



URBAN DEVELOPMENT IN THE GREATER MEKONG SUBREGION

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Edited by Florian Steinberg and Januar Hakim



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Foreword

Urban Development and Urbanization in the Greater Mekong Subregion

With Southeast Asia's urbanization rate increasing from 42% in 2010 to 65% in 2050, the Greater Mekong Subregion (GMS) will undergo inevitable urbanization, experiencing vast transformations in its economies and international transport connectivity.

Some of the most important trends include (i) accelerated growth of small and medium towns and (ii) the rise of urban centers that serve as hosts for economic development. According to *Asia 2050*, a flagship study by the Asian Development Bank (ADB), most economic growth will be urban. By 2050, the GMS is expected to be at least 50% urbanized. Careful planning is needed to balance growth—preferably green growth—with inclusiveness to avoid the ills and negative impacts of urbanization. We can achieve this through national urban strategies, which provide road maps and orientations to urban development, ultimately leading to a need for a GMS urban development strategy.

Most countries in Southeast Asia (with the exception of Singapore) are lagging behind East Asian urbanization such as that of the People's Republic of China (PRC), Japan, and the Republic of Korea. The GMS countries Cambodia, the Lao People's Democratic Republic (Lao PDR), and Myanmar are at the early stages of industrialization and urbanization, while Thailand, Viet Nam, and Yunnan Province and Guangxi Zhuang Autonomous Region of the PRC are at the intermediate stages.

Deliberate urban development policies are possible, but these efforts will achieve effects only after about 15–20 years. Nonurban policies such as political, fiscal, or administrative decentralization may take a leading role over urban policies. Viet Nam and Indonesia, for example, have both had far-reaching decentralization.

Closer integration between GMS countries and the rest of the PRC as well as the inclusion of Myanmar are among the major indicators of the expansion of the GMS corridors. An urban development strategy should take advantage of the GMS corridors and the investments made toward them. The broader goal

should be to achieve balanced urbanization that supports competitive cities, balanced growth, and a green economy.

In 2012, three GMS Corridor Towns Development Projects, which largely cover environmental infrastructure, were approved and initiated in Cambodia, the Lao PDR, and Viet Nam. ADB invested \$47.4 million for Cambodia, \$41.8 million for the Lao PDR, and \$131.0 million for Viet Nam. Improved access to basic infrastructure, cleaner environment, and mitigation of climate change impacts are expected to positively affect the competitiveness of the towns under these projects.

In preparation for the years ahead until the end of the current GMS strategic framework in 2022—toward the second and, eventually, third generation of Corridor Towns Development Projects—GMS countries will need to select the towns with the best potential. Countries should establish priorities and criteria for the kind of development and investments that will need support.

We are convinced that (i) modern environmental services and infrastructure (e.g., water, wastewater, and solid waste management) support green development and will contribute to positive health impacts; (ii) improved climate resilience (e.g., through flood control measures) will mean reduced losses from climate change impacts; and (iii) improved urban performance will translate into enhanced productivity and increased attractiveness for investors and residents, providing support to a green economy.

ADB's assumption is that urban development can support regional cooperation and integration. Cross-border economic activities can be enforced not only through transport and border facilities, but also through the construction of markets and trading centers, joint logistics centers, and transport terminals. The “urban” dimension of regional cooperation and integration is something ADB would like to further explore. This will include an exploration of strategic approaches to regional cooperation, and an assessment of the future pipeline of urban investments.

ADB will continue to play a significant role in pursuing the GMS Strategic Framework, 2012–2022, taking into consideration the comprehensive pipeline of new investment projects geared toward a GMS urban development strategy. The GMS Program supports ADB's three-pronged approach of increasing connectivity, improving competitiveness, and building a greater sense of community, aimed at transforming the GMS transport corridors into economic corridors.

This new strategic framework is anchored on the corridor development approach, which provides a spatial focus on urban sector development. The framework expands the GMS Program from conventional infrastructure to multisector investments designed to foster economic corridor development, involving cross-sector linkages, better consideration of regional economic development, and stronger stakeholder involvement. It builds on the substantial progress the GMS Economic Cooperation Program has made and the likely global and regional trends. It also builds on the commitment of GMS member countries to promote regional cooperation and integration.

In support of the GMS Strategic Framework, ADB will assist the GMS countries in strengthening infrastructure linkages, facilitating cross-border trade investments, and enhancing private sector participation and competitiveness. These strategies demand a multisector approach that would integrate and interrelate other sectors such as water, transport, natural resources, agriculture, and small and medium-sized, enterprise development into a development assistance package. Investments and nonlending projects in these sectors will help widen and deepen the economic corridors, leading to their further development and contributing to inclusive development along and around the regional corridors.

At ADB, we accept these challenges of urban development as part of the regional cooperation and integration agenda. This book is intended to provide a first detailed look at the urban development scenario for this important region.

WooChong Um

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Asian Development Bank

Preface

Knowledge Sharing on Urban Development in the Greater Mekong Subregion

This publication on urban development in the Greater Mekong Subregion (GMS)—a first of its kind—reflects recognition of the greater potential roles of urban development, increased rural-urban links, and spatial prioritization along GMS transport corridors in the next decade. Investments and nonlending projects in these areas will help widen and deepen the transport corridors, leading to their further development and contributing to inclusive development along and around the regional corridors.

The Asian Development Bank has been supporting closer integration of urban strategies among GMS countries, addressing their current national planning priorities and linking them across national borders. The improved road transportation conditions along Asian Development Bank-designated corridors, which connect all major urban centers in the GMS, will emerge to become the primary economic driver influencing the urban system in the GMS countries. These countries are expected to benefit from the GMS Economic Cooperation Strategy, which is designed to strengthen collaboration among the towns and cities along economic corridors and help improve interaction of economic activities between the central and local governments, as well as between the public and private sectors.

This book is an important contribution as it assesses the role of cities and urban connectivity in promoting GMS sustainability and considers country perspectives upon pursuing urban development in the GMS. It will help increase awareness of best practices and key challenges in addressing essential development concerns. Knowledge exchange and experience sharing from international practitioners in urban systems and strategies will further enrich possible options for urban sector development and promote knowledge sharing and networking among GMS countries. Closer integration between GMS countries and the People's Republic of China is among the major indicators in the expansion of GMS corridor towns. Improved urban infrastructure, a cleaner

environment, and mitigation of climate change impacts will help accelerate the transformation of transport corridors into economic corridors in the GMS.

The knowledge exchange and sharing of each country's perspectives on urban development systems and trends bolster our resolve toward connectivity, functional integration, and competitiveness in the region.



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Abbreviations

ADB	-	Asian Development Bank
AEC	-	Association of Southeast Asian Nations Economic Community
ASEAN	-	Association of Southeast Asian Nations
ASMED	-	Agency for SME Development
B	-	baht
BEZ	-	border economic zone
BMR	-	Bangkok Metropolitan Region
BOI	-	Board of Investment
CAGR	-	compound annual growth rate
CBTA	-	Cross-Border Transport Facilitation Agreement
DBTZ	-	Dansavanh Border Trade Zone
DHSHD	-	Department of Human Settlements and Housing Development
E-W	-	East-West
EPZ	-	export processing zone
ESB	-	Eastern Seaboard
EWEC	-	East-West Economic Corridor
FDI	-	foreign direct investment
FFA	-	force field analysis
GDP	-	gross domestic product
GMS	-	Greater Mekong Subregion
GSCS	-	Greater South People's Republic of China Subregion
GTI	-	Greater Tumen Initiative
GTS	-	Greater Tumen Subregion
HCMC	-	Ho Chi Minh City
HSR	-	high-speed rail
ISO	-	International Organization for Standardization
ITPC	-	Investment and Trade Promotion Center of HCMC People's Committee
JICA	-	Japan International Cooperation Agency

Lao PDR	-	Lao People's Democratic Republic
LCC	-	low-cost carrier
MDG	-	Millennium Development Goal
MICE	-	meetings, incentives, conventions, and exhibitions
MRF	-	materials recovery facility
N-S	-	North-South
O&M	-	operation and maintenance
POSEZ	-	Poipet O'Neang Special Economic Zone
PPP	-	public-private partnership
PRC	-	People's Republic of China
PRD	-	Pearl River Delta
RFE	-	Russian Far East
SaSEZ	-	Savan-Seno Special Economic Zone
SEC	-	Southern Economic Corridor
SEZ	-	special economic zone
SMEs	-	small and medium-sized enterprises
SOE	-	state-owned enterprise
SWOT	-	strengths, weaknesses, opportunities, and threats
UN	-	United Nations
UNDP	-	United Nations Development Programme
UNESCAP	-	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	-	United Nations Educational, Scientific and Cultural Organization
US	-	United States
VINASME	-	Viet Nam Association of Small and Medium Enterprises
WTO	-	World Trade Organization

Chapter 1

Evolution of Towns and Cities in the Greater Mekong Subregion

Januar Hakim

Spatial and Socioeconomic Development

The Greater Mekong Subregion (GMS) is a geographical entity located in mainland Southeast Asia comprising six countries: Cambodia; two administrative entities of the People's Republic of China (PRC), specifically Guangxi Zhuang Autonomous Region (Guangxi) and Yunnan Province (Yunnan); the Lao People's Democratic Republic (Lao PDR); Myanmar; Thailand; and Viet Nam. Home to over 326 million people, it has a land area of about 2.6 million square kilometers (km²), which is slightly larger than Western Europe. Despite its diversity in ethnicity, language, and customs, the GMS is characterized by a dominant albeit declining agriculture base, whereby the majority of people still live in rural areas. Another defining element and common link in the GMS is the Mekong River, which extends almost 5,000 kilometers (km) from its origins in Yunnan in the PRC to the Mekong Delta in Viet Nam (Figure 1.1).

Although the GMS is one of the least urbanized regions in the world, the high rate of urbanization (3%–5% per year) suggests that by 2030, more than 40% of its population will be living in urban areas.¹ Cambodia and the Lao PDR have had the highest urban growth rates with a decreasing trend. Viet Nam's urban growth rate is increasing, while the urban growth rates for the PRC, Myanmar, and Thailand are decreasing. Nonetheless, the urban growth rates of all GMS countries are higher than the world average.

The GMS comprises a varied geographic landscape, including mountain ranges, plateaus, fertile valleys, and deltas. The rivers that run through the region originate from the remote Himalayas. The Annamite Range (running south to north from northeastern Cambodia to the border area between the Lao PDR and Viet Nam and continuing on to northern Lao PDR, Viet Nam, Yunnan in the

¹ In 1965, 35.5% of the world's population lived in urban areas compared with 15.9% for the GMS. In 2005, the figures were 49.0% and 23.7%, respectively.

Figure 1.1: Greater Mekong Subregion Countries and Entities



Source: Asian Development Bank.

PRC, and the Himalayas) and Patkai Mountain Range (from the Isthmus of Kra in southern Thailand up to northern Thailand and eastern Myanmar) are also linked to the Himalayas. Their natural barriers make them home to different ethnic groups of the GMS countries. Another major system extends along a straight north–south axis from eastern Myanmar (east of the Salween River) through northwestern Thailand to south of the Isthmus of Kra on the Malay Peninsula. The plateau comprising the Bolaven in southern Lao PDR, Ratanakiri Province in northeastern Cambodia, and the Viet Nam Central Highlands, along with the Khorat Plateau in eastern Thailand, and Shan Plateau in Myanmar characterize the region.

Among these geographical features, the rivers perhaps have the greatest historical and cultural significance, particularly the Ayeyarwady River in Myanmar, the Red River in northern Viet Nam, and, above all, the Mekong River that traverses all six GMS countries. Another geographical feature is the Tonle Sap Lake in Cambodia, which is the largest freshwater body in the Southeast Asian mainland.

Since prehistoric times, waterways have decisively played an important role in moving goods and people, facilitating the development of settlement, agriculture, and sources of economic activity, which helped shape fundamental political and economic patterns.² The broad river valleys and flat plains of central Thailand, southeast Cambodia, and central Myanmar—along with Viet Nam’s long eastern coastline, terminating in the Red River Delta in the north and the Mekong Delta in the south—are the areas that have benefited from the fertile soil, which had the carrying capacity to accommodate a large number of populations, and have been the locus of ancient, colonial, and now sovereign power. These are the locations of the major GMS cities of today.

The GMS shares a historical and colonial legacy followed by decades of war and periods of economic stagnation and transition.³ Throughout their history, countries in the GMS have long engaged in collaboration as well as conflict, and have witnessed the rise and decline of the magnificent kingdoms of Angkor, Ayutthaya, Bagan, Champa, Dai Viet, Lan Xang, and their inherited legacies. The origins of the major towns and cities such as Bangkok, Ha Noi, Ho Chi Minh City (HCMC), Phnom Penh, Vientiane, and Yangon can be traced to their ideal locations along the fertile valleys and plains of the Mekong, Ayeyarwady, Chao

² M. Thant. 2012. Regional Cooperation and the Changing Urban Landscape of Southeast Asia. In Y.K. Sheng and M. Thuzar, eds. *Urbanization in Southeast Asia: Issues and Impacts*. Singapore: Institute of Southeast Asian Studies.

³ An exception is Thailand, which has no history of colonization.

Phraya, and Red rivers, which enabled them to generate agriculture surplus, engage in profitable trade, and develop as a center of power. The arrival of the colonial powers in the 17th and 18th centuries required them to first establish their presence and gradually secure their stronghold, and eventually expand these towns. With investments in infrastructure and social facilities, these major towns and cities remained dominant.

The imprints of colonial rule are evident in the urban architecture and city planning, segregation of settlements, as well as in the importance attached to primary cities as conduits for exploitation, transportation hubs, and centers of colonial power. Lower order towns served as regional centers of trade, agricultural markets, military garrisons, or hill stations that are connected to primary cities by roads, railway, or riverine transport.⁴ Although the working quarters and settlements of the colonialists were confined to particular places in the city, the traces left behind still remain.

As a result of their historical trajectories, economic concentration has mostly occurred in large cities, fueling growth and productivity increases, reducing poverty, and increasing living standards. However, urbanization has also inevitably brought about spatial and income disparities and uncontrolled growth with its adverse consequences such as congestion, environmental pollution, and social implications. As core areas of large cities become congested and land rents increase, there is a tendency for growth to shift and expand outward toward peri-urban and outlying areas. This phenomenon, known as “desakota” development, demonstrates that rural and urban areas are intertwined, and boundaries between them are unclear.⁵ The major cities and towns in the GMS are in Figure 1.2.

Urban development in the GMS during the past 25 years has witnessed significant change following earlier periods of social conflict and political instability. This change is brought about by relative peace and political stability, shifts toward open policies, and influx of foreign assistance. A comparison of the percentage of the urban population living in the GMS as well as other countries in Southeast Asia is provided in Table 1.1.

⁴ A.K. Dutt, F.J. Costa, S. Aggarwal, and A.G. Noble, eds. 1994. *The Asian City: Process of Development, Characteristics and Planning*. Dordrecht, The Netherlands: Kluwer; footnote 2, p. 2.

⁵ T.G. McGee. 1991. *The Emergence of Desakota Regions in Asia: Expanding a Hypothesis. The Extended Metropolis: Settlement Transition In Asia*. Honolulu: University of Hawaii Press. pp. 3–25. Desakota is a term coined by McGee originating from the Indonesian language—combining *desa* (village) and *kota* (city)—which characterizes many large cities in developing countries in Asia, whereby large cities generally have peripheral rural areas with high population densities, particularly because of labor-intensive rice cultivation.

Table 1.1: Percentage of Urban Population in Selected Countries, 1950-2050

Country/Jurisdiction	1950	1975	2000	2025	2050
Brunei Darussalam	26.8	62.0	71.2	79.7	84.0
Cambodia	10.2	4.5	18.6	23.6	36.2
PRC (Guangxi)	...	...	28.2	52.4	62.6
PRC (Yunnan)	...	...	23.4	45.0	55.8
Indonesia	12.4	19.3	42.0	60.3	70.9
Lao PDR	7.2	11.1	22.0	47.7	60.8
Malaysia	20.4	37.7	62.0	80.1	85.9
Myanmar	16.2	23.9	27.0	39.8	54.9
Philippines	27.1	35.6	48.0	44.9	56.3
Singapore	99.4	100.0	100.0	100.0	100.0
Thailand	16.5	23.8	31.4	60.4	71.8
Viet Nam	11.6	18.8	24.4	39.9	53.8

... = data not available, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Sources: United Nations, Department of Economic and Social Affairs, Population Division. 2014; *World Urbanization Prospects: The 2014 Revision*, CD-ROM edition. *China Statistical Yearbook*. 2014. Beijing. <http://www.stats.gov.cn/index> (accessed 2015).

