDB, 2004

An increasing shift in demand to beach tourism among international and domestic tourists will benefit the region. Furthermore, unlike the case of hill tourism, China lacks significant tropical beach assets; and Thailand's tropical beaches are closer to China, Europe, and North America than most competing Asian locations. Beach tourism, if the quality of existing areas is improved, and new destinations are opened that reflect learning from Thailand's long experience as a major beach tourism destination, will almost certainly enjoy a strongly growing market. At present the Thai Riviera region attracts only six percent of international visitors (2005 TAT data), indicating considerable potential for growth.

Challenges

Challenges to development of the Thai Riviera as a key amenity region include the following:

1. The coastline of the Thai Riviera is environmentally sensitive. Unplanned, sprawling development would destroy the amenity basis of development; geographic clusters should be the focus of development, to create a necklace settlement structure.
2. Access to the region is a major constraint to its development. The region is currently poorly served by air services, with the exception of limited service to Hua Hin, and is a long drive from Suvarnabhumi or Phuket International Airports. Can Chumporn airport be vitalized as an international port of entry from Shanghai or Hong Kong? What can be done to improve access from Suvarnabhumi Airport to the Thai Riviera; for example, with more access to the expressway or hydrofoil service?
3. The current plan for the region's development, prepared by DASTA, is too narrow in scope. The emphasis should be on developing a broad-based amenity economy, as is emerging in the north of the region. In addition to beach tourism, leading economic activities would include educational facilities (e.g., branches of domestic and international universities, international schools), world class spas, boutique agriculture, renowned cuisine, retirement and second home communities, health care (including traditional and alternative health care options), work/live environments for footloose professionals (e.g., loft units equipped with wi-fi services),¹⁰ and cultural tourism (possibly involving Burma).
4. Although the northern part of the region is an established amenity economy, and has an established tourist infrastructure, this is not so south of Hua Hin. For example, in 2005, the Hua Hin and Cha-am areas attracted over five million Thai tourists and 654,000 foreign tourists, while Chumporn and Ranong Provinces attracted only 773,000 domestic tourists and a statistically and economically negligible 77,000 foreign tourists.¹¹ In other words, the ratio of tourists between the north and south of the Thai Riviera was almost 6:1 in the case of Thai tourists and 8.5:1 in the case of foreign tourists.

The implication is that the Thai Riviera development project is really twofold: (i) upgrading and strengthening the northern area, and (ii) developing the southern area from a relatively clean slate. Obviously, different approaches will be needed for each area.

Design Parameters

1. Upgrade the current network of coastal roads to create a winding coastal road that creates a feeling of intimacy with the coastline, and an illusion of distance, such as Highway #1 along the California coast south of San Francisco and the coastal road along

¹⁰ Attracting footloose professionals to the Thai Riviera is dependent on regular feeder air service to the Region, through Chumporn and Hua Hin.

¹¹ Data Source: Tourism Authority of Thailand, 2005

the Pacific Ocean in Oregon. The coastal road should not be directly along the coast, cutting off coastal access, but be far enough back to allow space for paths along the ocean, viewpoints.

2. Upgrade highway A-2 into an expressway; which connects to the southern arc of the Bangkok ring road, and connects to greater Phuket. Fast-moving traffic would choose this road, and it would make the region much more easily accessible from Bangkok and Phuket.

3. Eventually, upgrade rail service to include fast comfortable trains from Bangkok and the Suvarnabhumi airport to the Thai Riviera, as part of an overall re-orientation of Thailand's rail transportation system (discussed in Section 4.1).

4. Cluster physical development in high-quality, compact, themed communities, based on new urbanism principles. Strict land use regulations should be in place, and enforced, to prevent development outside these clusters. In particular, urban growth boundaries should be identified and enforced to prevent urban/tourism development outside compact amenity communities. Floor area ratios (FARs) should encourage medium-density development, for example, no development higher than the palm trees should be allowed. Public authorities need to invest in key infrastructure to lead and catalyze investment based on world-class planning; this will need to be a national level initiative. Once this frame is set, high quality development of new coastal communities, should be undertaken utilizing public-private cooperation; for example, with leading resort developers taking the lead, similar to the successful Nusa Dua development on Bali, in which the World Bank assisted with the master planning in the early stages played a crucial role. World-class urban design and property developers must be involved, including leading Thai designers; international attention to the region could be generated by an international design competition for a new green/blue ocean side community along the Thai Riviera. The competition would be to design the most innovative, green, tourist-friendly beach resort community in the world. The publicity and profile would ensure a large market for such a resort community. The leading world-class developers, in turn, could lease/sell land to other developers subject to strict enforcement of design guidelines by the lead developer, enforced by the local authorities, in co-operation with the lead developer.

5. The Thai Riviera should be marketed to the world with a *big splash*. An international contest to choose a logo for the region should be held. It will be important to differentiate the Thai Riviera, and its component parts; for example, the Royal atmosphere near Hua Hin, the Yacht atmosphere near Chumporn, and the Sand Dunes south of Hua Hin, both internally, and vis-à-vis Phuket and Koh Chang.

6. Current planning for the development of the Thai Riviera is too dependent on tourism. More comprehensive amenity development should be expected and facilitated, including higher education facilities, second home residences, medical facilities, boutique agriculture, retiree communities.