In the GMS, as well as most developing countries, rapid urbanization has not been able to generate the necessary institutional response, management capacity, and financing required for capital investments and operation and maintenance (O&M), and to meet the growing needs of the populace. This is reflected in the lack of adequate infrastructure and services that constrain effective integration of secondary, tertiary, and smaller towns. Weak governance and lack of civic participation has posed further constraints in mobilizing needed resources. There are certainly variations in the above conditions; to illustrate this, Table 1.2 provides a comparison of socioeconomic indicators across the GMS countries and jurisdictions.

Regional cooperation defined the shared destiny of GMS countries in the 1990s with the launching of the Greater Mekong Subregion Program (GMS Program), an initiative comprising member countries and the donor community to enhance economic ties among the GMS countries through action-oriented and results-focused investments in the transport, energy, telecommunications, tourism, agriculture, environment, human resource development, and trade

Table 1.2: Socioeconomic Indicators in the Greater Mekong Subregion

Indicator	Cambodia	PRC (Guangxi)	PRC (Yunnan)	Lao PDR	Myanmar	Thailand	Viet Nam
Area ('000 km ²)	181	236	394	237	676	513	332
Population in 2000 (million)	12.5	43.8	42.4	5.3	45.0	63.2	78.8
Population in 2014 (million)							
Total	15.4	47.2	46.8	6.9	53.7	67.2	92.5
Urban	3.2	21.1	19.0	2.6	18.0	33.6	30.5
Rural	12.2	26.1	27.8	4.3	35.7	33.6	62.0
Percentage urban (%)	20.8	44.8	40.5	37.7	33.5	50.0	33.0
Population density (nation/province-wide)	851	200.0	118.8	29.1	79.4	131.0	278.6
GDP per capita (\$) at PPP, current 2013	1,042	4,781	3,920	1,512	964	6,005	1,895
Agriculture contribution to GDP (%)	36	...	...	49	76	10	36
Foreign direct investment (\$ million)	1,557	1,001	2,706	294	224	10,692	8,368
Human Development Index UNDP (2013)	136	...	...	139	150	89	121
Population living below \$1.25/day PPP	18.6	...	6.4	33.9	...	0.4	16.9
Gini coefficient	0.36	...	...	0.37	...	0.40	0.36
Life expectancy at birth (years)	71.9	...	...	68.3	65.2	74.4	75.9
Infant mortality rate/1,000 live births	34	7	12	54	41	11	18
Under-5 mortality rate/1,000 live births	40	...	...	72	52	13	23
Maternal mortality ratio/100,000 live births	170	...	...	220	200	26	49

continued on next page

Table 1.2. *continued*

Indicator	Cambodia	PRC (Guangxi)	PRC (Yunnan)	Lao PDR	Myanmar	Thailand	Viet Nam
Literacy rate (%)	73.9	...	...	72.7	92.7	93.5	93.4
Net enrollment primary education (%)	98.4	99.4	99.7	95.9	87.7	95.6	98.2
Access to improved water supply (%)							
Nationwide	85	95	95	72	86	96	95
Urban	93	...	...	84	95	97	98
Rural	76	...	...	65	81	95	94
Access to improved sanitation (%)							
Nationwide	37	76	76	65	96	89	75
Urban	82	...	...	90	96	93	93
Rural	25	...	...	50	95	96	67
Cell phone subscribers							
2000 ('000)	131	...	...	127	13	3,056	7,886
2012 ('000)	20,264	...	...	4,481	6,832	92,463	120,000
Internet users							
Percentage of population (%)	6.0	37.9	32.8	12.5	1.2	28.9	43.9
Number of subscriptions ('000)	32.6	...	...	90	95.3	4,926.0	5,151.0
Registered vehicles/1,000 persons	2.5	59	80	49.0	10	220.0	18
Electric power consumption (kWh/C)	240	2,622	3,114	506	155	2,426	1,285

... = data not available, GDP = gross domestic product, GNI = gross national income, km² = square kilometer, kWh/C = kilowatt-hour per coulomb, Lao PDR = Lao People's Democratic Republic, PPP = purchasing power parity, PRC = People's Republic of China, UNDP = United Nations Development Programme.

Sources: United Nations, Department of Economic and Social Affairs, Population Division (2014). *World Urbanization Prospects: The 2014 Revision*. CD-ROM edition. United Nations, *United Nations Human Development Report 2014*. New York. <http://hdr.undp.org/sites/default/files/hdr14-report-en-1.pdf> (accessed 2015). Asian Development Bank. 2014. *Key Indicators for Asia and the Pacific 2014*. Manila. <http://www.adb.org/publications/key-indicators-asia-and-pacific-2014> (accessed 2015). China Statistical Yearbook. 2014. Beijing. <http://www.stats.gov.cn/index> (accessed 2015).

facilitation sectors. The focus on infrastructure development has provided greater physical connectivity in the subregion. The GMS Program provided the basis for regional cooperation and, at the same time, added value brought about by the facilitation of investments and its catalytic role. Other Association of Southeast Asian Nations (ASEAN) Economic Community regional cooperation initiatives have also facilitated greater cooperation and investment opportunities for GMS countries.

The physical expansion, economies of scale, and concentration of economic activity in the cities and towns in the GMS have been a source of opportunities for employment, rising wages, and reduction of absolute poverty.⁶ To an extent and in varying degrees, urban areas in the GMS play a role as engines of national economic growth; nodes of infrastructure networks such as transportation, water supply, power, and communications, which are either produced or converged in urban areas; nexus in the flow of goods and services, people, information, labor, and capital between urban and rural areas and their regions; centers of technological diffusion and innovation; and as focal points of rural-urban interactions and linkages with wider economic markets. The growth of GMS towns and cities—particularly in Thailand, since the late 1970s; and Cambodia, the Lao PDR, and Viet Nam since 1990—have contributed significantly to the development of their respective countries.

The levels of development vary, however, as measured in gross domestic product (GDP) per capita, with Thailand as the most developed, followed by Viet Nam, Cambodia, the Lao PDR, and Myanmar. Yunnan and Guangxi are above Viet Nam but lower than Thailand. In the case of Cambodia, the Lao PDR, and Viet Nam, over the past 25 years, there have been two gradual shifts in the economy following decades of prolonged social conflict. These are (i) the transition from central command to market-based economies, and (ii) the transition from agriculture to manufacturing and services. With the adoption of open and outward-looking policies, the governments of Cambodia, the Lao PDR, and Viet Nam have attained a state of relative peace and political stability as well as accelerated economic growth.

Differences in the size and development of cities and towns in the GMS are attributed to several factors.

City size. Variations exist across GMS countries in city size. Except for Viet Nam, which has two primary cities, most GMS countries have one primary city with

⁶ In 1990–2006, poverty incidence in all GMS countries declined significantly from approximately half of the population to about one-fourth.

a population of many times the second-largest city. The magnitude of the population of secondary cities in Thailand, Viet Nam, and Yunnan and Guangxi in the PRC is 200,000–300,000, while that in the Lao PDR is 30,000–40,000, in Cambodia 60,000–80,000, and in Myanmar 100,000–200,000. Urban growth has been brought about by migration, natural birth, and reclassification.

Variations also exist among urban areas in GMS countries. In particular, there are notable differences within the distribution of towns and cities, whereby a primary city dominates the urban hierarchy, followed by secondary cities and smaller towns. The ratio between the primary city and the next ranking city or cities provides several observations (Table 1.3). The first is that Thailand's urban hierarchy is dominated by Bangkok, whereby the ratio of its population to the next ranked city is 15.2, which means that Bangkok's population is 15.2 times larger than that of the second-ranked city of Chiang Mai. Viet Nam's ratio is relatively small (1.1) because Ha Noi, as the second-ranked town, is not far behind HCCM in terms of population. Other countries in the GMS have primacy ratios of between 2.0 and 11.8.

Several interesting developments in terms of city size are the readjustment of administrative boundaries (such as the annexation of several districts of Ha Tay Province into Ha Noi and adjoining districts of Kandal Province into Phnom Penh) and the spatial agglomeration of the primary city with adjoining municipalities or districts through the conversion of land use from rural to urban and the rapid development of urban peripheries.

Connectivity and access. GMS countries are moving toward regional and economic integration through improvements in connectivity between existing and potential centers of economic activity.⁷ Some cities and towns are well connected and accessible and have the necessary transportation facilities that position them as transport and economic hubs, while others are relatively isolated. In the past, the topography and lack of transportation infrastructure in mountainous areas such as the northern parts of the Lao PDR, Cambodia, and Thailand; central and northern Viet Nam; and eastern and western Myanmar have made these plains rather isolated. The fertile areas of central Cambodia, the Lao PDR, Myanmar, and Thailand; coastal areas; and the Mekong and Red river deltas in Viet Nam are more accessible and, therefore, have denser population concentrations.

⁷ Y.K. Sheng and M. Thuzar, eds. 2012. *Urbanization in Southeast Asia: Issues and Impacts*. Singapore: Institute of Southeast Asian Studies.

Table 1.3: Primacy of Cities in the Greater Mekong Subregion

Country/ Jurisdiction	Primary City	Population (000)	Secondary Cities	Population (000)	Primacy Ratio
Cambodia	Phnom Penh	1,648	Preah Sihanouk Battambang Siem Reap	156 150 139	10.6
PRC (Guangxi)	Nanning	3,234	Liuzhou Guilin Yulin	1,619 1,040 570	2.0
PRC (Yunnan)	Kunming	3,730	Qujing Dali Gejiu	565 434 300	6.6
Lao PDR	Vientiane	946	Kaysone Phomvihane Pakse Louangphabang	80 70 50	11.8
Myanmar	Yangon	4,705	Mandalay Mawlamyine Bago	1,138 498 415	4.1
Thailand	Bangkok	9,098	Chiang Mai Udon Thani N. Ratchasima	600 501 356	15.2
Viet Nam	Ho Chi Minh City	7,100	Ha Noi* Hai Phong Can Tho	6,270 1,241 1,108	1.1

Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

* Figure includes population of annexed Ha Tay province of 2.80 million, on top of Ha Noi's 3.47 million population.

Source: United Nations, Department of Economic and Social Affairs, Population Division (2014). *World Urbanization Prospects: The 2014 Revision*. CD-ROM edition.

GMS countries have made notable investments in road transportation, connecting capital cities and isolated provinces. In particular, Thailand as well as Yunnan and Guangxi in the PRC have heavily invested in expressways. Other countries upgraded national highway systems that are in excellent condition, such as Viet Nam's National Highway 1 and the Lao PDR's National Road 13, which run through major cities in these countries. In air travel, the construction and upgrading of national and international airports, along with the rise of budget carriers, have facilitated both regional and international tourism in the region, benefiting towns with a strong tourism base such as Siem Reap (Cambodia), Louangphabang (Lao PDR), Yangon and Mandalay (Myanmar), Phuket and Hat Yai (Thailand), and Hue and Nha Trang (Viet Nam).

High versus low level of infrastructure investments. Larger towns and cities require larger infrastructure investments but are also positioned to generate more output, which feeds into the development process. Smaller cities and towns, given their smaller economic base, have fewer resources for infrastructure and therefore remain undeveloped.

High versus lower population growth rates. Cities in Cambodia and the Lao PDR, despite having relatively smaller population bases, have experienced high growth rates compared with cities in Myanmar, Thailand, and Viet Nam. The urban growth rates in the latter countries have relatively stabilized.

Level of urbanization. Cambodia is the least urbanized with 20.8% of the population living in urban areas, followed by Viet Nam and Myanmar. Thailand is the most urbanized with 50%. Population density ranges from 29 people per km² in the Lao PDR to almost 10 times this density in Viet Nam, at 279 people per km².⁸

Rapidly urbanizing versus relatively declining towns and cities. Rapid growth is occurring in the coastal towns of Da Nang, Hue, Kampot, and Preah Sihanouk; border towns of Lao Cai, Poipet, and Kaysone Phomvihane; special economic zones of Thanh Hoa and Vinh; and tourist towns of Chiang Mai, Hue, Louangphabang, and Siem Reap. Meanwhile, towns and cities that were traditionally centers of agricultural production during the colonial era (such as Champasak, Kampong Cham, My Tho, Phongsaly, and Takeo) and industrial centers during the Soviet era (such as Thai Nguyen and Nam Dinh) are in relative decline.

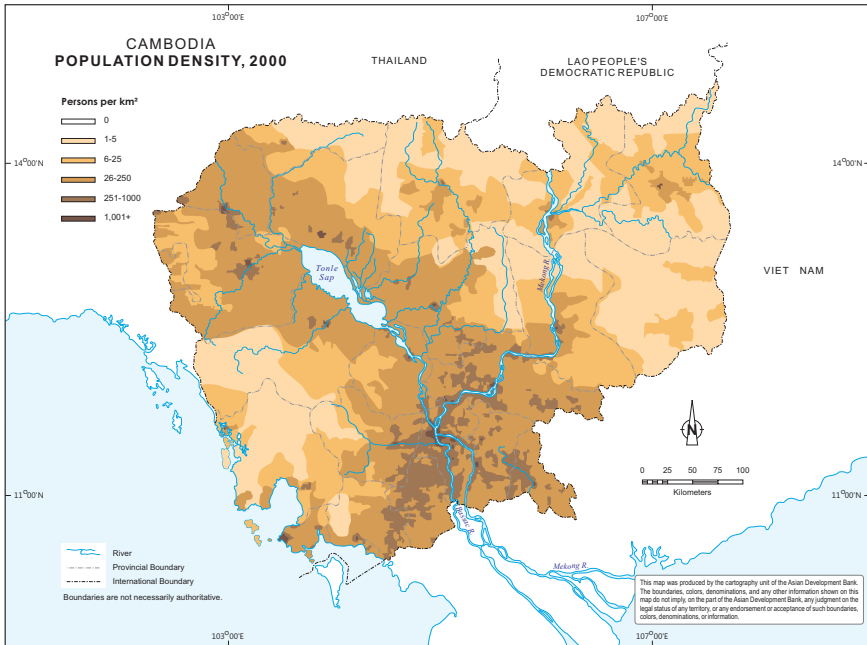
Urban Development Experiences

Cambodia

Currently, about 20% of the 15 million people in Cambodia live in urban areas. Phnom Penh, the capital of Cambodia, is the largest city with a current population of 1.6 million, followed by Preah Sihanouk. Kampong Cham, Kampong Chhnang, Pursat, and Takeo, which prospered during the colonial period due to their functions as regional hubs of agricultural production, have declined in relative importance despite their growing population, giving way to

⁸ See Table 1.2, p. 7.

Figure 1.3: Population Density Map of Cambodia



Source: Asian Development Bank.

rapidly growing towns such as Siem Reap (tourism), Preah Sihanouk (port city), Poipet, Bavet, and Suong. However, the latter three cities have not fully developed and are limited in their functions as regional hubs. Poipet, bordering Thailand, and Bavet, bordering Viet Nam, have largely developed because of gaming operations and cross-border trade. Suong largely developed because of its rubber plantations and proximity to the Vietnamese market.

The population of Cambodia is unevenly distributed—over 90% of the population lives in less than 40% of the territory, concentrating on the area around the Tonle Sap and the lowlands of southeastern Cambodia where the land is fertile (Figure 1.3). Most of the towns and cities are located in this area, which is susceptible to flooding. Phnom Penh is rapidly evolving into a metropolitan area comprising Phnom Penh City, Ta Khmau, and parts of Kandal Province, which surrounds Phnom Penh and is still considered rural. Over half of outward migration from provinces is to Phnom Penh and is mostly from the outlying, surrounding provinces.

Improvements in road transport infrastructure linking towns in Cambodia have greatly facilitated the development of towns along its routes, particularly those connecting Phnom Penh with the coastal towns of Kampot, Kep, and Preah Sihanouk. Meanwhile, airport improvements at Phnom Penh and Siem Reap have contributed to an increase in tourist arrivals. The tourism boom has also fueled the development of both towns with major cultural attractions

such as Angkor Wat (Siem Reap) and smaller towns that serve as bases for ecotourism. With the rehabilitation of the national railway, planned expansion of the seaport in Preah Sihanouk, and development of industrial zones in Phnom Penh, Preah Sihanouk, Poipet, and Bavet, it is expected that foreign investment will increase, particularly in the lowlands of southeastern Cambodia.

Urban public transportation in Cambodia is nonexistent, and private operators (*tuk tuks*, or motorized carts) meet the transport demand. During the past 5 years, increased motor vehicle ownership has greatly amplified traffic volumes, especially in Phnom Penh and Siem Reap, but traffic regulation and enforcement is weak. In Phnom Penh, capital investments for roads have been partly availed through 50–50 cost sharing between the municipal government and residents. Phnom Penh has an excellent water supply system—delivered through its water supply utility—covering 90% of its population. However, coverage of piped water in secondary cities is relatively low.

Under its national decentralization and deconcentration policy, provincial governments are provided national decentralization and deconcentration policy with more authority to manage public expenditures while communes are empowered with planning and implementing commune infrastructure projects.