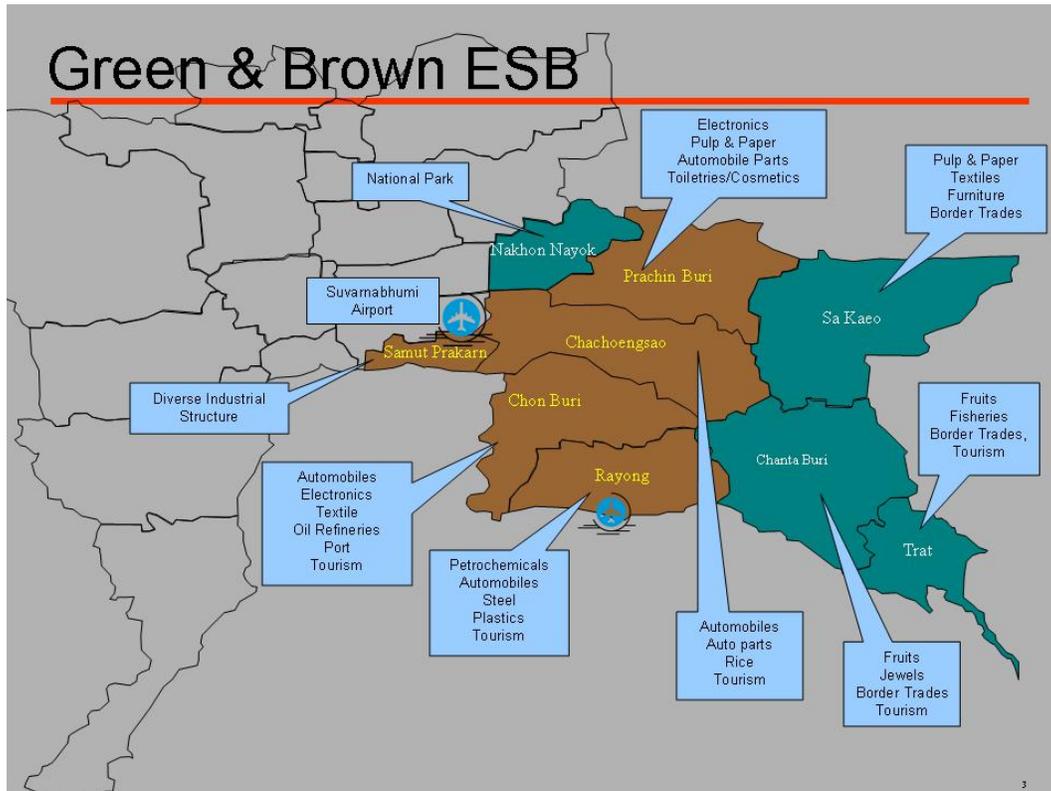
3.2 The Eastern Seaboard

Dynamics

The eastern seaboard (ESB) rose to prominence in the 1980's as the most important manufacturing cluster in both Thailand and Southeast Asia. (In Thailand, 1984 to 1996 was the *Golden Age of Manufacturing*.) Much of the large-scale industrial activity is located at considerable distance from Bangkok, in Chachoengsao, Chonburi and Rayong provinces (partly as a result of the Board of Investment Zone 3 locational incentives policies). This is not a particular disadvantage in terms of logistics because firms are clustered in some cases (for example, automotive assembly and parts), and the Suvarnabhumi airport is close to the west side of the region. The existence of two major ports in the ESB, Laem Chabang, Thailand's major container port, and Map Ta Phut, the leading commodity port, further enhances export competitiveness. However, within the ESB, congestion on key roads increasingly constitutes a problem, especially given the need for just-in-time delivery at many of the region's manufacturing firms. Of equal concern is the reliability of water and electricity (of late, brown outs have occurred), and high costs of doing business in terms of cost of land, factories. Water supply is now a critical issue. On the other hand, as labor costs rise throughout East Asia, the cost of labor is less sensitive, but the shortage of talent in leading economic clusters is more so. As Thailand's share of manufacturing investment and output in Southeast Asia and East Asia continues to fall, less land and labor will be required in the ESB area for manufacturing, than what was forecast to be the case in the early 1990's. However, given the designation of the Thai Riviera as an amenity region, and extremely strong competitive forces in Asia that favor established economic industrial regions such as the ESB, Thailand's manufacturing economy is likely to be even more spatially concentrated in the ESB in the future.

Recently, the Thai Government (NESDB) has enlarged and redefined the ESB for planning and development purposes, designating brown and green zones, see Map 2. The brown zone comprises Chachoengsao, Chonburi and Rayong Provinces, described above, plus Samut Prakan and Prachin Buri provinces. The addition of Samut Prakan recognizes the reality that this province has long been a key industrial district, characterized by Thai owned industries, both heavy and SMEs, rather than the *Fordist* assembly type operations found in Chonburi and Rayong provinces. The addition of Prachin Buri province recognizes the fact that industrial development, particularly electronics (anchored by Hitachi), automobile parts firms, cosmetics manufacturing, and pulp and paper have increasingly moved northward. By way of contrast, the green ESB is defined by Nakhon Nayok, the home of Khao Yai National Park, the closest large green area to Bangkok, and the three far eastern Provinces (from north to south) of Sa Kaeo, Chanthaburi, and Trat. All three are known for border trade in items such as gems. Trat is the site of the major Koh Chang new tourist development, discussed below, as well as agri-business, particularly fruits and fisheries. Chanthaburi Province's economy is similar to Trat's, well known for its gems and jewelry cluster. Trat's gem industry is also growing quickly, centered on Hua Thung, Baon Sa Yai, and Nong Born. Sa Kaeo's economy is more

natural resource based, less well developed, and known for furniture and pulp and paper, as well as textiles.



MAP 2: Green Brown Eastern Seaboard

The economy of the core ESB is strong, with high GDP and household incomes; however, economies in the peripheral green ESB are generally weaker.

The region stands to gain from a number of strong drivers, which will almost certainly result in the ESB having a more diversified economy. These include the following:

1. Development of Trat province, and Koh Chang (30 by 14 kilometers; 85 percent national park designation) in particular, as a major new tourist destination, benefiting from an airport served by Bangkok Airways, on the mainland, near Koh Chang.
2. The accelerating up market redevelopment of Pattaya, four five-star hotels are currently under construction. Pattaya is starting to lose its image as a low-end destination.
3. The opening of Suvarnabhumi Airport in September 2006, which will shift the dominant vector of development in the extended Bangkok region to the east, creating a net shift in population of approximately 600,000 people from the north to the east in the extended Bangkok region. This will reverse a century long trend.

4. Continued investment strength, although not assured, based on the following:

(i) Deepening of select clusters; for example, automobiles, particularly pickup trucks.

(ii) A desire of international investors to geographically diversify risks, while not focusing all energies on China, and enjoying Thailand's lifestyle advantages for executive living and visiting. In other words, an increased amenity-oriented approach to development of the ESB is likely to be reflected in an increase in traditional FDI, other factors being constant.

(iii) Growing strength of high-value agriculture, such as in orchards and vegetables in the ESB, generating potential inputs for a large-scale agro-processing cluster. Of particular note are tomatoes to the north of the region, plus tropical fruits such as durian and *rambutan* further south.

(iv) Demand for Thai jewelry. The gem cluster shows high potential for growth, essentially based on the benefits resulting from application of Thai design skills to gems imported from Cambodia, as well as local gems. It is estimated that the value of this cluster will increase from ThB 60 billion in 2003 to ThB 200 billion in 2009.

Challenges

1. Skilled labor shortages; for example, shortage of 50,000 electronic technicians by 2008.

2. Low end, primarily international migrant, labor shortages constrain harvesting of orchard crops, limiting the growth of food clusters.

3. Congestion, especially in regard to cargo movement, resulting in high energy and time costs, and more seriously, potentially expensive disruption of production for just-in-time (JIT) manufacturing firms. (Particularly vulnerable are Japanese firms that operate on finely tuned JIT systems.) Related, slow customs clearance procedures (often taking a few days) increase the costs of doing business.

4. Unreliable electricity and water systems. Critical water shortages are of special concern.

5. High business costs compared to competitors in Vietnam, China, particularly for water, land, and factory space.

6. Excessive dependence on pick up trucks in the vehicle cluster; pick up trucks could lose global market share if energy prices continue to rise. In 2005, Thailand produced 1.1 million vehicles, three-quarters of them were pickup trucks (Thailand is the world's number two producer of pickup trucks, after the United States.).¹²

¹² Foster, M., "Asia's Pickup Truck Capital", The Bangkok Post, June 24, 2006

Design Parameters

1. Reinforce the role of ESB as the industrial heartland of Thailand. There is some potential to spread limited tentacles of industrial development outward from the ESB, especially to Nakhon Ratchasima to the north. However, industrial decentralization throughout Thailand, beyond the extended Bangkok region, which includes the ESB, is inadvisable and unlikely to occur, with a few exceptions; namely, Nakhon Ratchasima and Lampun, and a few resource oriented clusters. The clusters include, for example, seafood processing in the south, sugar cane processing in the northeast and central regions and a few low-cost labor areas such as along borders with Burma and Cambodia. Given the high level of global competitiveness, it is important that domestic industrial location be as economically rational as possible.
2. Given the importance of the amenity economy and incompatibilities between industrial and amenity land uses, there is a need to carefully define amenity zones, particularly in Trat, and to continue rehabilitation of Pattaya. In amenity areas, broad-based amenity development, not just tourism, should be promoted. Broad based amenity development includes: second homes, health care, spas, retirement communities, educational facilities, and convention facilities.
3. The brown and green plan developed by the RTG is based on a realistic assessment of drivers and comparative/competitive advantage. By spatially separating industrial and amenity functions it increases value in both clusters. See Map 2. As such, the concept should be developed at a more detailed level and implemented.
4. Through incremental decision-making, the industrial economy should be encouraged to move, over time, closer to Bangkok, and economic clusters should be encouraged to spatially concentrate, to enhance its efficiency. Locational incentives programs should not encourage the de-densification, scattering, and sprawling of Thailand's key industrial region. If industry is concentrated, so that high-value clusters are located in specific areas of the brown ESB, the costs of first-rate transportation infrastructure and logistics systems can be justified.
5. Very importantly, the area within ten to 15 kilometers of the Suvarnabhumi airport should be developed into an airport business zone that capitalizes on the more than US\$3.5 billion investment (Appropriate airport functions include hotels, logistics firms, enterprises utilizing air freight, convention facilities, and rent-a-car firms.). Worldwide, international airports are the second most and sometimes the most important economic zones in metropolitan areas; the extended Bangkok region should take full economic advantage of its new airport. In this regard, the strategy in the national spatial plan being prepared by the Department of Town and Country Planning (DTCP) to minimize urban development in the zone around the new airport, emphasizing green functions, should be re-examined.
6. The development of indigenous clusters such as food, gems/jewelry, furniture, and cosmetics, should be encouraged in support of self-sufficiency.