There is no specific ministry for urban development and planning; it is delegated across several ministries. The Ministry of Land Management, Urban Planning, and Construction is limited to spatial aspects of planning; provincial roads and drainage are under the responsibility of the Ministry of Public Works and

Independence Monument, Phnom Penh



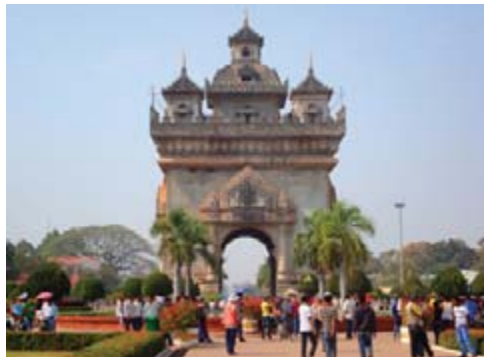
Traffic is becoming a serious problem in Phnom Penh.
Source: J. Hakim.

Transport; and tertiary roads are under the responsibility of the Ministry of Rural Development. Water resources are under the responsibility of the Ministry of Industry and Handicrafts, while city provincial or water authorities supply water.

Lao People's Democratic Republic

The hierarchical ranking of the five largest cities of the Lao PDR has remained unchanged, with Vientiane as its apex, followed by the secondary towns of Kaysone Phomvihane,⁹ Pakse, Louangphabang, and Thakhek, which account for about 45% of the total urban population. Further down, the hierarchy comprises small towns of 10,000–30,000 people. Houayxay, Luangnamtha, and Xayaburi in particular have benefited from increased trade with

Victory Monument, Vientiane



Vientiane still retains its laid-back character but perhaps not for long.

Source: J. Hakim.

Thailand and the PRC due to proximity to their borders. Tourism—particularly cultural tourism and ecotourism—is becoming an important source of revenue, as the growing number of tourists in Vientiane, Louangphabang, and Luangnamtha attest. Champasak, Phongsaly, Samakhixai, and Xam-Nua, which historically have also been important towns, are relatively isolated, have declined in importance, and have not developed as functional centers of growth.

The Lao PDR is the only landlocked country in the GMS, which poses somewhat of a disadvantage as it will require access to seaports and airspace of its neighboring countries. However, with regional cooperation among GMS countries, the Lao PDR has the potential to narrow the development gap through improved access to the various towns and cities in neighboring GMS countries. Its urban areas have the potential to function as logistics centers for the movement of goods and services in the subregion.

⁹ Previously known as Savannakhet.

Rapid urbanization is likely to occur in towns and cities along National Road 13, the Lao PDR's transportation backbone, which runs parallel to the Mekong River from Pakse all the way north to Vientiane. Another potential growth area is the Boten–Nateui–Luangnamtha–Houayxay portion of the North–South Economic Corridor, which lies along the part of the corridor that connects Kunming, PRC with Bangkok, Thailand. Kaysone Phomvihane, which is strategically located at the intersection of National Road 13 and the East–West Economic Corridor, is also expected to rapidly grow as it is equipped with a special economic zone and a dry port and linked with mining and agriculture. The national roads are in good condition, but maintenance of secondary and tertiary roads is a problem. The road maintenance fund has been collecting fees, but the amount is insufficient for effective operation and maintenance (O&M).

The Ministry of Public Works and Transport is responsible for urban development planning. Since 2003, the government has embarked on decentralization policies and urban institutional reforms. This includes, among others, the establishment of urban development administration authorities, which have been set up in Vientiane and 16 provincial capitals to construct, improve, and maintain the urban infrastructure area services. However, neither the Constitution nor the 2003 Law on Local Administration acknowledge the urban development administration authorities as a formal entity for practical reasons. Progress on urban revenue collection has been slow and the future of these entities remains unknown.

Myanmar

Roughly one-third of Myanmar's population resides in urban areas. The major cities of Yangon and Mandalay and to a lesser extent, Mawlamyine, occupy the highest positions in the urban hierarchy for historical reasons and are likely to maintain their relative importance. The towns of Dawei, Hinthada Thaton, and Taungoo, which have been important agricultural market towns in the past, are relatively less important. Meanwhile, Lashio, Meiktila, Monywa, and Taunggyi, which were not even on the map in the 1960s, have grown rapidly. A major change occurred in 2006 when the seat of government moved from Yangon to Nay Pyi Taw, Myanmar's new capital city. Given the state of development, there is no congestion in urban areas, and motorbikes are banned from operating in Yangon.

Shwedagon Pagoda, Yangon



Source: J. Hakim.

Although the military government has made sporadic investments in infrastructure, key urban infrastructure has been in disrepair and neglect for decades due to Myanmar's relative isolation from the world. These include a high-grade 170 km highway between Tamu and Kalewa, built in 2001 with assistance from India; construction of roads and infrastructure in Nay Pyi Taw; construction of a 1,500 km highway from Moreh, India to Mae

Sot, Myanmar; and the development of a deep-sea port in Dawei (formerly Tavoy). The Government of Myanmar has actively been engaged in providing serviced plots; however, only a few thousand of the estimated 150,000 serviced plots have units targeted for construction. While tourism has started to generate foreign earnings, it lacks the infrastructure that Thailand or even Viet Nam possesses. There are increasing signs that Myanmar is opening up to the world community through its various reforms, and foreign assistance is making headway to provide funding for much-needed public infrastructure.

Most of the existing infrastructure—particularly road transport, power, water supply, and flood protection—have been inherited from the colonial period. Myanmar is currently opening up to regional and global development partners and international investors that are keen to reengage and proceed with plans and agreements for further investments in urban infrastructure for Yangon and Myanmar's major towns and cities. However, the lack of sufficient data, neglect of infrastructure for a long period of time, and lack of the necessary institutional framework and capacity of government counterparts pose a serious challenge. Of particular concern is Myanmar's vulnerability to climate change, particularly in the Ayeyarwady Delta during periods of monsoons. In 2010, the area was hit by Cyclone Nargis, which caused over 200,000 deaths. Despite the above constraints, there are signs that point toward change on the reform of investment laws to attract foreign investment, development of land policies, spatial planning law, and housing policies (including building codes), among others.

The National Development Plan is the basis for the 5-year development planning cycle. The Ministry of Construction is the national oversight body for urban development and planning and housing development.

Colonial Building, Yangon



Source: J. Hakim.

Thailand

Currently, roughly one half of Thais live in urban areas, with Bangkok—lying along the banks of the Chao Phraya River—as the primary city. It is perhaps the only world city of the GMS that is well-linked with the global economy. Second- and third-tier cities adjacent to Bangkok such as Nakhon Pathom, Nonthaburi, and Samut Prakan have also evolved and grown so rapidly that they are absorbed into the Bangkok Metropolitan Region and more recently, the Extended Bangkok Metropolitan Region, which covers an area with a radius of 40 km and includes Ayutthaya and Rayong. In the northeast, Udon Thani serves as the regional hub, which also includes parts of Vientiane and nearby Lao PDR districts. Two areas that have been rapidly urbanizing during the past 2 decades are the Eastern Seaboard (ESB) and the Southern Seaboard.¹⁰

The rapid development of the ESB began with the relocation of high tech and

auto industries from East Asia to Chachoengsao, Chon Buri, and Rayong in Thailand in the 1980s. Development further accelerated with the construction

Royal Palace, Bangkok



The monarchy plays an important role in maintaining the country's unity.

Source: J. Hakim.

Bangkok



Bangkok is the largest city and regional hub of the Greater Mekong Subregion.

Source: J. Hakim.

¹⁰ D. Webster. 2006. *Supporting Sustainable Development in Thailand: A Geographic Clusters Approach*. Bangkok: National Economic Social Development Planning Board and World Bank.

of the Suvarnabhumi Airport in 2006, thus establishing the ESB as the industrial core of Thailand. The Southern Seaboard is based on beach- and amenity-based tourism towns that are currently booming. Other urban areas such as Chiang Mai, Nakhon Sawan, Songkhla, and Ubon Ratchathani are growing but have not caught up with the pace of development in the above regions. The urban areas of northern Thailand, despite their proximity to the PRC, have not developed as rapidly as other geographical clusters.

Much of the migration in Thailand in the 1980s was from areas surrounding Bangkok, which were then still classified as rural.¹¹ The density has resulted in increasing traffic congestion, which in spite of improvements in mass transportation such as the elevated sky train and subways, still poses challenges, particularly in the core urban area. As Bangkok is becoming increasingly congested, there is a tendency for households and industries to relocate from Bangkok's inner core to peri-urban areas. Another challenge to Bangkok's development is the proliferation of slums. These informal settlements are relatively organized and are currently attempting to register themselves as legal entities with basic rights.

Market forces are guiding much of Thailand's urban development. However, national policies use a place-based approach (based on comparative and competitive advantage) to regional and/or urban development, which aims to develop growth clusters. Market forces are also moving from the labor-intensive industry toward high-tech industry and quality amenity-based services.

Various agencies are involved in urban development with the National Economic Social Development Planning Board setting the guidelines and direction for development planning. The Department of Highways under the Ministry of Transport is responsible for developing and implementing highway development plans and setting standards for highway construction. The Department of Public Works and Town and Country Planning of the Ministry of Interior is charged with the planning and development of subnational entities, including municipalities.

Viet Nam

Unlike other countries in the GMS, Viet Nam has a unique bipolar urban hierarchy. HCMC is Viet Nam's largest city and is located in the southern part of the country; Ha Noi, its capital city in the north, is located along the banks of the Red River. In 2009, several administrative jurisdictions in neighboring Ha Tay

¹¹ Footnote 7, p. 10.

Province were annexed and became a part of Ha Noi, increasing the land area by 2,000 hectares and the population by around 2.8 million.

The second tier of large cities have remained more or less in successive ranks: Hai Phong, Da Nang—both having the country's largest seaports equipped with export processing zones—Bien Hoa, Can Tho, Nha Trang, and Hue. The next tier cities have changed their hierarchical rankings. Most notable is the development of the south central coastal cities of Phan Thiet, Rach Gia, Quy Nhon, and Vung Tau, which rely on tourism and trade. On the other hand, the inland cities such as Can Tho, My Tho, Nam Dinh, and Thai Nguyen, which have traditionally had a strong manufacturing base and were prominent during the Soviet era, have decreased in importance. There is a tendency for the south central coastal area

along the National Highway 1—stretching from Hue in the north to HCMC in the south—to attract foreign investment due to the availability of deep-sea ports and a dynamic and productive workforce.

The large cities of Hai Phong, Ha Noi, and HCMC are located on fertile river deltas. The flat topography and the demand for urban space have led to the expansion of these cities. In the process, agricultural land in the periphery is converted to urban land. The sprawl is ad hoc and unregulated and densities

Ho Chi Minh City



Ho Chi Minh City, formerly Saigon, the largest city in Viet Nam.

Source: J. Hakim.

Ha Noi



Typical residential dwellings in northern Viet Nam, with multiple stories and a narrow façade.

Source: J. Hakim.

are increasing, and local authorities are ill-equipped to provide public services. Wastewater discharge from many small manufacturing establishments (e.g., from dye and metal works) often produces highly toxic water pollutants.

The vibrancy of Viet Nam's urban areas is reflected in its urban transportation—motorbikes are the prominent forms of transportation, resulting in increased congestion and air pollution. From 2004 to 2011, the number of registered motorbikes increased from 13.4 million to 33.9 million.¹²

The main transportation backbone connecting Viet Nam's major cities is National Highway 1, which runs the length of the north–south axis along the coastal area, connecting HCMC in the south to Ha Noi in the north.

Viet Nam has six classes of urban centers based on physical criteria, population, population density, level and nature of economic activity, GDP, and infrastructure provision.¹³ The Ministry of Construction is responsible for infrastructure and sector development planning, along with policy planning at the national level. Since 2006, in line with decentralization policies, provincial people's committees (provincial governments) have been delegated larger roles in the delivery of urban infrastructure, while the town people's committees have been responsible for administration and management of the facilities. The Ministry of Planning and Investment is responsible for the overall coordination of investment projects.

Yunnan Province, People's Republic of China

Yunnan Province, located in the southwest part of the PRC, is a mountainous area bordering with the Lao PDR, Myanmar, and Viet Nam. Its urbanization rate and per capita GDP are lower compared with the rest of the country as a whole

¹² N.H. Duc, D.T.M. Hoa, N.T. Huang, and N.N. Bao. 2013. On Various Essential Data Related to Status Quo of Motorcycles in Vietnam. In *Proceedings of the Eastern Asia Society for Transportation Studies*. Volume 9.

¹³ Class I cities have populations of more than 500,000 and are entrusted with responsibilities of, among others, the planning and management of infrastructure investments and land use plans; small and medium-sized state-owned enterprises and industrial processing zones; and planning and development of physical and social infrastructure. Class II cities have a population of over 250,000 with responsibilities of, among others, preparing socioeconomic and physical plans and local budgets, allocating and leasing land to households and individuals, issuing land use certificates, planning and implementing local physical and social infrastructure, carrying out construction works, and approving investment projects using the state capital budget allocated by the provincial authorities. Class III cities are designated as cities with populations of 100,000–250,000, while Class IV cities are those with populations of 50,000–100,000. Class V marks the demarcation between urban and rural. Class V towns are required to have a population of more than 4,000 with over 65% employed in the nonagriculture sector.

and socioeconomically it is less developed than the coastal eastern provinces.¹⁴ However, it has achieved remarkable development progress during the last 2 decades and its capital, Kunming, is emerging as an important regional hub and trade gateway to GMS as well as ASEAN countries. Among its development investments are urban infrastructure (housing and building construction, water supply systems and environmental improvements), improvement of transport infrastructure connecting towns and cities, and establishment of special economic zones (SEZs) to support its industry sector.



Although mountainous and land is scarce, agriculture is important for Yunnan. Rice is the main crop along with corn, barley, and wheat. Important nonstaple crops are tea, coffee, sugarcane, and tobacco, which are Yunnan's main agricultural export. More recently, the flower,¹⁵ fruit, and vegetable industries have become increasingly important. Due to its scenic landscapes, mild climate, and cultural diversity,¹⁶ Yunnan has become one of the PRC's major tourist destinations particularly environmentally friendly ecotourism. Mining is the leading industry in Yunnan, which includes lead, tin, and iron and, as a result, it produces iron and steel products and copper smelting. With about 10 SEZs, Yunnan is rapidly catching up on high-tech products with its automobile production as well as electrical appliances and microprocessors, and has a sizable biopharmaceutical industry.

A key constraint on Yunnan's socioeconomic growth and economic integration into the GMS is its low urbanization rate and the poor competitiveness of its second- and third-tier cities. The mountainous terrain alone has triggered floods downstream and, along with occasional drought, has made urban areas vulnerable to natural disasters and environmental degradation.

¹⁴ Yunnan is one of 12 provinces and autonomous regions targeted under the PRC's Western Development Strategy, to enable these provinces/jurisdictions to catch up with the rest of the PRC.

¹⁵ Yunnan is a large producer of cut flowers which it sells to the domestic and international markets.

¹⁶ Yunnan is noted for a very high level of ethnic diversity and has the highest number of ethnic groups among all provinces and autonomous regions in the PRC; among the country's 56 recognized ethnic groups, 25 are found in Yunnan.

The province has 16 prefecture-level cities with Kunming as the provincial capital and primary city with a population of about 3.7 million. Qujing is Yunnan's second-largest city, whereby tobacco, manufacturing of auto parts, power generation, and chemical engineering are the main industries, spearheaded by the Qujing Economic and Technological Development Zone, established in 1992. Dali comprises a modern industrial city while, at the same time, retaining its old town character that makes it a popular tourist destination in Yunnan, known for its natural scenery, and historical and cultural heritage. Gejiu was originally established as a small mining settlement but has become a major producer of lead, and location of a thriving metallurgical industry.

Several factors have contributed to Yunnan's rapid economic development. First was the launching of the 1999 World Horticultural Expo, which triggered investments in urban infrastructure and environmental improvements.¹⁷ Second is the adoption of the new 2003 Strategic Development Framework to facilitate urban development, particularly in building and housing construction. Third is the development of transport infrastructure, particularly the expressway connecting Kunming and Heikou, built in 2008, and the Changshui international airport, which began operation in 2011 and thereby effectively linking Kunming with ASEAN and the GMS and, at the same time, establishing Kunming as the PRC's southwestern regional hub.

Yunnan is currently implementing its Central Yunnan City Cluster Economic Area Development Strategy, 2011-2015 to guide implementation of its twelfth five-year plan,¹⁸ which, among others, aims to stimulate urbanization and socioeconomic growth by developing city clusters connected by transport networks to create growth poles, covers the provincial capital of Kunming along with Qujing, Yuxi, and Chuxiong Yi, which are all located in the surrounding areas of Kunming.¹⁹ The strategy emphasizes the importance of water resource source development and supply, flood control, and an integrated transportation system (including rail, highway, aviation, and waterway transport), energy, and information and communications development to enable regional economic development and accelerate growth and improve quality of life.

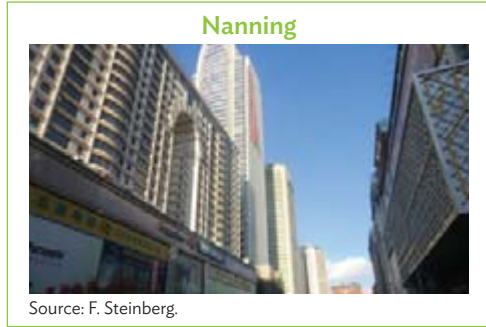
¹⁷ Q. Wu, et al. 2015. Kunming: A Regional International Mega City in Southwestern China. In R. B. Singh, *Urban Development Challenges, Risks and Resilience in Asian Megacities*. Tokyo: Springer.

¹⁸ The PRC's Twelfth Five-Year Plan, 2011-2015 aims to build a harmonious and moderately prosperous society and to achieve more balanced economic development that considers environmental sustainability and social inclusiveness, which, among others, prioritizes investments in small and medium-sized cities, addressing socioeconomic inequalities through targeted investments in public services.

¹⁹ Since 2001, Yunnan has built an additional 55,099 kilometers of national roads and highways to expand its transportation network linking Kunming with other towns and cities within Yunnan as well as with those in neighboring GMS countries.

Guangxi Zhuang Autonomous Region, People's Republic of China

Guangxi is a relatively prosperous, autonomous region located in southeastern PRC. It has an advantageous location for commerce and communications given its proximity to Hong Kong, China and Macau, China. Nanning is the capital city with 3.2 million people, followed by 14 prefectural-level cities, of which Guilin, Liuzhou, and Yulin are the largest. Liuzhou is the main industrial center and a major motor vehicle manufacturing center with a large steel factory and several related industries.



During the 1960s, the province was engaged in heavy industry. In 2008, the central government approved the PRC's first international economic cooperation zone in Guangxi, which provided a boost to the Beibu Gulf economic zone that began in 2006.²⁰ The zone serves as a logistics hub and integrates Nanning with the cities of Beihai, Changzuo, Fangchenggang, Qinzhou, and Yulin. While the manufacturing sector is expanding, it still lags behind its wealthier neighbor, Guangdong. The Guangxi government plans to further expand the manufacturing sector by making considerable investments in the energy and transport sectors (including railways) with outreach not only to urban areas and their peripheries but also to rural areas.

Despite its manufacturing, Guangxi is agriculture-based and has a large agro-processing industry. The region produces staple crops such as rice, corn, and sweet potatoes, as well as cash crops, particularly sugarcane, peanuts, tobacco, and star anise, which is major pharmaceutical ingredient. Endowed with a mountainous landscape and a favorable climate for agriculture, in the past years it has shifted toward scenic tourism. It also has a mining industry, whereby tin and manganese are the main metals.

²⁰ The regional government is also investing in key development sectors such as transportation (roads, expressways, and railways) and power (construction of power grids and transmission/distribution lines) as well as in agriculture, tourism, and environmental protection and special economic zones. In particular, the Beibu Gulf economic zone has already attracted a number of investments and major projects such as the oil refinery at Qinzhou, and processing of forestry products and petrochemicals.

Liuzhou is a major industrial center that includes automobile manufacturing and related industries. Guilin is the third largest and at the same time a tourist city. Its main attraction is the karst scenery along the Li Jiang River. To the south is the town of Yangshuo, which has become a tourist destination in its own right.

Drivers of Change

The past 25 years have seen GMS economies accelerate at an amazing pace, with growth averaging 6%–8% per year, albeit from a low base. Following the global financial crisis in 2008, only Thailand has experienced growth of 4% per year.²¹ This had the effect of increasing per capita incomes. To illustrate this point, in 1992, GDP per capita ranged from \$63 in Myanmar to \$1,894 in Thailand; in 2014, the figures were \$964 and \$6,005, respectively, which resulted in lowering poverty levels in the region.

The transformation of factors of production into goods and services of added value has generated much economic activity in the GMS, which demand spatial requirements of location such as compression (the need to pack in more activities within a specified area), expansion (increased land area to respond to increased activities), or housing to accommodate increased migration to urban areas.

The interrelated nature of today's economy points to another driver, which relates directly to economic growth and, therefore, urban growth. With increasing globalization, cities and urban development are closely tied to the changing organization of the global economy based on a "new international division of labour."²² Globalization is a major force driving the development of the cities of today—changes such as rising costs of production in Europe and North America, the relatively cheap labor in the developing countries where a large pool of the informal sector resides, and advancements in technology, which lower communication and production costs. Both global and regional forces contribute to the rapid urbanization in the GMS. The imperatives of globalization dictate the way goods are produced and distributed, the movement of capital and information, and the shift from agriculture to manufacturing.

²¹ ADB. 2012. *Cambodia: Urban Sector Assessment, Strategy, and Roadmap*. Manila.

²² J. Friedman. 1986. The World City Hypothesis. *Development and Change*. 4. pp. 12–50.

The primary cities in the GMS, although not yet considered world cities, have pivotal roles in the international division of labor. Bangkok, in particular, serves as the regional hub for the GMS. Its consistent economic growth since the late 1970s—averaging 7% per year, as a result of foreign investment from Japan, the United States (US), and, increasingly, the Republic of Korea and Taipei, China—has secured its place in the world hierarchy. HCMC and Ha Noi are currently catching up. At a smaller scale, Phnom Penh and Vientiane are rapidly growing in their respective national economies.

Growth is apparent in several specialized towns and cities in the GMS. Phnom Penh, for example, has benefited from relatively cheap labor and large textile quotas. Da Nang, Louangphabang, Nha Trang, Phuket, Siem Reap, and, more currently, Vientiane are beneficiaries of the tourism boom. Coastal cities in central Viet Nam are benefiting from foreign investment because of special economic zones.

Regional influences on economic growth include the shift from centrally planned to market-based economies, particularly for Cambodia, the Lao PDR, and Viet Nam. The relative stability of the region following the resolution of decades of social conflict has allowed the inflow of foreign investment to the region.

Government Policies and Strategies

The success of the GMS in accelerating growth, reducing poverty, and improving social indicators is to a large extent attributed to the development of outward-looking and market-based government strategies and policies, which—except perhaps for Myanmar—has enabled greater integration of these countries with the GMS, ASEAN, and the wider global community. Viet Nam has demonstrated good progress, followed by Cambodia and Thailand, and to a lesser extent, the Lao PDR. The policies have also contributed to the growth of intra-GMS trade, which averaged 22% per year between 2000 and 2009.

Laws and regulations (e.g., statutes, decrees, and policy instruments) have also had positive impacts on urban growth. For example, the decentralization policies of Cambodia, the Lao PDR, and Viet Nam have empowered subnational governments, particularly at the provincial and district levels, to undertake more responsibilities in delivering services. In Viet Nam, government policies to decentralize authority to subnational governments—particularly at the provincial people's committees—strengthen institutions and ensure that cost

recovery for urban services has been manifested in various orientation plans (e.g., urban water supply, drainage, and solid waste management).²³

Country policies on the broadening of regional markets and labor growth have led to increased infrastructure investments. Cross-border easements enabled through simplified procedures and investments in facilities have reduced travel time, increased the volume of trade, opened up new markets, and increased regional economic activity. However, much has yet to be improved in human resource development and in the provision of an enabling environment and transparent legal framework.

Key pieces of legislations in Viet Nam that have a significant impact on urban development are the state budget law, land law, construction law, and law on people's committees and people's councils. This includes the State Budget Law (1996, amended in 2002), which governs how tax proceeds are shared and distributed, along with the assignment of responsibilities at the central, provincial, district, and commune levels. The Land Law (2004) regulates the land market in recognition of the real estate market. The Construction Law (2004) decentralizes spatial planning to people's committees and establishes construction guidelines and technical standards along with responsibilities for preparing spatial plans. The Law on People's Committees and People's Councils (2004) outlines the functions, responsibilities, and authority of these organs for all three local government levels. Viet Nam's Housing Law (2014, replacing the 2009 Law) is the first law to set out a comprehensive legal framework for the ownership, lease, use, and management of houses and apartments by local and foreign individuals and organizations.

Regional Cooperation

Regional cooperation existed in the GMS in precolonial times from trade among kingdoms in the region. However, it was the colonial era that brought about long-lasting impacts on the urban sector—in activities that support trade; infrastructure needed to export raw materials; and the town layouts, which mirrored their home countries.²⁴ Following war and social conflict, which devastated Cambodia, the Lao PDR, and Viet Nam in the latter half of the 20th century, regional cooperation has returned to the forefront of national and urban development in the GMS with the GMS Program. Launched in 1992 with assistance from international

²³ The broad urban policy of the Government of Viet Nam is set down in the 2009 Orientation Plan for Urban Development to 2025 and Vision to 2050, which places emphasis on the role of comprehensive town development projects to promote socioeconomic growth.

²⁴ Footnote 4, p. 4 and footnote 2, p. 3.

development partners, including the Asian Development Bank (ADB), the GMS Program is intended as a cooperative program to promote GMS development through closer economic linkages. At a wider level, regional cooperation through ASEAN has provided the GMS countries with an opportunity to strengthen trade and economic ties and counterbalance similar initiatives undertaken among the more developed countries such as the North American Free Trade Agreement and the European Union.

While the GMS Program provided the basis for regional cooperation and achieved most of its objectives, the facilitation and catalytic roles of investments from each subprogram's activities has added further value. During the past 2 decades, the GMS Program has contributed to and played an important role in enhancing economic ties among the GMS countries by concentrating on action-oriented and results-focused investments in transport, energy, telecommunications, tourism, agriculture, the environment, human resource development, and trade facilitation. The initial focus on infrastructure development provided greater physical connectivity in the subregion, as exemplified by the completion of the East–West, Southern, and North–South transport corridors along with other related investments, investments for power generation (hydro and coal-fired), cross-border interconnections, and the improvement of country transmission systems. It also provided connectivity through telecommunications and the promotion of universal access to information and communication technology applications, and through promotional tourism campaigns to help put GMS countries on the world's tourism map and promote a sustainable and pro-poor tourism industry.

Several impacts of regional cooperation on urban development include accelerated trade and economic exchange through labor and social mobility, access to markets, and productivity gains. These include improved connectivity, increased competitiveness, reduction of transportation costs, and greater interaction among the people of the GMS through developed transport systems—more reliable supply, reduced operational costs, and improved access to cheaper power sources—and improved communications, which create conditions for investments in GMS urban areas. In the human resource development strategy, GMS cooperation focuses on cross-border issues such as health and social matters associated with mobile populations, the prevention and control of communicable diseases, and better access to education and health services for the poor.

However, the benefits that accrue to urban growth will largely depend on whether the city or town is a node, which plays a particular role in the system, or is merely bypassed. For example, Thailand and the PRC are currently taking a lead in promoting regional transport linkages such as the North–South Economic Corridor in order to expand their regional and wider international markets. The terminal points, Kunming and Bangkok, stand to gain from the endeavor. The benefits to Luangnamtha and Houayxay in the Lao PDR remain to be seen, as these towns merely function as passing points rather than nodes in the economic corridor. Furthermore, the Boten–Houayxay segment will need to be better evaluated to minimize the human, health, and environmental risks, as well as maximize the returns from its investments. In order to obtain the support from other GMS member countries, regional cooperation will need to address the interests of the smaller nations. In this way, the management of returns as well as risks will work to the benefit of the recipient country.

Regional cooperation faces obstacles in the efficiency of transportation and procedures and the transparency of border crossing in dealing with customs and immigration, health checks, and other regulatory obligations. As the overlapping natural, cultural, and socioeconomic systems transcend administrative and jurisdictional boundaries, several aspects of tourism will need to be collectively managed.

Transport and Trade Facilitation

Trade, facilitated by investments in infrastructure—particularly transport and the opening up of borders equipped with cross-border facilities—has been an important driver of growth. In 2003, the GMS economies entered into a Cross-Border Transport Facilitation Agreement (CBTA), which was developed to ease the movement of people and goods across borders through agreements among the GMS countries. The CBTA covers facilitation of border crossing formalities, the exchange of commercial traffic rights, establishment of transit traffic regimes, and the setting of infrastructure standards and requirements for road vehicles in cross-border traffic. As of March 2007, all GMS countries had signed the agreement. The CBTA, in conjunction with the transport corridor development, has the potential to significantly improve time and costs of goods transportation throughout the region. Table 1.4 provides a comparison of figures for manufacturing exports in the GMS from 2005 to 2013.

Improved transportation significantly contributes to the movement of goods and people and generates the most immediate improvements in connectivity, access, and travel time. In the early 1990s, the subregion's road infrastructure

Table 1.4: Greater Mekong Subregion Trade Statistics: Manufacturing Exports, 2005–2013 (\$ billion)

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cambodia	3.02	3.57	4.09	4.36	4.20	5.59	6.70	7.84	9.10
Lao PDR	0.55	0.88	0.92	1.09	1.05	1.75	2.22	2.27	2.60
Myanmar	3.97	4.68	6.40	6.97	6.68	8.66	9.24	8.88	10.30
Thailand	110.11	130.58	153.57	175.91	152.50	195.31	228.82	229.54	228.53
Viet Nam	32.45	39.83	48.56	62.69	57.10	72.24	96.91	114.53	132.13
GMS	150.10	179.54	213.54	251.02	221.53	283.55	343.89	363.06	382.66

Lao PDR = Lao People's Democratic Republic.

Note: Greater Mekong Subregion data exclude Guangxi and Yunnan, PRC.

Sources: GMS Core Environment Program. 2014. Bangkok. <http://www.gms-eoc.org/gms-statistics/overview/international-tourism-receipts> (accessed 2015); United Nations Conference on Trade and Development. 2014. Geneva. <http://unctadstat.unctad.org/CountryProfile/704/en704GeneralProfile.html>

(except for Thailand) was in poor quality; most national boundaries in the region were closed. With the launching of the GMS Program in 1992—along with various nationally funded programs in highway and road transportation—many remote areas and border areas that were previously remote became accessible, eventually attracting investments, trade, and increased economic activity.²⁵ The realization of transport—and later, economic corridors—along with the facilitation of cross-border facilities enabled a more effective means of moving goods using various modes of transportation and ensuring increased connectivity not only within countries but among countries in the GMS, particularly with the improvements in railways, riverine transport, and seaports. The increased transport efficiency has played an instrumental role in attracting foreign investors to establish production plants and offices in the region. It is expected that the flow and exchange of goods will intensify and require logistics centers, and create an impact on further urban development.

Improved transportation has shown to reduce travel time and travel costs and improved connectivity and integration among the Lao PDR, Thailand, and Viet Nam. Furthermore, increased productivity of the agricultural centers such as Kayson Phomvihane in the Lao PDR was made possible because of access to new farming technology and cheaper inputs from Thailand and Viet Nam.

²⁵ A. Chin. 2012. ASEAN Transport Policy, Infrastructure Development and Trade Facilitation. In Y.K. Sheng and M. Thuzar, eds. *Urbanization in Southeast Asia: Issues and Impacts*. Singapore: Institute of Southeast Asian Studies.

Meanwhile, improvements in the highway links between Phnom Penh in Cambodia and HCMC in Viet Nam reduced travel time by 30%, with similar reductions achieved in Viet Nam. This has increased the value of trade along the Cambodia–Viet Nam border, which proves that improvements in transport infrastructure and trade facilitation in the GMS can bring substantial gains to the region.

It is important to note that the poorer GMS countries—i.e., Cambodia, the Lao PDR, and Myanmar—all have limited road networks, with less than 15% of roads paved. These are countries with relatively low population densities and limited resources to provide rural populations with access to markets and its accompanying opportunities. Movement by rail in the region is also fairly limited.

Foreign Investment

The economies of GMS countries occur in a world characterized and increasingly affected by interrelated global processes, making foreign investment an important driver of urban growth. Aside from being an important source of capital, particularly for the smaller countries in the GMS, foreign investment has major implications on employment and multiplier effects to the economy. Foreign investment also has a spatial dimension, particularly as the demand for goods and services has intensified economic activities that require factors of production with locational advantages, whereby different locations are assigned in the design, production, and assembly of goods. Clusters of activities do not take place uniformly across national territories. An implication of this is that large areas—even regions—within a country are completely bypassed, with marginalizing consequences that result in uneven development.

Thailand and, to a lesser extent, Viet Nam have been able to attract foreign investment because of the relatively skilled labor and industrial infrastructure. The designation of SEZs, along with major investment incentives (e.g., low or exempt taxes, pooled infrastructure, and lax labor standards), has made the GMS attractive to foreign investors. Several notable investments include those in garments (Cambodia and the Lao PDR), electronics and light and heavy industry (Thailand and, increasingly, Viet Nam), agriculture and agroprocessing (Cambodia and the Lao PDR), and mining. From 2005 to 2013, the increase in foreign investment in the GMS (excluding Yunnan and Guangxi) increased roughly two and a half times (Table 1.5).