7. Pattaya should be strengthened as the transportation hub of the ESB, with roads and rail systems emanating from Pattaya. In effect, if Pattaya were well-planned, it could act as the so called *capital* of the new ESB.

8. Infrastructure deficiencies, particularly related to electricity and water, should be rectified as soon as possible.

3.3 The Northern Axis

Regional Definition

The geographic cluster of the *northern axis* is defined as the provinces of Lampun, Chiang Mai, and Chiang Rai. These three provinces constitute the development axis that runs from the twin cities of Chiang Mai-Lampun to Chiang Rai, and onwards to the main corridor to China, the A3 Axis, which starts at Chang Kong. See Map 1.

Dynamics

In conventional economic terms, Thailand's northern axis is performing poorly. For example, real incomes in Chiang Mai and Chiang Rai Provinces are no higher than in 1997, before the financial crisis (see Appendices 1 and 2). Per capita incomes in nearby Yunnan Province of China are higher than in north Thailand, a dramatic reversal of the past. In some ways this is surprising, given northern Thailand's proximity to China, the world's fastest growing major economy, and likely the world's largest economy by 2040. The region faces many challenges, as detailed below.

Challenges

1. Demographic stagnation, related to low birth rates, high rates of HIV infection, and net out-migration. Although illegal migration to the north, especially from Burma, probably means that the region's forecast population decline will be less than official statistics indicate. See Table 4.

Table 4: Population Dynamics: Chiang Mai – Chiang Rai

	2002	2004	2005	2006
Chiang Mai	1.60	1.60		
Chiang Rai	0.63	0.60		
North Region			11.66	11.64

Unit: Population in millions

2. An inability of the northern axis to position itself to take advantage of proximity to China; for example, current cross-border strategies prepared by the Thai Government often *chase* activities that Yunnan can do as well or better; for example, medicines, manufacturing and food processing; rather than activities where Thailand might enjoy competitive advantage; for example, in medical care, jewelry, aviation logistics, and

high-end tourism like spas, high-priced “soft” adventure, and world-class hotels. The region’s inability to reposition itself has meant less than expected benefits from increased interaction with China, partially based on the Free Trade Agreement. To a considerable degree, the expectations detailed in Greater Mekong Region strategies since the early 1990’s, supported by the Asian Development Bank, have not been met.

3. Slow and expensive highway flows of trucks between China and Thailand along A-3/3 because of the lack of a bridge crossing at Chang Khong (which is under negotiation), poor road conditions, and “informal” toll charges by Laos on through trucks (currently approximately ThB 10,000 per truck).¹³ Because of political and administrative instability in Myanmar that have resulted in road blocks and charges, the road from northern Thailand to China through Myanmar is not a practical alternative.

4. An increase in the competitiveness of Nanning, relative to Kunming, is resulting in the latter becoming the dominant gateway to ASEAN. For example, Nanning is now the site of the Sino-ASEAN Expo, Nanning-Hanoi is now an official GMS Corridor. The Nanning-Hanoi Corridor is a much shorter route to the ocean than is Kunming-Chiang Rai-Laem Chabang. This shift in Chinese and GMS spatial dynamics favors Vietnam over Thailand, and is underlined by the fact that Guangxi Province, China, is now an official member of the GMS. Map 3 shows this expected shift in GMS linkages by 2012.

5. A shift in tourism preferences, particularly by international tourism, from hill tribe and trekking tourism to beach tourism, favors Phuket, the emerging Thai Riviera and Koh Chang. This trend has been exacerbated by the growth of Chiang Mai into a large city over the last three decades, resulting in it losing much of its mystique, associated with a weakening of Lanna culture with its distinct history, architecture, handicraft products, and performance arts.

6. Related to the above, the fact that cultural tourist stays are short (an average 3.3 days in Chiang Mai and 2.9 days in Chiang Rai for foreign tourists in 2005) compared with beach tourists who often stay much longer (4.5 days in Surat Thani –Koh Samui) reduces tourist revenues.¹⁴ Thus, the north has to attract more tourists to generate the same economic impact as in key beach areas of Thailand. The impact is exacerbated by the fact that the cost of services and daily tourist expenditures are lower in the north (the average foreign tourist spent ThB 3,168 in Chiang Mai and 3,827 Baht in Phuket in 2005), approximately 1.8 times as many tourists are required to come to the north to generate the same financial impact relative to the beach destinations.

¹³ For details, see: PADCO, GMS Transport Sector Strategy Study (Draft), Manila: Asian Development Bank, 2005 (TA #6195-REG), and Asian Development Bank, The Greater Mekong Subregion: Beyond Borders: Regional Cooperation Strategy and Program Update 2006-2008, Manila: Asian Development Bank, 2005.

¹⁴ Data Source: TAT, 2005 data



7. Associated with the above is an inability of tourist and other amenity sellers; for example, five-star hotels, second home property developers, and spas, to exert pricing power. To illustrate, the average price of a hotel room in Chiang Mai was only 982 Baht (\$27 USD) in April 2006. Equivalent amenity products cost much less, and thus generate less income for the regional economy, than in the case of Phuket, Koh Samui. Part of the problem is that hotel occupancy is low; for example, only 48 percent in April 2006. Low

hotel rates are, in part, explained by slow growth in visitor arrivals; for example, airport arrivals were up only 1.7 percent in April 2006 compared with the previous year.¹⁵

8. Increasing competition in terms of amenity development from Yunnan Province; for example, international investors are building five-star facilities in Yunnan.¹⁶

9. Most manufacturing is uneconomic in the region, given its land-locked location. However, certain natural resource and/or culturally based clusters—for example, processed temperate foods, ceramics, and furniture—indicate considerable potential for expansion.

The Northern Industrial Estate in Lampun (Estate) is the only manufacturing zone in the region attracting large-scale industry and foreign investment. The overwhelming majority of output and employment in manufacturing is located in the Estate. However, the Estate lacks cluster dynamics, consisting of a wide variety of firms, most of which are not linked to each other. There are several electronics manufacturing firms in the Estate. They can locate in such a land-locked location because of the high-value-to-weight nature of their products, resulting in less sensitivity in transportation costs. In addition, some electronics products are shipped by airfreight. However, expansion of industry in the northern axis region is constrained by the fact that the Estate is full. Accordingly, most investment in the region eligible for BOI preferences is for expansion of existing facilities, rather than new facilities. Plans exist for a second phase of the Estate, but it has yet to be built. Even if the second phase is built, prospects for conventional manufacturing in the northern axis region appear limited. According to the Bank of Thailand, export production in the Estate was down 22 percent in 2005. Given the lack of population growth in the region, low cost labor, a former industrial attractant in the region, is likely to be less available.

10. The region has missed many opportunities. Had it oriented its development to its areas of comparative advantage, such as temperate highland climates, a stronger economic base could have been created; for example, it could have performed the world-class cut flower export function, as does nearby Kunming, or Quito, Ecuador, South America,¹⁷ Similarly, had it oriented its tourist industry to high-end cultural tourists, rather than mass tourism, who have become wealthier over time, it is likely that its tourist industry would be performing better. For instance, many of the backpackers who passed through the area in the 1960's and 1970's are now wealthy, potential visitors; the Chinese urban professional classes are seeking more sophisticated destinations.

11. There are many factories along the Myanmar border producing garments and shoes that utilize low-cost Burmese labor. For example, in Chiang Mai and Chiang Rai

¹⁵ See: Srisukkasem, A., “Northern Tourism, Investment and Consumption Slow-BOT”, *The Nation*, June 6, 2006, p 2B

¹⁶ Banyan Tree, from Singapore, is constructing two luxury boutique hotels in Yunnan, one adventure that you hike into, and one spa oriented, at the famous bend in Yangtze river.

¹⁷ Both of these cities export cut flowers, as well as specialized high-value crops (e.g., exotic mushrooms) to cities worldwide; for example, London, New York, Tokyo.

provinces, textiles and garments dominate manufacturing employment (see Table 5). However the net value to the region's economy of these low cost labor enterprises, in terms of moving the north region to a higher quality economy is open to debate, especially given the region's rapidly declining rural population.

Table 5: Major Factories: Chiang Mai – Chiang Rai (2005)

	No. of Firms	Employment	Foreign Partners
Textiles / Garments	7	1,309	Taiwan ,Hong Kong , Japan , China
Agricultural Processing	3	1,171	Japan
Jewelry	2	369	US , Denmark
Artificial Fish Bait	1	336	Australia , US
Shoes	1	310	Japan
Logistics / Bar Codes	2	134	Singapore , Canada
Electrical Equipment	1	84	
Rubber Gloves	1	20	China
Ceramics / Gifts	2	18	Canada
Total	20	3,751	

Opportunities

1. Removal of the rapids on the Mekong River north of Chiang Saen makes navigation between Sipsong Panna (Xishuangbanna),¹⁸ China and Chiang Saen practical, although the direction of the current makes navigation from China to Thailand faster and less expensive than vice versa.¹⁹ The result has been a significant increase in trade. Official numbers (probably a significant undercount) show that imports from China, through Chiang Saen more than doubled to ThB 1.22 billion in 2005 from ThB 592.4 million in 2003. Exports through Chiang Saen increased to ThB 3.86 billion, from ThB3.31 billion over the same period. A constraint in terms of development of the northern axis region of Thailand is that virtually all shipping is owned or controlled by Chinese companies.
2. The “opening up” of the Mekong River, creates an opportunity for a new high-end tourist product: Mekong cruises. Chongqing in China for Yangtze cruises, and cities along the Rhine in Germany have turned river cruises into a major tourist product, the Mekong could be the next fashionable river cruise destination.
3. Circuit tourism in the GMS is growing rapidly, and the region is well placed to benefit from this trend. The ADB estimates that there will be 61.3 million GMS tourists in 2020.²⁰ This will create 194,000 jobs in the hotel sector alone.
4. The region has the ingredients (landscape, culture, climate, access) to be an *amenity region*, attracting amenity migrants, high-end tourists, second home purchasers, international schools, colleges, and universities.

¹⁸ China's Mekong trade ports include Jinghong, Menghan and Guanlei.

¹⁹ Even so, the upriver journey from Chiang Saen to Sipsong Panna can be accomplished in 1-2 days.

²⁰ Visiting the GMS from outside the GMS Region or from GMS countries crossing international borders.

5. The region benefits from a wide variety of micro climates, including higher elevation temperate climates. Unique and high-value agricultural products, such as temperate herbs, fruits such as tamarind, and vegetables such as garlic, plus plantation grown wood, grow well. In fact, the region is one of the most bio-diverse in the world. Its products such as food, handicrafts, household furniture and accessories, garments, and works of art, should be used as inputs in the production of unique products in the region. For example, herbs, when combined with Thai fashion awareness and skills, could support development and manufacture of high-end cosmetic products; fruits and vegetables when combined with Thai cuisine skills could be processed into high-value food exports. The cuisine of northern Thailand, focusing on local ingredients, could increase its quality and profile domestically and world-wide. Wood products, such as furniture, when combined with Thai design skills and motifs could capture a larger share of the global market for high-end furniture. In particular, the demand for furniture and accessories made from tropical hardwoods, including plantation grown teak, is high, as are prices. Jewelry products could be marketed to higher end clientele, based on locally available inputs like gems and silver from Myanmar and Thai fashion sense. The latter would incorporate or fuse *Lanna*, ethnic hill tribe, and contemporary design motifs; the same is true of high end garments. The north could develop a unique style.

6. The variable climate and a cool winter is potentially attractive to domestic and international retirees, domestic and international second home purchasers, amenity region migrants and investors. Some amenity migrants enjoy Thai lifestyle but prefer to live in a region with a cooler winter; the northern axis could fill this need, especially Chiang Rai. Furthermore, cost of living in the north is the lowest in Thailand, making it an inexpensive locale for retirees, middle-class amenity migrants.

7. The quantum leaps of progress in the development of river, road, and aviation systems provide the opportunity for enhanced logistics activity in the region. Although China enjoys an advantage in river transport, Thailand has a more developed aviation system within the greater Mekong region. As trade grows in the region, a locally based logistics firm could develop, in partnership with an international firm(s); for example, DHL, and a Chinese firm(s) specializing in Southwest China.

8. Capital is available to the region to implement good ideas translated into well thought out business plans and projects, there is excess liquidity in the banking systems of both Thailand and China.

9. Stabilization of the political situation in Myanmar would improve the region's geo-strategic location. The movement of Burma's capital to the north is potentially advantageous to northern Thailand, but only in a significant way if Burma's political situation is stabilized. Construction of the new capital, Pyinmana, started in 2005; it will shortly replace the existing capital, Yangon, 320 kilometers to the south.

Design Parameters

1. Reposition the region as a vibrant cultural area, emphasizing the fact that much of Bangkok's design energy comes from the north, as do a high proportion of the crafts sold

in southern beach resorts such as Phuket. This involves a fusion of *Lanna* design with other themes such as hill tribe and Yunnan, and, importantly, international contemporary styles. This dynamic is underway, the best example being the high quality artists' workshops, galleries and stores that have emerged along Nimmanhemmin Road in western Chiang Mai. These artists need to deepen their commercial ties with the Bangkok region, and other East Asian capitals. In this regard, the role of the Craft Design Service Center in Chiang Mai should be expanded and enhanced offering increased exhibition, workshop, design, entrepreneurship, and marketing support. It should be linked to the recently opened Creative Design Center in Bangkok, in the Emporium shopping complex.²¹

2. The north's mystique can be enhanced through increased and higher quality historical preservation, cultural activities, and festivals.

3. Promote an amenity-based service economy that would provide services not available in southwest China at equivalent levels of value and quality; for example, jewelry, health services, spas, Thai cuisine, unique traditional, or "old fashioned", Chinese foods, and Southeast Asian oriented international education. This will require Chiang Mai and Chiang Rai to develop clear visions and strategies for their future development.

4. Negotiate with Laos, China, and the ADB, to accelerate implementation of the A3 bridge, a high quality road link through Laos, and implementation and enforcement of the Cross-Border Transport Agreement (CBTA) involving China, Laos, and Thailand. A toll, payable to Laos authorities, should be set for the A3 link through Laos to make costs and travel times to logistics firms predictable.

5. Given the region's proximity to China, and its appeal to westerners, position Chiang Mai and Chiang Rai as centers for international education and culture. In particular, develop and promote southwest China studies (from a Southeast Asian perspective), and Mandarin language training. Just as Kunming and Nanning are trying to position themselves as China's gateways to Southeast Asia, Chiang Mai and Chiang Rai should position itself as Southeast Asia's gateway to southwest China. For example, briefing courses for Thai business people, interested in operating in China, could be offered, in conjunction with basic Mandarin language classes. In this regard, building blocks are starting to fall in place. The technical college, *Ratchapat*, in Chiang Mai was the first to teach Mandarin, the Confucius Institute (the Chinese equivalent of the British Council), is operating in Chiang Mai.