Table 1.5: Foreign Direct Investment to the Greater Mekong Subregion, 2005-2013 (\$ million)

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cambodia	381	483	867	815	539	783	815	1,447	1,396
Lao PDR	28	187	324	228	190	279	301	294	296
Myanmar	235	276	710	863	973	1,285	2,200	2,243	2,621
Thailand	8,067	9,501	11,359	8,455	4,854	9,147	3,710	10,705	12,946
Viet Nam	1,954	2,400	6,981	9,579	7,600	8,000	7,519	8,368	8,900
GMS	10,665	12,847	20,241	19,940	14,156	19,494	14,545	23,057	26,159

Lao PDR = Lao People's Democratic Republic.

Note: Greater Mekong Subregion data exclude Guangxi and Yunnan, PRC.

Source: United Nations Conference on Trade and Development. 2014. Geneva. <http://unctadstat.unctad.org/CountryProfile/704/en704GeneralProfile.html>

Several developments are worth mentioning. Cambodia has attracted increasing amounts of foreign investment following the 1992 Paris Peace talks, which brought relative stability and peace. This was aided by the Cambodian government's open economic policy and improvements in the macroeconomy. The signing of the bilateral visa exemption with Malaysia in 1992 provided a boost in Malaysian investments, particularly in the mining and forestry sectors. This was followed by separate agreements with other economies such as Taipei, China; the US; and the PRC. The Lao PDR, while opening its economy in the late 1980s, also benefited from foreign investment from Australia; France; the Republic of Korea; Taipei, China; Thailand; and the US. In Viet Nam, foreign investment has occurred at a much quicker pace. In the 1990s, foreign direct investment (FDI) constituted about 8.5% of its GDP. The current figure is about 14.3%. However, there are signs of FDI slowdown due to (i) increased competition from the PRC, (ii) undeveloped infrastructure, (iii) incomplete legal system, (iv) need for increased professionalism and training of civil servants, and (v) problems with slow land clearance that have hounded many high-profile projects, among others.

Rural-Urban Migration

Larger towns and cities, which are better positioned to accommodate changes and capture the various factors of production, attract migrants from rural areas and smaller towns. Migration is further fueled by (i) environmental degradation, which may have both direct and indirect consequences on livelihood, wages,

and employment in rural areas; (ii) increased mobility due to decreasing transport costs; (iii) changes in the spatial locations of economic activities; and (iv) opening up of remote areas. These events trigger further changes in social structures, institutions, and the power relationships among them.

As a result of uncontrolled, rapid growth arising from in-migration to major cities, these areas are becoming more congested. The demand for basic infrastructure is increasing, but the lack of capacity for service delivery constrains local governments' ability to provide needed services. This has led to increasingly serious social and environmental problems, chaotic spatial development, and land speculation. Meanwhile, secondary cities that are located beyond the political and economic sphere of the large cities have relatively lower growth rates.

Migration is traditionally rooted in differences between urban and rural areas, which can be grouped into push factors such as decreasing livelihood, environmental degradation, and decreasing agricultural productivity; and pull factors associated with perceptions of better living standards in urban areas.²⁶ Underlying these factors are differences in wages, livelihoods, and job opportunities. The relatively unlimited labor in rural areas, which the agriculture sector is unable to absorb, migrate to urban areas in search of employment. Limited opportunities in the formal sector and the lack of skills instead drive migrants to the large informal sector. As indicated earlier, with the low urbanization rate of the GMS and intense push and pull factors, rapid urbanization is expected to occur in the future. Between 1965 and 2005, the rate of urban growth declined worldwide from 2.33% (1965–1975) to 1.75% (1995–2005). During the same period, GMS figures were 3.15% and 2.61%, respectively. Looking at individual country figures, it can be seen that urbanization—fueled by migration—rapidly occurred in Cambodia and the Lao PDR immediately upon the resolution of social conflict in the late 1980s, and in Viet Nam in the 1990s upon the introduction of the Doi Moi reformation policies. Figures for Thailand and Myanmar indicate that urbanization is stabilizing.

Although migration constitutes an important driver of urban growth, migration patterns are becoming more complex as not all migrants permanently settle in cities. Circular migration adds to de facto urbanization, although the roots are still in rural areas.²⁷ Contrary to earlier stereotypes of migrants portrayed as

²⁶ M. Todaro. 1985. *Economic Development in the Third World*. New York: Longman.

²⁷ G. J. Hugo and S. Young, eds. 2008. *Labour Mobility in the Asia-Pacific Region*. Singapore: Institute of Southeast Asian Studies.

able males seeking wages for their families, more and more migrants are now women, mostly absorbed in low-paying manufacturing (mostly garments) and sex industries, whereby job duration is relatively short and the pay is very cheap.

Patterns and Emergent Trends in Urbanization

Given the development of the past 25 years, spatial concentration of development is expected to continue to take place in urban areas. This may lead to growing inequality within urban areas and across countries. Strategic urban investments that are targeted, economically sound, socially inclusive, and environmentally sustainable are therefore imperative to ensure livability and balanced development.

The demography of urban areas indicate that the age dependency ratio²⁸ is expected to increase over the next 40 years for the PRC; increase marginally for Thailand and Viet Nam; and decline over the next 20–30 years for Cambodia, the Lao PDR, and Myanmar. This suggests that the population in some countries will age faster than others, which implies labor shortages and decline in productivity in the long run.

A fundamental change in the GMS since the 1990s—particularly for Cambodia, the Lao PDR, and Viet Nam—has been the shift from a state-led to market-based mechanism of resource allocation and related changes in the role of the state. This has been complemented in parallel by a declining agriculture sector and subsequent rise of manufacturing and services, and the issuance of quasi-property land rights. Such changes have had a profound impact on urbanization, as towns and cities are assuming greater importance. With these developments, the location of economic activity has become more concentrated, particularly in urban areas that have links to domestic, regional, and international markets. Meanwhile, Myanmar, which has been relatively isolated for decades, has recently shown signs of opening up to the international community. Thailand and the PRC, particularly Yunnan and Guangxi, have had a longer span of development and are thus more economically advanced than the other countries in the GMS.

²⁸ The dependency ratio is the ratio of population aged 0–14 and over 65 to the productive working age group (15–65 years old).

Notable developments during the past 2.5 decades include (i) rapid population growth, averaging 3% per year for the past 5 years; (ii) evolution of a more integrated economic and financial system as a result of increasing globalization; (iii) greater regional integration and connectivity arising from the opening up of borders, agreements on cross-border movements, and easing of cross-border restrictions that allow greater trade and movements of goods and people; and, recently, (iv) climate change, which necessitates adaptation and mitigation measures.

Several patterns of urban growth in the GMS will be discussed in the next section. These involve (i) large, primary cities that are likely capital cities in the GMS, which will continue to grow given their historical importance; (ii) small and medium-sized towns and cities, which are urbanizing but not as quickly; and (iii) “special” emerging typologies such as border towns, towns along economic corridors, tourist towns, and emergent clusters. Underlying these patterns are globalization; local conditions, which in tandem drive the processes of urbanization, as manifested in economic growth; infrastructure investments; regional cooperation; government policy; rural–urban differentials; and trade.

Dominance of Primary Cities

As in most developing countries, there is a tendency for the capital cities in the GMS to dominate the social, economic, and political affairs.²⁹ Together with their extended regions, these primary cities—by far the most advanced and populated—have between 10% and 15% of a country’s population, may produce up to half of the country’s economic output, and consequently exert significant economic and political influence. Size, density, and diversity lead to innovation, division of labor, and economic growth. Increased economic concentration in these cities thereby exerts pressure on urban space, pushing the boundaries further outward and engulfing neighboring towns, districts, and villages in the process.³⁰ Therefore, spatial development progresses through a process of growth, expansion, and agglomeration, whereby nearby districts and towns are incorporated or annexed and become an integral part of the original core. The economic concentration that occurs is usually followed by spatial inequalities since not all migrants can be accommodated in the formal sector. Instead, they occupy the residual, informal sector, where subsistence wages and dire living conditions are reflected in the dwellings of its earners.

²⁹ Except in Viet Nam, where the main anchor cities are Ho Chi Minh City and Ha Noi, the capital city.

³⁰ Footnote 5, p. 4.

Primary cities in the GMS are followed by 5–10 secondary cities that serve as regional hubs for transportation, agricultural markets, trade, and technological innovation. Unlike primary cities, the hierarchical rankings of the secondary cities have changed over the past decades. Previously prominent cities associated with the colonial era have assumed less importance, while other cities that have responded to the globalization challenge—particularly those engaged in tourism, manufacturing, and trade—are quickly developing. Other factors that cause changes in prominence are prolonged social conflict (Cambodia and the Lao PDR) and greater access to global activities and markets such as trade, tourism, and manufacturing.

The Changing Face of Greater Mekong Subregion Cities



New real estate project for Phnom Penh.
Source: F. Steinberg.

Peri-urban growth is another rising phenomenon. Movements of households and industries occur from core urban areas to peripheries because of cheaper land and rents, while households and individuals from rural areas who are unable to establish their residency in core areas instead settle in peri-urban areas. In the process, thousands of hectares of agricultural land are converted to urban use every year. For example, land development in Bangkok, HCMC, Ha Noi, and Phnom Penh, and their outlying areas is proceeding at unprecedented speed, exceeding the local government capacity to provide needed urban services.

Adverse development consequences of excessive metropolitan growth include unbalanced regional development, deterioration of standards of living, and degradation in both rural environments and urban and adjacent environments. Efforts to slow down this trend have been futile—if not impossible—because of weak governance and development strategies, reliance on indirect measures of control with little effort to evaluate or coordinate their effects on urbanization, lack of coordination between rural and urban development strategies, and reliance on supply side service provision vis-à-vis those based on demand.

Although advances in agricultural production enable more intensive use of land, the ad hoc and unregulated conversion of prime land make it difficult for local authorities to manage the urban expansion. The influx of newcomers seeking accommodation results in increasing densities, new construction, infilling, and,

eventually, slums that overwhelm the capacity of the sanitary environment to replenish it. As housing policies are generally lacking, permissive officials tend to ignore informal construction. Peri-urban development also affects the ways in which infrastructure services need to be provided, which have a significant impact on urban provision. For example, centralized water treatment and piped water supply may be economical due to the demand in a particular area, which can be managed by public utility companies. Therefore, not all development in peri-urban areas is unplanned. In the large cities in the GMS, particularly Bangkok, Ha Noi, and HCMC, both public and private sectors are active in housing and multi-use development sites.

Primary cities pose risks as they are susceptible to disasters because of their (i) geographic complexity, which make transportation infrastructure inefficient during periods of calamities; (ii) energy requirements and waste generated, which may have adverse effects; (iii) susceptibility to flooding, as most are located in low-lying areas; and (iv) social hazards because of large disparities in income and wealth.

Development of Small and Medium-Sized Towns and Cities

The development of small towns as centers of economic growth and as service centers for the larger population in surrounding rural areas is becoming increasingly important. Despite past considerable investments in the urban water sector, overall piped water supply coverage in small towns in the GMS is well below targeted levels at 17%. Further investment in water supply and associated urban infrastructure in the remaining 97 underserved small towns is needed to address unsatisfactory health profiles and deteriorating environmental conditions.

Since the mid-1980s, rural people have been increasingly drawn to the urban centers in search of better livelihoods. In terms of share of GDP, average annual growth rates for the industry sector (8%) and services sector (6.2%) were higher than that for the agriculture sector (5.3%), suggesting higher productivity and greater opportunities in urban areas. In order to support the growth of these sectors (e.g., services, industry, and tourism), improvements to urban and environmental conditions are essential so that the health, productivity, and well-being of the urban population in urban centers are not undermined.

Medium-sized towns play important roles in national development and poverty alleviation because they (i) provide goods and services—both public (health care, education, and government services) and private (trade, transport, and other personal goods)—to urban and rural residents; (ii) provide access to

markets such as agricultural goods; (iii) provide employment and investment opportunities to include temporary and permanent migration from rural areas; and (iv) serve as nodes within wider marketing networks, and, in the process, channel demand from outside the region. Medium-sized towns are a viable alternative to overburdened metropolitan areas, potentially leading to a more spatially balanced urbanization pattern and economies in infrastructure costs per capita, which are less expensive than either very large cities or small towns.

Medium-sized towns in the GMS are growing rapidly, having had their share of in- and out-migration. Population growth seems to be stagnant because of the balancing effect. Within the urban hierarchy, medium-sized towns serve as “buffers” to divert migration to primary cities. Rural towns serve their hinterlands as market hubs for agricultural produce. They require large infrastructure and human resource investments to become more competitive.

Rural–Urban Linkages

Agriculture will continue to play a major role in the development of the GMS countries, at least in the near future. As the role of agriculture steadily declines, the link between agricultural production, processing, and distribution; as well as income, employment, productivity, and investment will determine future urban and rural development.

Urban and rural spheres are physically linked through transportation and communication infrastructure. These include primary, secondary, and tertiary road networks; rail, air, water, and transportation infrastructure; electric power and grids; and communication networks, which enable greater movement for people, goods, and services.³¹ Economically, backward and forward production linkages involve the design, production, and movement of raw materials, spare parts, and finished goods. Backward and forward economic links are closely related to demographic movements such as temporary and permanent migration. These movements in turn are shaped to some extent by social and political networks.

The movement of people defines population linkages. This includes all forms of migration into and out of urban areas—whether temporary or permanent—including commuting. There are also service linkages such as activities and transactions of various public or government agencies and private companies. Social and political links occur between and among individuals, organizations, and networks, and can include kinship groups as well as other associations. The

³¹ C. Tacolli, ed. 2006. *The Earthscan Reader in Rural-Urban Linkages*. London: Earthscan.

flow of information and the spread of innovation are also linkages. Rural–urban linkages have a large impact on rural, urban, regional, and national development as well as spillovers to neighboring countries.

A simple example of rural–urban linkage is when local urban centers provided access to markets for rural goods and processing facilities, which add value to these goods. Rural areas, which provide the land needed to grow agricultural crops, adapt their production to urban demand. In the meantime, this process increases rural income and creates more nonfarm jobs in urban centers. Increased incomes generate nonfarm jobs in rural areas and increase the demand for nonfarm goods and services. Intensifying this rural–urban link will lead to diversified livelihoods in rural areas along with increased demand, which will then expand the links to national and international urban centers. As income increases in both rural and local areas, the demand for higher-order products increases, and more products of higher value are made from processed rural goods to be sold in the national and international urban centers.

Rural–urban linkages may also create adversity. For example, large capital-intensive firms backed by foreign capital may dominate rural production and bypass small urban centers in favor of larger urban centers. This situation leaves fewer jobs while exploiting land and natural resources and impoverishing rural areas, leading to the migration of the rural population. At the same time, small urban centers decline and stagnate, causing migration to the larger urban centers.

Emerging Urban Growth Centers

Border towns. Historically, the development of border towns can be traced to their functions as points of cross-border trade, military outposts, or confluences of strategic transportation routes. Current border town development in the GMS is attributed to expanded tourism, trade, or manufacturing; and wage and goods price differentials, all of which require cross-border movement. In the past, governments have not been inclined to develop border towns due to their limited control and distance, and therefore tend to impose border restrictions and cross-border movements. However, increased intraregion trade and investments have begun to shape the development of border towns in the GMS, particularly during the late 1980s with the revival of trade between the PRC and Southeast Asia.³²

³² Several milestones include Myanmar's trade liberalization with the PRC; technical assistance of the PRC for road construction in northern Lao PDR in the late 1980s; trade normalization between the PRC and Viet Nam; and the collapse of the Soviet Union in the 1990s, which made Cambodia, the Lao PDR, and Viet Nam seek out new trading partners.

Border towns pose several locational advantages compared to other urban areas through the existence of labor markets, whereby wage differentials between neighboring countries enable manufacturers to (i) obtain needed workers; (ii) provide employment opportunities; (iii) create new employment-generating activities; and (iv) enable price differentials, allowing for production at lower prices. However, border towns in the GMS tend to be less developed economically and harbor some of the poorest communities because of their peripheral locations as isolated outposts. Yet, the rapid urbanization in some border towns such as Poipet and Bavet in Cambodia and Dansavanh in the Lao PDR pose problems of overcrowding and lack of adequate services.

Border towns are expected to play a larger role in national economies in the GMS as they enable cross-border movements of goods and people and allow infrastructure improvements that generate economic activity. Several risks associated with the growth of border towns are the widening disparities between towns and/or cities and regions; illegal human trafficking and smuggling; spread of health hazards and/or diseases because of inter-boundary movements; exploitation and/or draining of natural resources, including spillover effects such as siltation, pollution, traffic congestion, or noise caused by negative externalities that are not reflected in cross-border transactions; and the potential for boundary disputes regarding water and land.