6. Universities and technical colleges in the region should align themselves with high potential clusters in the region; for example, cultural tourism, cosmetics, furniture and jewelry design, western and Thai medicine. Mae Fah Luang University in Chiang Rai is a leader in this regard, for example, by developing a School of Health which teaches both

²¹ Gampell, J., "State of the Arts: A New Facility in Bangkok Aims to Foster Creativity and Inspire Innovation among the Kingdom's Design Set", *Sawasdee*, August 2006.

western and applied Thai medicine, developing a School of Cosmetic Science.²² If such programs were to become globally competitive in academic terms, the region could attract a substantial stream of international students, from China, Southeast Asia, and western countries. Holistic health care, cultural management, tourism, and design would be high potential areas to initially develop such international educational programs.

3.4 Greater Phuket

The Thai Government's policy (TAT, NESDB) is to plan and market the Phuket tourism region based on a wider geographic definition that includes Phuket, Phang Nga, and Krabi Provinces, known as *greater Phuket*. This policy is sound because: (i) Despite the tsunami disaster, Phuket has an established positive high profile brand name that can be generalized to the other two provinces, (ii) There are already considerable linkages in terms of tourist flows among the three provinces; for example, day trips by Phuket tourists to the limestone outcroppings ("James Bond islands") and islands of Phang Nga, and (iii) Phuket is becoming crowded, starting to reach carrying capacity if a high-end tourism model is to be successfully implemented on Phuket island.

Greater Phuket has recovered quickly from the tsunami disaster of late 2004. Phuket province has more rooms available than before the tsunami and is expected to enjoy record tourist arrivals during the 2006-2007 tourist season. Hard hit areas such as Khao Lak are rapidly recovering, although still not back to pre-tsunami levels. In Phang Nga, a further 1,600 rooms are being opened for the 2006-2007 tourist seasons, they will create at least 1,000 new jobs.²³ Phi Phi Island is in the process of rebuilding, slowed by conflict over whether land readjustment should be undertaken, based on proposed prohibition of rebuilding in the most tsunami prone areas. Essentially, the island is being rebuilt with limited new controls.

Phuket is the primary beach tourism destination in Southeast Asia, having overtaken Bali, Indonesia, some years ago, attracting approximately three million tourists per year.²⁴ Phuket province is increasingly built-up, nearing its carrying capacity for high quality amenity development. Krabi is growing quickly, supported by improved air services. Phang Nga linking these two provinces is largely undeveloped, and exhibits much lower socio-economic development; it was hard hit by the tsunami. Whereas the south region as a whole experienced net out-migration in 2004—14,091 net out-migration—all three provinces that constitute greater Phuket continued to experience in-migration as they have for at least the last ten years.²⁵

²² Bunyhamanee, S., "University Looks to Nature to Pay the Bills", *Bangkok Post*, June 14 2006, pg B6.

²³ Sritama, S., "Andaman on the Mend: Phang Nga Hotels, Resorts Start to Open", *The Nation*, July 24 2006, pg 2B.

²⁴ Because Phuket had not yet fully recovered from the tsunami in 2005, the latest available data (2005) considerably understates tourism. TAT data for 2005 indicates that Phuket attracted 1.3 million foreign tourists and 1.2 million domestic tourists.

²⁵ Net in-migration to the 3 Provinces constituting Greater Phuket was 6,435. Data Source: Ministry of Interior, Government of Thailand, 2005

Central Phuket's economy is dominated by tourism, much more so than any other province in Thailand, in fact, virtually any jurisdiction in the world. As indicated by Table 6, output of hotels and restaurants account for 43.2 percent of the province's economic output. Not only is tourism dominant in terms of share, it continues to grow rapidly, growing 158 percent in real terms from 1994-2007. Unlike the case of the Thai Riviera, the emerging area of Krabi and Phang Nga are growing slightly faster in terms of hotel and restaurant output than Phuket Province itself, although the sector accounts for a relatively small share of output in these two outer provinces (7.16 percent). Even so, absolute hotel and restaurant output is almost as large in the two emerging provinces of greater Phuket, including Krabi, Phang Nga, as in the core, or two northern provinces, of the Thai Riviera (2045, 2886 million Baht output respectively). As in the southern Thai Riviera, agriculture remains the dominant sector in Krabi and Phang Nga, reflecting strong agricultural economies; for example, palm oil in Phang Nga and fisheries in Ranong.

Table 6: GPP of Greater Phuket at Constant Prices: Composition & Dynamics

Sectors	Areas	1997	percent Share	2004	percent Share	percent Change (1997-2004)
Agriculture	Core area	2,177	11.39	2,304	8.28	5.83
	Emerging areas	12,612	51.70	15,126	52.98	19.93
Manufacturing	Core area	1,378	7.21	1,126	4.05	-18.29
	Emerging areas	1,673	6.86	1,455	5.10	-13.03
Wholesale and retail trade	Core area	2,969	15.53	2,499	8.98	-15.83
	Emerging areas	3,405	13.96	2,720	9.53	-20.12
Hotels and restaurants	Core area	4,658	24.37	12,020	43.20	158.05
	Emerging areas	764	3.13	2,045	7.16	167.67
Others	Core area	7,934	41.50	9,873	35.49	24.44
	Emerging areas	5,941	24.35	7,205	25.24	21.28
GDP	Core area	19,116	100.00	27,822	100.00	45.54
	Emerging areas	24,395	100.00	28,551	100.00	17.04

Absolute Units=Million Baht

Note: Core area is Phuket province

Emerging area consists of Krabi and Phangnga provinces

Source: NESDB, 2004

Challenges

1. Poor co-ordination among key stakeholders in the tourist industry, and between government and the tourism sector, especially in Phuket province. The result is fragmented investment, a lack of catalytic projects, such as a major Convention Center, and the lack of a clear vision and strategy for Phuket's future development.
2. Too narrow a view of what should constitute Phuket's economy. For example, amenity drawn knowledge workers currently experience a lack of high quality office space in

Phuket, despite the national government's marketing of the city as Phuket International City.

3. Strong differences of opinion exist among major stakeholders in regard to most major projects proposed in Phuket province. This indicates a need for more collaborative decision-making, involving representatives of major stakeholder groups, so that decisions on individual projects can be reached more quickly.

4. Infrastructure shortcomings, in particular, the lack of a four-lane highway connecting Phuket, Phang Nga, and Krabi, constraints realization of the greater Phuket concept, although upgrading of this route is underway.

5. A danger that environmental quality in Phuket may deteriorate as tourists visits continue to climb (currently approximately three million visitors per year), resulting in a lowering of the quality of the tourist market, or of Phuket moving down market.

6. Inadequate marketing of Phang Nga Province's tourist attractions.

Design Parameters

1. Expand the MICE (meetings, incentive travel, conventions, exhibitions) function in Phuket, by developing a world-class convention center. Position Phuket as the MICE center of the region.

2. Improve the quality of the environment in Phuket; for example, wastewater collection and treatment, upgrade and extend sidewalks in tourist towns. Ensure that new development throughout Phuket is to the highest standards, expected in an amenity region. At the same time, position Phuket as a high-end tourist destination.

3. As was envisioned in the Phuket international city development plan prepared by NESDB, Phuket's service economy should be diversified, and moved up market. This strategy is sound. Phuket's role should be as an International Knowledge Center, based on its amenity, with tourism an important component of the economy. Phang Nga and Krabi would be more oriented to tourism, with Phuket acting as a more comprehensive amenity and business center.

In terms of the knowledge center role, Phuket, with its excellent international aviation service (flights to Malaysia, Singapore, Hong Kong, Europe) and communications is an ideal location for footloose knowledge and domestic, foreign, and joint venture professional firms. Phuket is an excellent base for consultants serving the East Asian market, including China. Manufacturing firms, with a few exceptions such as non-polluting knowledge intensive, high-value manufacturing, should not be allowed to locate on Phuket. If the convention, exposition, and incentive travel function were expanded, professional conferences could enhance the quality of the knowledge community in Phuket, by providing easy access to international knowledge networks by locally based firms and professionals.

4. Develop Phang Nga and Krabi to high standards, utilizing sustainable development and cluster principles. Rather than being self-organizing tourist towns, such as is the current case in Phuket, Phang Nga and Krabi should offer tourists the state-of-art in green tourism development, both at building and community scales. Given the high number of European and Japanese tourists attracted to the area, such a strategy should be especially productive in attracting high-end tourists. Again, manufacturing should not be allowed to locate near tourist zones in these two provinces.

At present, Phang Nga and Krabi combined attract fewer international and domestic tourists than Phuket—about 72 percent as many as Phuket. Hence, considerable potential exists to shape the region's structure and style as new infrastructure and structures are built in Phang Na and Krabi. By 2015, it is highly likely that Phang Nga and Krabi will attract more tourists than Phuket, if the greater Phuket concept is realized.

5. To attract tourists to the region, a sense of security needs to be developed. Current tsunami warning systems are making considerable progress in Thailand, but efforts need to be accelerated, and publicized, to give tourists a sense of security.

6. Network the region with other amenity locations, positioning the Gulf of Thailand as an inland sea. Aviation links should be strengthened to Chumporn, Hua Hin, Pattaya, Krabi, and Koh Chang.

7. Develop a high speed arc highway connecting the three destinations of Phuket, Phang Nga, and Krabi. As in the case of the Thai Riviera, coastal roads, designed to create an illusion of distance and intimate with the sea and land, should complement the high-speed inter-provincial highway.

8. Away from the Andaman Sea, alternative economic bases should be strengthened. For example, Krabi is becoming the leading palm oil production center in Thailand, a product that will grow in demand, given its use to make bio-diesel (Palm oil is economic as a refined fuel when crude oil is above \$50. USD per barrel.). For example, Malaysia has approved the construction of 52 new bio diesel processing plants, and from October 2006, will mix five percent bio diesel into all fossil fuel diesel, increasing the share to 20 percent. Japan and the European Union are purchasers of Malaysian bio diesel.²⁶ A palm oil center could be established in Krabi, connected to global palm oil research and development networks.

Similarly, *parawood* is a viable crop in parts of inland greater Phuket, demand for *parawood* furniture is strong, especially in export markets.

²⁶ “Green Powers in Southeast Asia: Fuels Rush In: When Diesel Grows on Trees”, The Economist, August 26 2006, pg 34.

4. Key Recommendations

4.1 National Infrastructure Initiatives

1. *Upgrade the national rail network* on a phased basis. Eventually the whole trunk system should be double tracked, electric, and standard gauge. Thailand is an appropriately sized and populated country for rail to play a lead role in intercity passenger transportation, as in France, Germany, and the United Kingdom. At present, according to business stakeholders interviewed in both the north and southeast, the quality of rail service is in decline, so that it is not a real alternative in the movement of most goods and passengers, despite its obvious potential benefits in terms of energy efficiency, time savings, environmental impacts, and safety.

Similarly, there is a need for State Railway of Thailand (SRT) to take freight transport more seriously, especially if a new infrastructure is built. This would involve deployment of more state-of-the-art dedicated container trains, more trans-modal facilities at key locations throughout Thailand where containers can be shifted to trucks or ships. At present, 88 percent of goods (by weight) move by truck in Thailand. Shifting some of this traffic to the rail system would produce considerable benefits, as outlined below. Modernizing Thailand's rail system requires a national strategic commitment that will be very expensive; it is unlikely to be feasible under existing institutional arrangements. Radically different institutional structures should be considered; for example, one company (possibly private) operating the track and signaling systems, with competing passenger and freight companies operating on the common rail network.

Although a serious upgrading of the Thai rail will cost tens of billions of dollars, necessitating phased development, long-run energy saving costs—particularly less imported crude oil for diesel—by shifting more passengers and freight to rail, as well as direct energy savings in rail operations, would contribute to making a well-designed, well managed trunk rail system economic. Part of the financing could be raised by selling or leasing the large land bank held by the SRT.

In sum, there is a need to dramatically reverse the decline in Thailand's rail system at a minimum, and more ambitiously, create a world-class rail system as in Europe, or as China is now doing.

2. *Introduce FCT Services on Selected Routes.* Given that Thailand lacks two large scale nodal cities, such as Tokyo-Osaka or Seoul-Pusan, needed to justify high speed rail (HSR) service, the flagship rail passenger service should be by fast comfortable trains (FCT); for example, the Toronto-Montreal Via Rail service in Canada or the New York-Boston and New York-Washington Amtrak services in the United States. The priority route, based on forecast passenger movements and ability to pay, would be Bangkok-Suvarnabhumi-Pattaya, with a possible extension to Rayong.²⁷ The second most feasible

²⁷ This could involve extending the Bangkok-Suvarnabhumi airport rail service (currently under construction) to Pattaya.

route, which currently generates more public bus and rail transport passengers, but exhibits less ability to pay, is Bangkok-Nakhon Ratchasima. A third possible route, supported to a large extent by tourists would be Suvarnabhumi-Bangkok-Thai Riviera (Hua Hin, possibly to Chumporn or even Phuket). The latter route is likely to exhibit relatively high ability to pay.

There is a need to review trans-border rail system planning given major changes in geo-strategic realities since the Spatial Development Framework Plan for Thailand was published in 1997,²⁸ and the UN ESCAP pan-Asian and ADB greater Mekong subregion rail planning was undertaken. For example, given changes in spatial dynamics in the greater Mekong region, the link from Chiang Mai to Kunming is likely no longer economic. However, a link from Chiang Rai to Chang Khong may be so, given the increased river transport on the Mekong River, especially northward to China.

3. Develop a National Expressway System. Thailand is one of the few middle-income countries in East Asia without a national expressway system. Given that well-planned national expressway systems generate high economic returns as in the USA, Malaysia, and China, this situation inflicts substantial economic costs on Thailand, increasing fuel consumption, injuries and fatalities, excess loss of human time, less competitive costing of exports and domestically sold products, that may be competing with international products brought close to market by ship.

A four-pronged system, articulated through Bangkok's outer ring road is required. The prongs would be Bangkok to (i) the south, to the Malaysian border, serving the Thai Riviera, and the greater Phuket area, (ii) the north to Chiang Rai and Chang Kong, (iii) the northeast, serving the northeast development spine of Nakhon Ratchasima, Khon Kaen, Udon Thani, and Nong Khai, and (iv) the eastern seaboard, including Pattaya and Rayong (The latter system is partially complete, and will soon be complete to Pattaya.).

A major constraint to developing such a system in Thailand has not been financial, or lack of demand, but the fact that local people do not want their direct access to highways cut-off. To overcome this situation, entirely new routes (away from existing inter-regional highways) should be designated in many cases, as the USA, Canada, Malaysia, and China, have done in many cases.

4. Implement Mass Rail Transit Plans for the Bangkok Region. Present plans to massively increase the scale in kilometers of rail mass transit systems in the Bangkok region, in principle, are highly desirable. Given the spatial shifts described above, that are transforming the economy of core Bangkok's into an first-world, increasingly high-value cosmopolitan economy, there is a need to improve transactional efficiency in Bangkok as soon as possible. High-value service economies value human time and clean air highly—both positive outcomes of rail mass transit systems. Importantly, rail links to the suburbs need to be built to take pressure off core Bangkok from suburbanites driving to work, shop, and enjoy themselves in core Bangkok. Implementation of the planned system will

²⁸ NESDB, Norconsult, Spatial Development Framework Plan for Thailand, Bangkok: NESDB, 1997

substantially reduce energy costs vis-à-vis road based urban transportation. However, every effort should be made to ensure that the routing of the lines is optimal in terms of desired urban form, and future passenger flows, given that heavy rail lines, especially the BTS, are already dramatically reshaping urban form and land markets in Bangkok.