Several interventions to develop and improve border regions include (i) investing in urban infrastructure, particularly water supply and sanitation, electricity, communications, drainage, and flood control; (ii) increasing added value for agricultural and natural resource products, raw materials, agroprocessing, and other higher-value exports; (iii) coordinating land management and development; (iv) developing regional commerce and transport infrastructure; and (v) establishing SEZs. These initiatives could be supplemented by improvements in human resource skills, small and medium-sized enterprise development, and private sector investment.

Towns along economic corridors. These towns are located within a defined geographical area—i.e., strategic nodes or urban areas linked by transport networks (road, rail, waterway, and air). The level of supporting infrastructure (power, telecommunications, and tourism) along with the “soft” aspects—including policies and regulations, cross-border facilitation and cooperation, and social, political, and business linkages—may vary from one town to another. While the governments bear the development costs, the sources of funding may be a mix of foreign aid, foreign and local direct investments, international

private equity funds, and international and domestic capital markets. Corridor towns face several development issues, although to varying extents: (i) ensuring that benefits accrue to the poor, (ii) mitigating environmental impacts, (iii) facilitating a conducive investment climate, (iv) eliminating formal and informal barriers to cross-border trade and movement, and (v) developing measurable social and economic indicators of progress.

Several impediments such as the level of infrastructure, natural resource constraints, and existing policies must be overcome to realize the development potentials of corridor towns. For example, if left unabated, income disparities, underdevelopment, and uneven literacy levels between Thailand and the other three neighboring countries will result in lopsided benefits to Thailand as the dominant economic engine in the GMS, mitigating against regional economic growth. Overall economic growth in the GMS may require adjustments to individual country policies to maximize the benefits of regional cooperation such as simplifying procedures to attract private investments, facilitating movement of goods and labor, and optimizing the use of natural and socioeconomic resources.

Tourism-based towns. Increased tourism and economic activity have transformed towns into tourism-based towns, which have relative security, increased connectivity, and access to the region's unique historic and environmental features, natural landscape, and cultural heritage. Several towns that have benefited from the tourism boom are Siem Reap and Preah Sihanouk in Cambodia; Louangphabang and Vientiane in the Lao PDR; Chiang Mai, Chiang Rai, Pattaya, and Phuket in Thailand; and Hoi An, Hue, and Nha Trang in Viet Nam. Newcomers to the tourism scene include Hua Hin, Vung Tau, and Preah Sihanouk.

The tourism industry generates substantial economic benefits to the host country and the towns associated with tourism. Compared to other productive sectors, tourism has several advantages. It is relatively labor intensive and has the potential to benefit the poor and strengthen their control over cultural and national assets. The attractions have caused inflows in migration and investments. In 2005, tourist arrivals were approximately 21 million—roughly 2.2% of global international visitors—and generated around \$13.0 billion in total receipts along with 3.8 million jobs. In 2013, tourist arrivals to the GMS topped 49 million and the industry generated close to \$60.0 billion in total receipts, along with 14 million jobs created (Tables 1.6 and 1.7).

Table 1.6: International Tourist Arrivals to the Greater Mekong Subregion, 2005–2013
(in person)

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cambodia	1,421,615	1,700,041	2,015,128	2,125,465	2,161,577	2,508,289	2,881,862	3,584,307	4,210,165
PRC (Guangxi)	1,461,605	1,676,400	2,051,800	2,010,200	2,098,516	2,502,363	3,027,923	3,502,732	2,817,400
PRC (Yunnan)	1,502,817	1,810,017	2,219,030	2,502,170	2,844,902	3,291,532	3,953,800	4,578,400	2,878,800
Lao PDR	1,095,315	1,215,106	1,623,943	1,736,787	2,008,363	2,513,028	2,723,564	3,330,072	3,779,490
Myanmar	660,206	630,061	716,434	731,230	762,547	791,505	816,369	1,058,995	2,044,307
Thailand	11,516,936	13,821,802	14,464,228	14,584,220	14,149,841	15,936,400	19,230,470	22,353,903	26,546,725
Viet Nam	3,467,757	3,583,486	4,171,564	4,253,740	3,772,359	5,049,855	6,014,032	6,847,678	7,572,352
GMS	21,126,251	24,436,913	27,262,127	27,943,812	27,798,105	32,592,972	38,648,020	45,256,087	49,849,239

GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Source: GMS Core Environment Program. 2014. Bangkok. <http://www.gms-eoc.org/gms-statistics/overview/international-tourist-arrivals> (accessed 2015).

Table 1.7: Annual Receipts from Tourism in the Greater Mekong Subregion, 2005–2013

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cambodia	832	1,049	1,400	1,595	1,561	1,786	1,912	2,210	2,547
PRC (Guangxi)	320	404	577	602	643	807	1,052	1,279	1,547
PRC (Yunnan)	528	658	860	1,008	1,172	1,324	1,609	1,947	2,418
Lao PDR	147	173	233	276	268	382	406	514	596
Myanmar	85	164	182	165	196	254	319	534	926
Thailand	9,134	12,732	15,869	17,248	14,881	16,684	25,454	31,658	39,282
Viet Nam	1,892	3,190	3,482	3,648	3,820	5,019	6,293	7,669	9,230
GMS	12,938	18,370	22,603	24,542	22,541	26,256	37,045	45,811	56,546

GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Source: GMS Core Environment Program. 2014. Bangkok. <http://www.gms-eoc.org/gms-statistics/overview/international-tourist-arrivals> (accessed 2015).

However, negative impacts and externalities and the inequitable distribution of tourism benefits need to be considered both within and across countries. For example, over two-thirds of all tourists to the GMS go to Thailand. Additionally, the poor, women, and ethnic communities are particularly left behind. The seasonal nature of tourism also implies that there is less job security. With increasing affluence, urban residents, given their relatively higher disposable income and increased mobility, visit other areas for tourism, business, and other needs.

The areas of concern are (i) environmental impacts such as litter and congestion, (ii) disappearance of artifacts of historical significance, and (iii) illegal promotion of drugs and human trafficking. Tourism poses tougher challenges where capacity to manage tourism is low, and subregional cooperation and private sector participation do not exist. There are also hidden costs such as the external transfer of tourism revenues and exclusion of local businesses and products. For example, about 80% of travelers' expenditures go to the airlines, hotels, and other international companies in package tours. Also, infrastructure costs borne by the government and taxpayers may be quite high, reducing government investment in other critical areas such as education and health. Tourism can also hike local prices as tourists compete in the demand for local goods. The capacity to manage cultural heritage, adverse social impacts of tourism, and infrastructure to facilitate tourism, along with the necessary legal framework, will be imperative for sustainable development of tourism as well as local development. Many countries, especially developing countries with little ability to explore other resources, have embraced tourism as a way to boost the economy.

A key obstacle in developing tourism is the absence of a visa-free travel provision. Several GMS countries currently use visas to attract tourists from particular countries, whether by waivers or exemptions. The lack of consistency in applying the requirements has caused ambiguity, discouraging potential tourists. The absence of adequate tourism infrastructure—in hard infrastructure such as roads, ports, power, and accommodations; and soft infrastructure such as tourist information centers, theme parks, and health facilities—makes tourism in the GMS less competitive compared with other countries.

Special economic zones. Foreign direct investment (FDI) and domestic capital have played an important role in accelerating industrialization and raising the population's living standards. A current trend is the development of SEZs, whereby the government provides a combination of tax breaks, reduced import duties and other tariff privileges, and infrastructure facilities along with financial

assistance to the private sector. These SEZs stimulate investments and other entrepreneurial activities and eventually drive local economic growth in the region through capital, technology, know-how, and market access.

Economic zones have also played an important role in encouraging and expanding industries of various scales, which in the process contribute to industrial development. Among the major benefits are transfer skills and technology, which facilitate the investment needed for industrialization in countries where land markets are poorly developed. SEZs enable access to new markets and create forward linkages to the world market to boost exports and foreign exchange earnings while attracting FDI. Spatially, SEZs provide the impetus to enable land use and zoning of industries, reduce over-concentration of population in metropolitan cities, and reduce costs through sharing of common infrastructure, utilities, and service facilities. The ability of SEZs to attract investment, however, will depend on transparency of investment regulations and procedures, availability of skills, and transportation costs.

Several investment incentives include tax breaks, reduced import duties, and one-stop visa and work permit privileges. In some cases, foreign investors are allowed to obtain a land title, which can be used to secure local financing. SEZs do not only benefit large investors. Smaller multinational and local firms move to SEZs as secondary and tertiary suppliers to provide their goods and/or services to the larger investors that demand proximity to their manufacturing facilities to minimize inventory costs. This “lean manufacturing” allows the clustering of small and medium-sized enterprises on industrial estate investments. As added benefits, SEZs (i) enable the streamlining of administrative procedures, (ii) encourage private sector participation, and (iii) ensure the provision of quality infrastructure and services.

Three types of SEZs have the potential for development in the GMS: (i) those dealing with natural resources or labor-intensive industries such as garments in Cambodia and Viet Nam; (ii) service-based industries such as tourism, which have strong demand; and (iii) technology-intensive industries such as electronics, automobiles, and other technologically driven products clustered around Ha Noi, HCMC, and Thailand’s ESB. The locations of SEZs may be at the border, due to wage differentials; or inland, given the established infrastructure and human skills. However, an important prerequisite of any SEZ development is the access to good transportation infrastructure. Among the top investors in the GMS are the PRC; Hong Kong, China; Japan; the Republic of Korea; Singapore; and Taipei, China.

Other geographical clusters. The economies of scale of large cities provide high rates of return on investment; support the commercial, administrative, and infrastructure services needed by industries to operate efficiently; and bring about the economy's diversification, which also drives the growth of primary cities. However, growth can also be generated in areas far from the large cities, whether through planned (economic corridors and SEZs) or unplanned (border towns) means, as previously discussed. The operation of market forces will therefore create multiplier effects that would stimulate economic growth throughout the region.

Planning and construction of more and better transportation and communication linkages between urban centers and emphasizing the variety of different roles of urban areas are the keys to managing urban growth in the GMS. Aside from developing urban infrastructure and linkages, governments will need to also include region-serving development functions to serve the mutual interest of GMS member countries. There is a need to further assess the potential of regional development clusters and define the roles and responsibilities of participating member countries in terms of the amount of investment and software requirements.

Urban networks of growth clusters within the country should be identified and linked with those of the GMS and integrated through transportation linkages and institutional development. The whole will thus be greater than the sum of its parts. A regional network strategy will allow governments to target corridors between major urban centers as sites for industrial parks and include provisions for higher order services—hospitals, universities, and recreation—in nearby towns to provide the type of living environment needed to attract skilled labor management personnel. The approach is designed to enhance the coordinated expansion of regional clusters of cities and inter-urban corridors, rather than simply focusing on a single municipality. Industrial parks that are being constructed in various areas in the GMS (Guangxi, northern Thailand, southern Yunnan, and Viet Nam) illustrate this approach. Relatively low land prices, proximity to land ports and/or seaports, and accessibility to the needed services and amenities will determine facility locations.

Issues in Urban Development

The convergence of forces results in the concentration of economic activity, along with its spatial, environmental, and social implications. These include competition over land use, unmet demand for services and infrastructure,

congestion and pollution, and social conflict. There are several key challenges facing urban governments: promoting economic growth while reducing urban and rural poverty, enabling a more effective and efficient delivery of urban services, and addressing a lack of institutional capacity to use measures for the benefit of the city and as a whole.

While the provision of urban infrastructure and public services remain a challenge, emergent needs—improved spatial balance, effective urban institutions, governance and management, mobilization of societal resources, and poverty reduction—have become more pronounced and require the attention of policy makers. The main issues facing urban development in the GMS include those concerning urban planning and management, infrastructure development and financing, climate change and environmental management, urban management and institutions, poverty reduction and inequality, and lack of private sector involvement.

Urban Planning and Land Management

When many countries gained independence following World War II, old buildings were torn down and replaced with new ones in the name of modernization, and urban planning was done ad hoc and without regard for tradition and history. However, the increasing tourism boom and need to express identity created a demand for conservation of tradition and historical artifacts, which include buildings, original urban layouts, and open space. This has led investors, in collaboration with policy makers and citizens, to pursue this avenue of urban development. The impacts are not citywide and tend to be concentrated in a few pockets within towns and cities, although the movement is now becoming more widespread.

High population densities and limited land in urban areas increase the competition for land, thus making less of it available for investment and translating to high land prices and potential for land conflicts in urban areas. Investments in urban areas also impact land/property owners, which require high costs for resettlement. The absence of appropriate tax and land use policies makes for the inefficient use and conversion of land. Uncontrolled city expansion results in adjoining areas experiencing the same growth problems that urban areas now face. Measures to update the tax base regularly, transparently, and professionally, and to levy appropriate land taxes remain weak. Market forces determine the use of private land. Efficient use of land requires a basic land identification and information system, an institutional and legal foundation for land sales, and the provision of monetary incentives for efficient land use.

Major cities in the GMS are situated along the flat plains or deltas where the land is fertile and suitable for paddy farming. However, rapid economic development has resulted in competing land uses for residential, industrial, and commercial purposes. Although all countries in the GMS have some form of land law that generally sets the rules governing the management, protection, and use of land—with the overall purpose of contributing to national development and environmental conservation—there is no effective control on land use for the development and urbanization of large cities. Difficulties arise in coordinating and addressing complex issues on urban development, and there are debates on which appropriate government ministry or agency should be responsible. The lack of comprehensive and systematic spatial planning and enforcement of zoning and building codes has resulted in haphazard and uncontrolled development, where residential areas are mixed with commercial buildings, factories, and other institutional structures.

Given that the GMS is in an early stage of urbanization, there are still opportunities to better guide the development of urban areas. These are (i) controlling spatial development through regulations and development controls, (ii) overcoming poverty, (iii) investing in adequate infrastructure, (iv) enabling effective governance, (v) promoting equitable growth, and (vi) managing the environment. Given governments' scarce resources, addressing these issues remains a difficult task. Therefore, innovative steps must be made to attract private sector participation, foreign investment, and civic participation to mobilize the required resources.

Financing for Urban Infrastructure

Adequate and efficient financing are imperative in attracting infrastructure investments through various funding sources such as central and local governments, public enterprises, and the private sector. However, as the public sector faces financial and fiscal limitations, the role of the private sector is becoming increasingly important.

Following decentralization, service companies were expected to be financially self-supporting, and responsibility for tariff setting was delegated to the respective provincial governments. In practice, tariffs set on a province-wide basis are insufficient to cover operation and maintenance (O&M) costs, let alone debt service or depreciation. As a result, most service companies operate at a loss and require subsidies from provincial governments. In most provinces, debt recovery has proven difficult. While the water bill collection from households is generally good, many government agencies fail to pay their water bills. The

province-wide tariff structure and government relending arrangements to provinces (currently only 15% of capital cost is passed on as a loan) have acted as disincentives to adopting least-cost solutions to the water supply systems. These factors combined result in unsustainable, deteriorating water supply systems and, ultimately, poor customer service.

Financial sustainability is one of two key issues affecting long-term sustainable development of water supply systems in the country. The challenges in financial sustainability involve both raising adequate funds for capital investment to meet the socioeconomic development goals of the country and the Millennium Development Goals (MDGs), and recovering the cost of investment and O&M through adequate tariffs. Sustainable development of the sector requires that increasing the share of capital investment be financed by domestically generated revenues instead of external funding. Given the fiscal situation of the government at present and in the near future, the private sector is required to increase its participation in capital investment in the sector. This in turn requires a functional regulatory system, among others.

The causes of inefficient infrastructure are multifaceted but are rooted in the lack of a regulatory framework for infrastructure service provision. These include (i) inadequate financing and cost recovery mechanisms for capital and operating expenditures; (ii) existence of policy, institutional, and structural bottlenecks that deter private investment to finance urban infrastructure; (iii) limited human resource capacity to plan, operate, and manage urban assets and provide urban services; and (iv) a lack of capacity to regulate the provision of infrastructure services.

Foreign aid, particularly concessional lending, will be less available in the future, which poses challenges in financing the necessary investments in infrastructure. With this funding gap, it is imperative for governments to look for possibilities for private sector involvement, as well as public–private partnerships. However, the business investment climate will need to be facilitated.

Climate Change and Environmental Management

Activities in urban areas such as those in industry, transport, and mass consumption pose serious threats to the environment such as air and water pollution; and bring adverse health conditions such as respiratory disease, diarrhea, cholera, cancer caused by toxic substances, and neurological problems. For example, intensified building and road construction causes dust,

mismanagement of solid waste, and lack of attention to standards regarding the quality of the landfill. It is the inappropriate siting of landfills leads to visual and environmental problems. On the other hand, using incinerators is ineffective because most waste in the GMS has high organic content. Drainage systems are also inefficient because they combine storm water with wastewater and thereby act as secondary sewers that carry industrial discharge, septic tank sewage, and overflows.