No matter how many kilometers of heavy rail are built, buses, and increasingly vans that serve individual neighborhoods, will remain important components of Bangkok's transportation system. Only low emission vehicles should be licensed, thereby conforming to the highest Euro standards.

5. Make Energy Efficiency a Priority National Strategy. The root of many of Thailand's economic problems is the country's high vulnerability to energy, namely, petroleum, prices. As noted, Thailand is one of the five most vulnerable countries in the world. This means that the two largest consumers of energy in Thailand, transportation systems and buildings, need to be revisited in terms of their energy efficiency. Measures noted above in terms of transportation development would contribute substantially to increased energy efficiency. Various financial incentives through, for example, taxes, plus improved information could and should be offered in regard to building materials, design, and cooling systems.

To become more self-sufficient, a government priority, energy imports will need to be reduced, otherwise the high dependence on the need to export will remain. Seriously addressing the energy vulnerability issue would not only enable Thailand to be more self-sufficient, it could also be a source of economic growth as new technologies are adapted for use in, or developed in, Thailand. Many alternative energy sources could be deployed by Thailand including wind, solar, and bio-diesel fuels like palm oil and sugar cane sourced, and possibly nuclear power.

6. Improve Linkages Between Amenity Areas. Amenity regions need to be linked better, by rail, road, and possibly hydro-foil as described above, but importantly also by aviation, given that many international visitors wish to connect directly to amenity regions from Suvarnabhumi International Airport, and that their time is often limited. In this regard, Thailand enjoys considerable strength, Bangkok Airways is a global leader in the field of amenity-based aviation, specializing in connecting high amenity regions, labeling itself a "boutique airline".

7. Encourage Growth of Low Cost Airline. The growth of low-cost airlines should be supported. Such airlines encourage domestic tourism, which is essentially a redistribution of consumption to amenity areas and poor areas with large numbers of out-migrants who visit relatives, which is a prime driver of domestic tourism. Secondly, low cost airlines reduce the social costs of migration substantially, enabling migrants to travel home more easily to areas such as the northeast to maintain contacts with family and friends, and provide more accurate information in regard to economic opportunities in high employment growth areas, such as the ESB, amenity zones such as greater Phuket, and core Bangkok. In other words, national labor markets become more efficient. Within Southeast Asia in particular, low cost airline services will increase international tourism.

8. *Improve the Efficiency of Thailand's Logistic System.* The efficiency of Thailand's logistics system needs substantial improvement, approximately 18 percent of GDP is spent on logistics in Thailand compared with about eight percent in the US. (This is a misleading number given the greater relative importance of high-value services in the US economy.)

Much of Thailand's inefficiency in logistics is not related to hard infrastructure, although deficiencies in the rail system, lack of inter-regional expressways, distorted industrial location patterns do substantially contribute, as has been argued. Rather, logistics inefficiency in Thailand is also substantially a product of inefficient soft systems, in particular, cumbersome customs procedures that result in high losses to the economy. It is estimated that a one-window inter-net based customs clearance system would result in savings of US\$18 billion per year in Thailand.²⁹ However, for such reform to occur, there would need to be an institutional champion. If business organizations, chambers of commerce, lobby for such change, reform might occur. Similarly, seamless movement of trucks across key borders; for example, Thailand-Malaysia, as in the EU or NAFTA (USA-Canada) would lower logistics costs.

Thailand currently lacks significant third party logistics firms. Although a Thai based international logistics firm is probably not feasible, a national firm(s) partnered with an international firm, such as DHL, is a possibility, and desirable in terms of improving the quality of domestic and port/airport logistics services (For example, Canada, another middle-sized country, has developed a high profile logistics firm, Purolator, that works in partnership with international firms.). A Thai based logistics firm could possibly become a major player in the greater Mekong region, as has been argued.

9. *Redevelop the Klong Toey Port Area into a World Class Mixed Use Area.* Most world-class cities have reclaimed their waterfronts, turning them into flagship mixed used developments, attracting corporate headquarters, entertainment and dining complexes, and cultural facilities, enjoyed by workers, shoppers, local people relaxing, and domestic and foreign tourists. There are numerous successful cases including Canary Wharf in London, Britain; Baltimore, USA; Toronto, Canada; Shanghai, Qingdao, Dalian, and Hong Kong in China. In the case of Bangkok, the tardy movement of the port function to Laem Chabang has prevented such redevelopment, and contributes to truck congestion and movement and storage of hazardous materials in the city. Complete movement of the port function to the ESB could contribute significantly both to industrial efficiency and re-positioning Bangkok among the ranks of global cities. Bangkok could benefit from a high profile urban zone showcasing environmental efficiency and signature buildings to attract the attention of the world.

²⁹ To monitor logistics costs, baseline data on logistics costs should be established for a number of key clusters, then logistics costs relative to value of output should be monitored over time. In other words, longitudinal analysis within Thailand would be more useful than inter-country comparisons.

4.2 Place Based Initiatives to Enhance Amenity-based Development

1. *Make Quality of Place (Amenity) a National Priority.* Thailand is very amenity sensitive in terms of economic development. The good news is that amenity, unlike energy dependency, is virtually under domestic control.

Amenity-based development is likely to account for an increasingly high percentage of Thailand's GDP, and is consistent with national development objectives, particularly self-sufficiency, happiness, and green development. Amenity regions, along with cosmopolitan global cities, are the fastest growing sub-national economies in most developed and middle-income countries. This means that the quality of the environment, landscapes, cityscapes, and cultural heritage areas, will become more important than ever.

Obvious areas for improvement include urban air quality, traffic congestion, water front development, better management of national parks and forest preserves, which are now often highly littered. Areas of historical and cultural significance need to be better restored. (Ayutthaya is an example of shortcomings in preservation and restoration, while Sukhothai is an example of world-class restoration.) Although improvements have occurred over the last decade; for example, reforestation, and initial signs of effective urban planning in Bangkok—such as the enforcement of FARs in the Bangkok Plan to create more attractive downtown neighborhoods such as in the Sukhumvit area—there is a need for an even greater acceleration in efforts to improve the environmental and amenity quality of Thai places, especially those places central to economic development, like amenity zones, and/or provision of environmental services; for example, wetlands, deforested sloped land. Natural resources need to be utilized more efficiently, balancing conservation and other use objectives to preserve ecological balance. Local people and communities need to play a greater role in ensuring sound natural resource use locally, participating in decision-making, and acting as watch dogs.

Thailand should undertake a major study of its geographical, economic, environmental, social, and cultural endowments from the point of view of amenity development. There is a need to recognize the importance of *place* in Thailand's economic development, especially if a happiness/green amenity-based economy is the goal. Such a strategy would identify, appropriately develop, and protect amenity zones. In sum, Thailand's landscapes, both urban and rural, need to be developed to truly world-class standards. The quality of place is becoming a major focus of national and sub-national governments worldwide, as the world's sub-national regions compete for talent, investment, visitors.

2. *Focus Higher Education to Improve its Quality and Relevance to Economic Development.* An important component of high-end personal services economies is specialized higher education. In this regard, Thailand has lost ground both in terms of educating its own people to world-class levels, and attracting international students. The number of international students worldwide has doubled since 1995 to 2.7 million, Thailand has attracted a negligible number of these students. Arguably, the competitiveness of leading Thai universities has declined over the last ten years,

measured in terms of international indicators such as number of refereed papers in international journals.

Given Thailand's role as a middle-sized, middle-income country, it should target investment in higher education toward activities in which the country is or is likely to be successful. For example, Thai medical education is excellent, why not focus on it, making it world-class, feeding the medical clusters in places such as Bangkok and Phuket, improving the health of the Thai people. Thai medical personnel could work, for periods of time, in the best facilities worldwide, ensuring the highest possible quality of medical treatment in global health care markets.³⁰ Thailand is unquestionably a world-leader in world-class tourism. Why does it not have world-class tourism, hospitality or hotel management university programs? Thailand could essentially copy the highly successful Swiss model in this regard. Other possible areas for excellence in higher education could include food processing and cuisine, such as at Kasetsart University, (iii) fashion, jewelry, and product design like at Silkaporn University, and private universities, and rubber, like at Mahidol University, and automotives.

These world-class university programs, oriented to what Thailand does best, would ideally be suited to amenity regions. To some extent this is already happening, with campuses of Webster University and Kasetsart University, located in the Thai Riviera area, Chiang Mai and Mae Fah Luang University in the northern axis, and a branch campus of Prince of Songkhla University in the greater Phuket region.

3. Focus Research and Development to Align with Economic/ Geographic Clusters.

Given Thailand's current level of economic development, research and development expenditures are relatively low. Again, the policy should be to focus R&D spending, both by the public sector or in the private sector in response to public incentives. In many cases, R&D activities could be spatially aligned with economic clusters; for example, R&D in automotives in the ESB or Ayutthaya (Honda), in palm oil in Krabi, in design in Bangkok and Chiang Mai.

4. Upgrade the National Tourism Product.

Given the importance of tourism to amenity areas and to the national economy as a whole, there is a need to upgrade the national tourism product. This needs to be a multi-pronged strategy. For example, high quality boutique hotels need to be developed in the north. "Zero dollar" tourism, whereby Chinese tourist groups are assigned to inbound tourist agencies in return for the inbound agency agreeing to provide accommodation and tours financed through commissions on tourist purchases, need to be controlled, given the growth potential of Chinese tourism, already close to one million arrivals per year. As noted, the planning and built form of tourist towns needs considerable improvement; for example, on Koh Samui. Positive dynamics such as the current up-market rehabilitation of Pattaya need to be accelerated through appropriate incentives.

³⁰ To some extent this dynamic is underway with Thais studying or working at leading medical facilities such as John Hopkins Medical Center and the Mayo Clinic.

5. *Increased Promotion of Thailand's Amenity Attractions.* Thailand's amenity advantages have been well promoted by the Tourism Authority of Thailand (TAT) for the last two decades. However, these efforts need to be stepped up, there is no reason why Thailand could not attract in excess of 50 million international tourists as Spain and France do, with a minimum of environmental damage (at least in the case of France). Thailand could be promoted as, *A Different Reality: a World of Happiness*, capturing a wide gamut of activities ranging from medical tourism (1.1 million visitors in 2004; 20 percent of tourist income in Thailand),³¹ to beach tourism, for which Thailand is famous. Of concern is the fact that marketing budgets may be inadequate, for example TAT requested a budget of ThB 900 million in the second half of 2006, but only ThB 270 has been approved (as of July 30 2006).³²

6. *Adopt a Geographic or Economic Cluster Approach to Economic Development.* A geographic or economic clusters approach to economic development could be instrumental in moving the economy up the value chain. Economic clusters are learning systems that lead to rapid innovation. At present, Thailand's below expectations economic growth is largely the product of a lack of innovation, and a lack of productivity growth (in addition to energy stresses discussed earlier). True *learning and knowledge* systems clusters involve the following elements: (i) specialized higher education institutes, which are very significant, (ii) research and development and standards institutions, such as the palm oil center proposed for Krabi, (iii) domestic and foreign talent and investment, resulting in fusion products and services, (iv) excellent intra-cluster transportation and communications, plus reliable high quality links to the outside world, and (v) entrepreneurial people. To a very significant extent, the rapid economic development of coastal China and the United States, for example, Silicon Valley, the Seattle aerospace complex, and the New York financial cluster, have been the result of geographically concentrated cluster development.

7. The current extremely low unemployment rate in Thailand³³ is one of the lowest in the world, and it appears positive on the surface. However, it is actually a sign of too much low value economic activity, based on relatively inexpensive labor, and not enough innovation and improvement in productivity. It indicates relatively slow re-structuring of the economy. Labor should be encouraged to shift to higher value economic and geographic clusters (For example, during the 2006-2007 high tourism season, labor shortages are damaging the tourism industry in greater Phuket.).

4.3 Institutional Initiatives to Enhance Amenity-based Development

1. *Design of Amenity Regions: the Role of DASTA.* The establishment of DASTA, a semi-autonomous body housed in the Prime Minister's office, is positive. However, its mandate leads to too narrow a conceptualization of regional development strategies in amenity areas. The heavy reliance on tourism makes these areas too vulnerable. Amenity

³¹ For details, see: *Thailand: Centre of Excellent Health of Asia*, Bangkok: Ministry of Public Health (undated)

³² Sritama, pg. 2B

³³ 1.7 percent; 2Q, 2006.

regions should have more diverse economies based on higher education facilities, conventional and alternative health facilities such as spas, meditation, yoga, alternative medicine, domestic and tourist-focused personal finance, infrastructure in support of footloose knowledge workers, property development targeted to amenity migrants and retirees, and boutique agriculture. Widening the mandate of DASTA should be considered.

Development of tourist facilities is now the mandate of the Ministry of Sports and Tourism, shifted from the TAT several years ago. The Ministry needs to be strengthened, with a clear emphasis on tourism, not sports, given that tourism is Thailand's leading industry.

2. *Enhance marketing of Amenity Products.* The Ministry of Commerce has an active program to promote most clusters oriented to amenity development; for example, cuisine, jewelry, furniture, and fashion; as well as supportive functions such as logistics. These activities, which involve Thai exhibitions, external promotion., should continue to receive strong government support, be enhanced, and be increasingly focused on dynamic economic clusters. Such international promotion is essential to locally based development. One of the major constraints to locally based development (geographic clusters) is the inability of local entrepreneurs to connect with international markets. Initiatives that bring international buyers and local quality producers together are essential for geographically based economic clusters to prosper.

5. Conclusions

Thailand's economy faces many challenges. The 10NDP advocates a *sufficiency/happiness/green* approach to development, or an amenity economy. Such an economy is, and will increasingly be based on the *quality of places* and the deepening of economic clusters so that they become *learning systems*.

The purpose of this paper has been to review development futures in four Thai regions through the prism of geographic clusters development. A locally based, amenity-oriented approach to development of Thailand's economy is sound, playing to Thailand's comparative and competitive advantages. Serious study and strategizing, and more importantly, subsequent national and regionally based action to make such an approach to Thailand's development a reality, is needed.

APPENDICES

Appendix 1: Chiang Mai Provincial Product at Constant Prices 1997-2004

	1997		2004		Change (%)
	(Millions of Baht)	(%)	(Millions of Baht)	(%)	
Agriculture	5,816	11.6	5,106	10.9	-12.2
Manufacturing	7,163	14.3	4,950	10.5	-30.9
Wholesale and Retail Trade	9,933	19.8	8,513	18.1	-14.3
Hotels and Restaurants	2,878	5.8	3,941	8.4	36.9
Others	24,328	48.5	24,449	52.1	0.5
GDP	50,118	100	46,959	100	-6.3

Appendix 2: Chiang Rai Provincial Product at Constant Prices 1997-2004

	1997		2004		Change (%)
	(Millions of Baht)	(%)	(Millions of Baht)	(%)	
Agriculture	3,321	16.5	4,540	21.9	36.7
Manufacturing	698	3.5	932	4.5	33.5
Wholesale and Retail Trade	6,084	30.3	4,606	22.3	-24.3
Hotels and Restaurants	536	2.7	531	2.6	-0.9
Others	9,448	47.0	10,017	48.7	6.6
GDP	20,087	100	20,680	100	3.0



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