Governments in the GMS have now come to realize that climate change is becoming a reality. This is particularly observed from changing weather patterns, rising sea levels, and the increasing frequency of natural disasters—which have implications on food security—as seen not only in cities located in or near coastal areas such as HCMC, Bangkok, and Yangon, but also in those located far inland with relatively flat topography such as Ha Noi, Phnom Penh, and Vientiane.

Climate change awareness touches on two aspects: (i) the need for actions to mitigate climate change such as controlling greenhouse gas emissions, which will raise the stock value of forest resources in the GMS, providing incentives to invest in green growth technologies; and (ii) actions to adapt to climate change, particularly those that will raise the value of commodities such as water. This will require awareness and capacity of governments in the GMS to unlock the potential future added value that natural resources will bring through prudent management.

Global climatic changes such as rising sea levels and greenhouse gas effects will certainly affect the GMS in the future, but there are currently no measures taken to climate-proof urban infrastructure investments, particularly for coastal cities where the topography is flat and located in elevations of 2–3 meters above sea level. Inadequate drainage systems pose perennial problems of flooding, requiring both climate change mitigation and adaptation.

Rapid economic and population growth and urbanization, combined with weak environmental management, have contributed to a gradual decline in environmental quality. The rise in sea level will significantly impact cities in Viet Nam's coastal areas, which require climate-proofing of future infrastructure investments. There is a need to integrate environmental management and to ensure safeguards are mainstreamed in planning and implementation.

Urban Institutions and Management Growth

Although all GMS countries are actively pursuing decentralization policies, implementation progress has been slow.³³ There is a tendency for central line ministries and government agencies to retain most of their decision-making and fiscal authorities while at the same time deconcentrating the workload to subnational governments. This is further exacerbated by the lack of capacity of staff and of check and balance mechanisms at the subnational level, as well as political and self-interest at the national level. However, governments have come to realize that decentralization is inevitable, that there are efficiency gains in bringing decision making closer to the people, and that the ever-increasing demand for services would be best addressed at the subnational level.

There is an urgent need for the recruitment and training of management and technical staff in urban sector institutions at both national and subnational levels. The evolution of a more decentralized and participatory form of governance will require the involvement of a wider spectrum of society, including the private sector and communities, in the development and decision-making processes. The capacity of human resources and sector institutions will need to be strengthened to enable local governments to coordinate and facilitate collaboration and participation of society stakeholders in urban planning, development, and management.

Private Sector Involvement

There is growing recognition of the increasing importance of the private sector's role in development. The promotion and leveraging of both domestic and foreign private sector investment in infrastructure would be best served through public-private partnerships (PPPs). PPPs address the infrastructure funding gap by stimulating private sector investment through the provision of a mechanism to access new capital, expertise, and technology; and by reducing infrastructure investment and maintenance costs to the government through greater efficiency and improved service delivery. PPPs are becoming an increasingly important component of government development strategies, and a number of power, water supply, and transportation projects have been or are currently being prepared. Despite these initiatives, overall private investment in infrastructure has been very limited, and PPP investments in the social sectors such as health and education are virtually nonexistent.

³³ Several examples include amendments of the Constitution (Thailand, 2007), adoption of the Public Administration Law (Viet Nam, 2003), and Decentralization and Deconcentration Policy (Cambodia, 2008).

PPPs face systemic issues that need to be addressed. First, there are weaknesses in the policy and legal framework that constrain the development of an environment conducive for PPP. It is still unclear whether domestic courts would automatically enforce an international arbitral award in case of disputes. Details on how to operationalize the various laws and regulations governing private sector participation are lacking, and the nature and form of government support that can be provided to PPP projects is unclear. There is also lack of clarity on lenders' rights over project assets.

Second, there are weaknesses in the current institutional setup and capacity issues that constrain adequate identification, preparation, transaction, and monitoring and evaluation of PPP projects and contracts. How PPP transactions can be conducted in a competitive and transparent manner is a concern. Details are still unclear on procedures to prepare feasible projects, methods to evaluate designs to maximize potential value-for-money, and the way in which solicited and unsolicited bids will be tendered and evaluated.

The third issue is the lack of awareness on the part of government agencies and officials and the private sector on the benefits and shortcomings of PPPs. The PPP projects currently being proposed are often quite small, emerge on an ad hoc basis, and are not standardized. They also tend to be issued on a reactive, unsolicited, and negotiated basis rather than through proactive government preparation and competitive tendering. As a result, the amount of funds raised through PPPs is far below potential, and it is unlikely that the services provided accurately reflect market needs.

The fourth issue is the absence of PPP support mechanisms. PPP projects that have strong economic returns but may not be commercially viable cannot yet benefit from government support in a structured manner.

Conclusion

Urbanization is inevitable. The world is increasingly becoming urbanized and the countries in the GMS are no exception. The year 2008 marked a milestone in urbanization worldwide, whereby half of the people on the planet lived in urban areas. In Southeast Asia, the urban population will reach this milestone by around 2025. Although a majority of the GMS population currently resides in rural areas, it is catching up quickly.

By 2030, it is expected that over 50% of the population in the GMS will be living in urban areas. Migration and reclassification of cities—along with endogenous and exogenous factors of growth—are known as common drivers of urbanization. However, this study seeks to unmask the underlying causes in more detail in the context of the GMS. Furthermore, as the GMS is in many ways still agriculture-based—only 20% of the population resides in urban areas—the linkage between urbanization and rural development will remain an important facet of national economic development. None of the developed countries have experienced economic development without having gone through the process of industrialization and urbanization, and the countries in the GMS are no exception. However, it will require higher densities, shorter distances, and fewer divisions.

Major economic growth will be in urban areas. Over the past 3 decades, relative peace and stability in the GMS countries have generated significant development and economic growth, accompanied by rapid urbanization. The pace of development has been uneven: Thailand is the most developed, along with Guangxi and Yunnan, while Viet Nam is catching up. Cambodia, the Lao PDR, and Viet Nam have all posted average GDP growth rates of above 7% during this period. Due to Myanmar's relative political and economic isolation, it has noted slower growth than other countries in the GMS. However, with the lifting of international economic sanctions and opening up of the economy to the international community, it is expected that Myanmar will accelerate its development in the coming years. With current urbanization levels averaging about 30%–35%, urban areas in the GMS are contributing about 50%–60% of their national GDPs. This is expected to intensify, and the urban economy is expected to easily contribute 80%–85% of the GDP by 2050. This shows that cities drive economic growth because they allow for the agglomeration of activities. However, this is not a sufficient condition, as other enabling factors such as infrastructure development, trade facilitation, and creation of a conducive environment for investment are all needed to ensure sustainable growth.

Poverty is lower in urban areas and urban services are generally better than nonurban areas. Poverty has generally declined in the GMS countries, but the decline has been more rapid in urban areas where the investments and job opportunities are more concentrated, and access to public services is better. However, the quality and distribution of services and living conditions are uneven.

It is worthwhile to support urban growth and development, but uncontrolled development puts pressure on the ability of urban governments to provide adequate services. In the GMS, urban areas play important roles as nodal points of various networks—transportation, power, communications, and as engines of growth and markets for their hinterlands. As in many cities in developing countries, GMS cities face the dual challenge of the ever-increasing demand for urban infrastructure and services and the limited capacity of governments to secure and manage the resources needed to provide and sustain these services. Urban development is currently at a critical point wherein best practices and innovative ideas have evolved in a piecemeal fashion, arising from various disciplinary fields and sectors. Various facets of urban development will need support, whether from delivery of services and infrastructure, urban management and governance, or ensuring broad-based participation from civil society. Urban development requires sound policies and legal institutional frameworks for decentralization that empower local governments to improve urban infrastructure and services (footnote 9). Managed well, urbanization can provide tangible benefits not only to urban development, but also to rural and national development.

Development of a sustainable economy will require an urban backbone. Urban areas in the GMS face multiple issues that need to be addressed to ensure sustained growth. There can be no green growth without environmentally sound cities and towns. The environmental performance of urban areas needs improvement—not only in public health standards, but also in the competitiveness of urban areas in the GMS. Urban infrastructure provision is therefore imperative, as it is one of the several benchmarks of competitiveness. However, this will require sound regulatory frameworks, availability of quality human resources, and a knowledge and resource base for innovation. Such challenges cannot be met through conventional analyses and instruments. Instead, it would need a radical departure that addresses issues facing the principal actors—government (capacity and governance), the private sector (efficiency and financing), and civil society (participation). In the future, new financing modalities for providing urban services will need to be sought. Partnerships will be inevitable, and incentives will be needed to bring all parties involved to the table.

Urbanization leads to changes in population dynamics. Urban areas provide better access to health and educational services, which in turn provide opportunities for upward social mobility and increased productivity. A combination of higher earnings and high cost of living lead to a large percentage of women participating in the labor force outside their home. Furthermore, many women focus on their careers and therefore tend to postpone their marriage, which contributes to further decline in fertility rates.

Chapter 2

The Role of Cities and Connectivity in Promoting Regional Integration and Competitiveness

Douglas Webster and Andrew Gulbrandson

Introduction

This chapter focuses on the urban system in the Greater Mekong Subregion (GMS), a region with a current population over 326 million. Specifically, it will

- i. assess the dynamics of the GMS urban system based primarily on economic and accessibility drivers;
- ii. indicate the role that the GMS urban system can play in functionally integrating and thereby accelerating the development of the region;
- iii. recommend mechanisms whereby GMS cities can contribute to improved environmental sustainability and competitiveness of the GMS region; and
- iv. suggest roles that the Asian Development Bank (ADB) can play—both in investment and knowledge application—in facilitating the development of key urban places and inter-urban links to facilitate development of the region.

At present, urbanization levels (% urban from Table 1.2) in the GMS are low, ranging from 19.5% in Cambodia to 44.2% in Thailand. However, in all GMS countries, urban areas account for a much larger percentage of the gross domestic product (GDP)—around 50%–65% of GDP, and approximately 75% in Thailand—than the share of its national populations. Urbanization growth rates (2000–2010, compound annual growth rate [CAGR]) are somewhat higher in the GMS by world standards, ranging from 4.9% annually in Yunnan Province (Yunnan), People’s Republic of China (PRC) (six times the provincial population growth rate) to a low of 2.6% annually in Myanmar (1.7 times the national population growth rate). Urban GDP is highest in Thailand and is characterized by solid middle-income standards of living, followed by the PRC’s Guangxi Zhuang

Autonomous Region (Guangxi) and Yunnan. The other GMS countries exhibit less than middle-income urban economic performance.

Although all countries have a dominant city that is potentially able to interact globally, in all cases—except for the Lao People’s Democratic Republic (Lao PDR), which has a population of over 1 million—regionally, the share of population living in cities is low, from 250,000 to 1 million, and of policy concern. Except in Guangxi, with its balanced urban hierarchy, urban systems in the GMS tend to be bipolar, with the bulk of the population living in large cities over 1 million or in small cities with less than 250,000 population.

There is also considerable diversity in quality of life and urban services in the GMS. Although electricity service is virtually universal in urban Guangxi and Yunnan in the PRC, Thailand, and Viet Nam, a significant percentage of urban Myanmar households lack electricity (coverage is only 13% nationally); industrial investment and economic development is accordingly stymied. Cambodia also has relatively low levels of electricity coverage (24% nationally). The Lao PDR fares better (55% coverage nationally), representing a middle case.

Similarly, in urban Guangxi and Yunnan in the PRC, Thailand, and Viet Nam, have virtually full coverage in improved water supply, and Myanmar is close with 93% coverage. However, only 72% of the urban population in the Lao PDR and 87% in Cambodia have improved water supply access. Urban sanitation data show a pattern similar to urban improved water supply coverage data.

Given this diversity in urban characteristics, what are the commonalities that exist within the GMS, which would make assessing it as a single urban system worthwhile? Aside from all seven jurisdictions (Cambodia, Guangxi and Yunnan in the PRC, the Lao PDR, Myanmar, Thailand, and Viet Nam) being geographically contiguous and sharing certain geographic features, particularly the Mekong River watershed, themes that define the GMS and its cities as a functional entity include

- complementarity between large landlocked areas and port access (cross-border goods flows are largely to or from ports rather than intraregion supply chain-based);
- enormous potential in all countries for tourism; amenity development; and meetings, incentives, conventions, and exhibitions (MICE), the world’s most important cluster of economic activity;

- increasingly similar urban development trajectories in all countries despite wide divergence in current levels of economic development (e.g., Ho Chi Minh City's [HCMC] development trajectory is largely following that of Bangkok); and
- most important of all, a common set of drivers affecting all GMS urban systems.

Prime drivers influencing the urban system of the GMS are

- increased domestic and international migration within the region—moving toward a “GMS populace” (so-called global households are growing rapidly);
- anticipation of implementation of the Association of Southeast Asian Nations (ASEAN) Economic Community (AEC) in 2016;
- the economic rise and pull of the PRC, which constitutes the northern tier of the GMS, including the pull of its transport systems such as national high-speed rail (HSR) and dedicated container rail service to Europe from southwest PRC;
- massive political-administrative change in Myanmar, creating the conditions for rapid economic structural change and growth that will provide the GMS with a western growth pole and dynamic metropolis in Yangon, which was previously lacking;
- improved road transportation conditions along GMS economic corridors, connecting virtually all major urban nodes in the region, with some improvement in cross-border facilitation of movement of goods and services;
- the rise of low-cost airlines serving the region and continued improvement in aviation facilities, which is vital to the development of the region's tourism and amenity economy—the one economic cluster where the GMS enjoys obvious comparative and competitive advantage for some GMS countries;
- increasingly ubiquitous and improving mobile phone coverage (e.g., introduction of 3G and 4G)—with Myanmar as a late adopter—creating a virtual GMS population; and
- continued and very rapid demand for tourism and related activities in the GMS, leading to enhanced and new destination areas throughout the region.

One can assess the urban system of the GMS from three perspectives:

- i. as a series of key urban systems—e.g., Bangkok, Ha Noi, HCMC, Kunming, Nanning, Yangon—which significantly interact with the global urban system, or which have the potential to do so. A GMS-supporting tier of secondary cities exists, including the national capitals of Phnom Penh and Vientiane; plus key national secondary cities such as Thailand’s Eastern Seaboard (ESB), which includes Chonburi, Pattaya, and Rayong; Da Nang and Hue in Viet Nam; Mandalay in Myanmar; and Dali in Yunnan;
- ii. as a set of inter-urban corridors, with some urban settlement in small cities and towns along corridors, which has been the ADB focus to date as reflected in its GMS Corridor Towns Development Projects,¹ discussed later; and
- iii. as key transborder areas, where the potential for factor cost or regulatory arbitrage (e.g., cross-border processing complexes and casino complexes) exists.

This chapter will attempt to assess the urban systems from all three perspectives.

Spatial and Economic Trends in the Greater Mekong Subregion

Urban Systems and Spatial Patterns

Greater Mekong Subregion City and Urban Area Classification System

In this assessment, the GMS cities and urban areas have been categorized into five size classes using available data (Table 2.1). Data have been collected from relevant national-level statistical organizations in GMS countries, utilizing the most recent census data and/or official estimates for each country. The base

¹ ADB. *Kingdom of Cambodia: Greater Mekong Subregion Southern Economic Corridor Towns Development Project*. Manila (Loan 2983/Grant 0334 and Grant 0335, total ADB assistance \$46.1 million); ADB. *Lao People’s Democratic Republic: Greater Mekong Subregion East–West Economic Corridor Towns Development Project*. Manila (Loan 2931/Grant 0314 and Grant 0315, total ADB assistance \$41.4 million); ADB. *Viet Nam: Greater Mekong Subregion Corridor Towns Development Project*. Manila (Loan 2969/Grant 0329, total ADB assistance \$131.0 million).

year for the data varies by country between 2008 and 2011.² The five size classes for cities and urban areas are

- **Class I:** Cities or districts with urban populations of more than 1,000,000;
- **Class II:** Cities or districts with urban populations between 500,000 and 1,000,000;
- **Class III:** Cities or districts with urban populations between 250,000 and 500,000;
- **Class IV:** Cities or districts with urban populations between 100,000 and 250,000; and
- **Class V:** Cities or districts with urban populations between 50,000 and 100,000.

Table 2.1: Number of Cities and Urban Areas in the Greater Mekong Subregion by Class and Country

Country	Class I	Class II	Class III	Class IV	Class V	Total
Cambodia	1	0	0	5	2	8
PRC (Guangxi and Yunnan)	7	9	9	8	5	38
Lao PDR	0	1	0	1	2	4
Myanmar	1	1	4	25	27	58
Thailand	1	1	10	25	37	74
Viet Nam	2	4	4	22	41	73
Total	12	16	27	86	114	255

Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Notes: Class I refers to cities or districts with urban populations of more than 1,000,000. Class II refers to cities or districts with urban populations of 500,000–1,000,000. Class III refers to cities or districts with urban populations of 250,000–500,000. Class IV refers to cities or districts with urban populations of 100,000–250,000. Class V refers to cities or districts with urban populations of 50,000–100,000.

Source: Calculated by Webster and Gulbrandson based on personal communication with governments.

Data from each country are not directly comparable. For example, in Myanmar, the most recent data available from the Department of Human Settlements and Housing Development (DHSHD) describe 80 “cities” considered as the most important urban areas in the country. The data available present these areas as stand-alone cities with no rural population identified within.

² National Institute of Statistics (Cambodia), Guangxi Bureau of Statistics (PRC), Statistical Bureau of Yunnan Province (PRC), Lao PDR Statistics Bureau, Department of Human Settlements and Housing Development (Myanmar), Central Statistical Organization (Myanmar), National Statistical Office (Thailand), and General Statistics Organization (Viet Nam).

On the other hand, in the People’s Republic of China (PRC), Thailand, and Viet Nam, census data provide both urban and rural population figures for areas considered to be predominantly urban. For example, in Bangkok, which is under the jurisdiction of the Bangkok Metropolitan Administration, the population of 8.3 million people (2010) is 100% urban. Yet at the same, only 6.0 million of HCMC’s total population of 7.1 million (2009) is considered urban.³

Overview of the Current Greater Mekong Subregion Urban System

The GMS region comprises the countries of Cambodia, the Lao PDR, Myanmar, Thailand, and Viet Nam; and jurisdictions of Guangxi and Yunnan in the PRC. Based on the most recent census and official data from each country taken between 2008 and 2011, the total population of the GMS area is 322.6 million people. Of this total, approximately 106.7 million (33.1%) live in urban areas. Across the GMS, there are 255 cities and districts with urban populations of more than 50,000. The total urban population of jurisdictions inhabited by more than 50,000 people is approximately 82.2 million, or some 77.0% of the total GMS urban population and 25.5% of the total GMS population. Table 2.2 describes urban populations of cities and urban areas with populations of more than 50,000 by class and country, and with comparisons to the total urban population in the countries and provincial areas under study.⁴

The five Southeast Asian countries of the GMS region (Cambodia, the Lao PDR, Myanmar, Thailand, and Viet Nam) have a total population of 230.6 million people—or about 71.5% of the GMS total—of which 72.3 million live in urban areas. In these five countries, there are 217 cities and/or administrative districts with urban populations of more than 50,000 people. These 217 cities have a total population of 68.5 million, with an urban population of 54.6 million, suggesting that 75.5% of urban residents in the Southeast Asian GMS countries live in areas of 50,000 or more.

The combined population of Guangxi and Yunnan in the PRC per the 2010 census was 92.0 million, of which 34.4 million live in urban areas. In Guangxi and Yunnan, there are a total of 38 cities and districts with urban populations

³ The former “centrally planned economies” of the PRC, Cambodia, the Lao PDR, and Viet Nam tend to overbound urban jurisdictions, while the other jurisdictions in the GMS tend to underbound urban built-up areas.

⁴ Note that the total urban population in the Lao PDR is just over 2 million. This figure has been obtained from the World Bank’s World Development Indicators database in light of the fact that the Lao PDR Statistics Bureau has not published urban and rural population splits in their official statistics. The World Development Indicators data appear to vastly overestimate the Lao PDR’s total urban population. Data utilized for urban areas in the Lao PDR (2010) are taken from the Japan International Cooperation Agency (JICA)-funded 2012 study *Basic Data Collection Study on Low-Emission Public Transport in Lao PDR*.

Table 2.2: Urban Population of Cities and Urban Areas in the Greater Mekong Subregion by Class and Country, Most Recent Year

Country	Year	Class I	Class II	Class III	Class IV	Class V	Cities Less Than 50,000	Total Urban Population
Cambodia	2008	1,242,992	0	0	850,654	143,952	376,429	2,614,027
PRC (Guangxi and Yunnan)	2010	16,036,414	6,552,972	3,083,940	1,436,361	422,189	6,845,039	34,376,915
Lao PDR	2010	0	840,489	0	122,220	168,488	922,601	2,053,798
Myanmar	2009–2011	5,142,128	963,350	1,243,408	3,823,934	1,906,596	0	13,079,416
Thailand	2010	8,305,218	681,000	3,280,382	3,902,669	2,656,061	10,308,499	29,133,829
Viet Nam	2009	8,612,920	2,924,841	1,133,554	3,680,670	3,004,847	6,080,064	25,436,896
Total		39,339,672	11,962,652	8,741,284	13,816,508	8,302,133	24,532,632	106,694,881
Urban population (%)		36.87	11.21	8.19	12.95	7.78	22.99	

Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Notes: Class I refers to cities or districts with urban populations of more than 1,000,000. Class II refers to cities or districts with urban populations of 500,000–1,000,000. Class III refers to cities or districts with urban populations of 250,000–500,000. Class IV refers to cities or districts with urban populations of 100,000–250,000. Class V refers to cities or districts with urban populations of 50,000–100,000.

Source: Calculated by Webster and Gulbrandson based on personal communication with governments.

of more than 50,000, containing a total of 27.5 million people and representing 80.0% of the total urban population in these two areas.

The data presented in Table 2.2 suggest that despite being spread across just 12 metropolitan areas, Class I urban areas account for 47.9% of the urban population in jurisdictions with urban populations greater than 50,000. Similarly, they account for 36.9% of the total urban population in the GMS. On the other hand, urban areas with populations of less than 50,000 account for 23.0% of the total GMS urban population—a larger share than areas with urban populations between 250,000 and 1 million (Classes II and III) or those areas with urban populations between 50,000 and 250,000 (Classes IV and V). Class I cities or districts—with urban populations of more than 1 million people—represent more than one-third of the total GMS urban population and 12.2% of the total GMS population, and thus their influence on the future of the GMS cannot be overstated, especially since these metropolitan areas have disproportionately greater per capita economic power relative to smaller cities. Table 2.3 provides a look at urbanization levels in each GMS jurisdiction.

Overview of Urban Dynamics in Greater Mekong Subregion Economic Corridors

One of the key spatial principles underlying GMS investment and policy-making schemes are a series of nine cross-border economic corridors defined by ADB, which connect major cities, ports, and industrial areas within the region (Figure 2.1). The connectivity and access provided by these corridors is evident; in the seven GMS jurisdictions, more than 72 million people—some 68% of the total urban population and 22% of the total population—live along these corridors. Table 2.4 describes the population of the nine economic corridors by urban agglomeration class size.

The nine economic corridors connect eight of the region's largest 12 cities—each with urban populations of more than 1 million—which collectively account for more than 37 million people or 84% of the total population in these large urban areas. By the same token, 65% of the population in Class II cities, 75% of Class III cities, 67% of Class IV cities, and 65% of Class V cities live along one or more of the corridors. Table 2.5 identifies the access and connectivity provided by the GMS corridor system at a macro level, and describes the population residing along each of the individual nine corridors across the seven GMS jurisdictions.

Note that the total population of the nine corridors in Table 2.5 exceeds the total figure in Table 2.4. This is because a number of major cities such as Bangkok, Da Nang, and HCMC are at the junction of multiple corridors and are thus counted as being a part of each corridor they lie within.

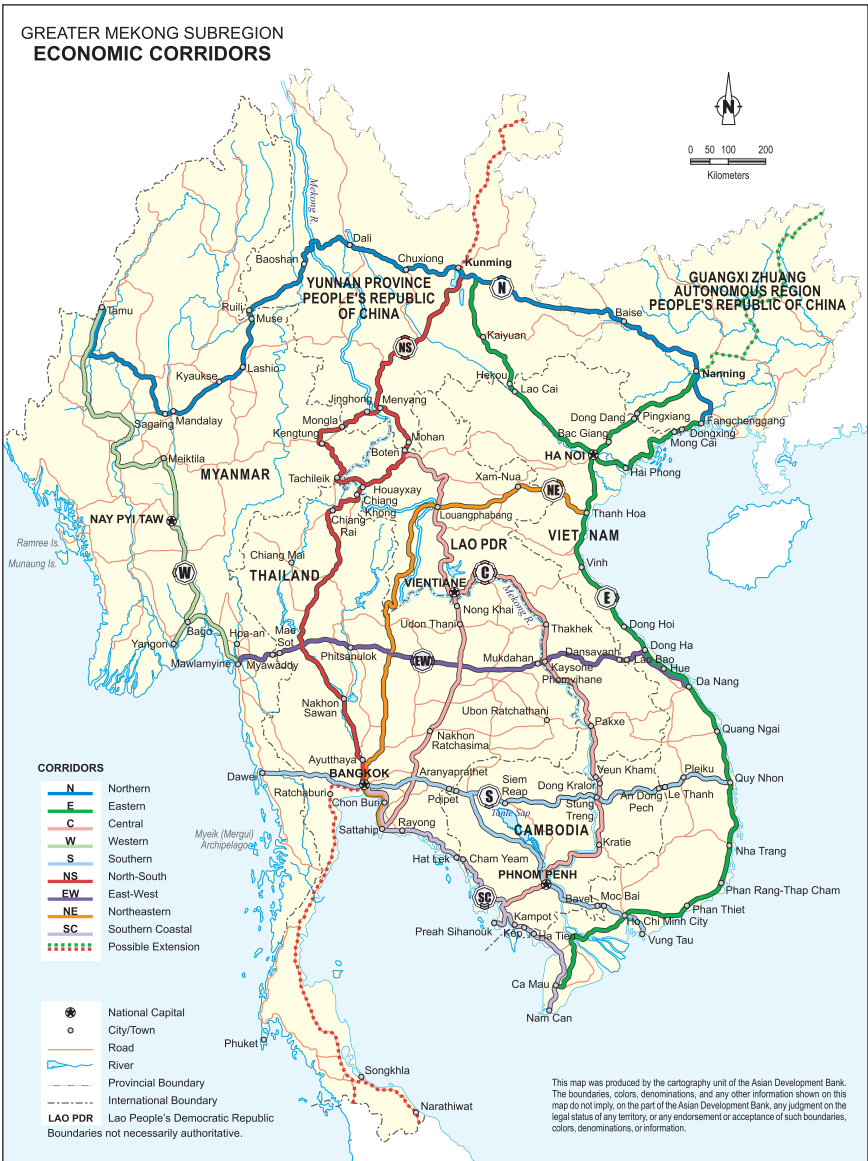
Table 2.3: Urbanization Levels in Greater Mekong Subregion Jurisdictions, Most Recent Year

Jurisdiction	Total Class Population	Total Urban Population	Total Population	Class Urban/Total Urban (%)	Urbanization-Class to National (%)	Urbanization-Urban to National (%)	Share of GMS Urban Population (%)
Cambodia	2,237,598	2,614,027	13,395,682	85.60	16.70	19.51	2.45
PRC (Guangxi)	16,714,606	18,417,843	46,023,761	90.75	36.32	40.02	17.62
PRC (Yunnan)	10,817,270	15,959,072	45,966,766	67.78	23.53	34.72	14.96
Lao PDR	1,131,197	2,053,798	6,256,197	55.08	18.08	32.83	1.92
Myanmar	13,079,416	13,079,416	59,130,000	100.00	22.12	22.12	12.26
Thailand	18,825,330	29,133,829	65,981,659	64.62	28.53	44.15	27.31
Viet Nam	19,356,832	25,436,896	85,846,997	76.10	22.55	29.63	23.84
Total	87,661,710	106,694,881	322,601,062	82.16	27.17	33.07	100.00

GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Source: Calculated by Webster and Gulbrandson based on personal communication with governments.

Figure 2.1: Greater Mekong Subregion Economic Corridors



Source: Asian Development Bank.

Table 2.4: Population in Greater Mekong Subregion Economic Corridors by Class

	Class I	Class II	Class III	Class IV	Class V	Total
Urban	32,098,633	7,771,304	6,470,216	9,190,012	5,103,695	60,633,860
Rural	5,086,476	162,415	721,458	2,179,965	3,318,138	11,468,452
Total	37,185,109	7,933,719	7,191,674	11,369,977	8,421,833	72,102,312

Notes:

1. The Greater Mekong Subregion economic corridors are the (i) North–South, (ii) Northern, (iii) Northeastern, (iv) Western, (v) Eastern, (vi) Central, (vii) East–West, (viii) Southern, and (ix) Southern Coastal corridors.

2. Class I refers to cities or districts with urban populations of more than 1,000,000. Class II refers to cities or districts with urban populations of 500,000–1,000,000. Class III refers to cities or districts with urban populations of 250,000–500,000. Class IV refers to cities or districts with urban populations of 100,000–250,000. Class V refers to cities or districts with urban populations of 50,000–100,000.

Source: Calculated by Webster and Gulbrandson based on personal communication with governments.

Table 2.5: Population by Greater Mekong Subregion Economic Corridor

GMS Corridor		Population		
		Urban	Rural	Total
1	North–South	17,175,079	2,046,942	19,222,021
2	Northern	14,733,171	0	14,733,171
3	Northeastern	11,471,821	818,649	12,290,470
4	Western	8,287,481	0	8,287,481
5	Eastern	21,049,570	7,357,434	28,407,004
6	Central	3,846,523	998,368	4,844,891
7	East–West	2,441,621	365,953	2,807,574
8	Southern	17,399,666	1,847,459	19,247,125
9	Southern Coastal	11,185,902	695,981	11,881,883

GMS = Greater Mekong Subregion.

Source: Calculated by Webster and Gulbrandson based on personal communication with governments.

Based on earlier calculations, several key themes emerge. The first is the importance of five main corridors: the Eastern, Southern, Northern, North–South, and Southern Coastal. The Eastern Corridor primarily serves Viet Nam’s coastal areas, which includes Ha Noi, HCMC, and numerous other secondary and tertiary urban centers, which—in addition to providing a direct connection to Nanning in the PRC—account for nearly 90% of Viet Nam’s total urban population. The Southern and Southern Coastal corridors combined serve regional economic and administrative capitals such as Bangkok, HCMC, and Phnom Penh while also serving vital manufacturing clusters in Thailand’s ESB and Southern Viet Nam and the key ports of HCMC (Hiep Phuoc and Saigon ports); Laem Chabang (Thailand); Preah Sihanouk (Cambodia); and possibly Dawei (Myanmar) in the future. The North–South Corridor provides a critical continuous connection between Thailand, the Lao PDR, and Yunnan while the Northern Corridor links the two GMS jurisdictions in the PRC with each other, and with Viet Nam and Myanmar.

It is readily apparent by analyzing the locations of urban centers and transport linkages in Thailand and the Lao PDR that the north–south section (south of Louangphabang) of the Northeastern Corridor is not a critical route. The southeastern portion (south of Vientiane) of the Central Corridor (which parallels the Mekong River) does not serve major population centers and is of minor importance in terms of GMS integration. A more efficient alignment from a GMS perspective would be to upgrade the Central Corridor through Thailand and focus investment on the Central Corridor alignment from Thailand’s ESB through Bangkok, Nakhon Ratchasima, and Khon Kaen.

The current Western Corridor does not adequately serve Myanmar’s most important population and economic centers. The corridor should provide a direct connection from Yangon through its capital, Nay Pyi Taw, to Mandalay where it connects with the Northern Corridor, which provides a linkage to Tamu on the Indian border and Muse on the PRC border.

As the second most populated corridor (excluding the PRC and Northern Corridor), the Southern Corridor—paralleled by the Southern Coastal Corridor, which has the potential to further open up this sector if significant additional highway investment occurs—may become increasingly more important owing to planned national-level investments in deep-sea port and special economic zone (SEZ) infrastructure in Dawei, Preah Sihanouk, and the Mekong Delta in Southern Viet Nam.

Overall, the data on the GMS urban system suggest that while the region’s major metropolitan areas account for a plurality of urban residents by class

category, more people live in the region's smaller cities of less than 1 million in population, which are more widely spatially dispersed; more variable in their social, economic, and administrative performance; and not always linked to the most important economic corridors. Given this context, this chapter analyzes the urban structure of the GMS and its component countries in order to provide an urban systems framework for developmental and spatial planning in the GMS, and identification of urban investment priorities.

Urbanization Trends in Greater Mekong Subregion Jurisdictions

The preceding analyses focused on the present situation of urban areas in the GMS using the most recent official data available. This section attempts to provide a macro level overview of recent trends in urbanization in GMS jurisdictions, which include the five ASEAN nations and two jurisdictions of the PRC. Wherever possible, the same official data sources (e.g., census data) are used. However in some cases, data from external sources such as the United Nations (UN), World Bank, and private sector analyses are incorporated. Using these external data results in some discrepancies when compared with data presented in Tables 2.1–2.5. Based on available data, trends over the preceding decade (2000–2010)⁵ are projected into the future by decade through 2050. More detailed analyses of urbanization trends by GMS jurisdiction are also presented later in this chapter. The total urban population and total national (provincial) population by GMS jurisdiction by decade between 2000 and 2050 are described in Table 2.6; urbanization levels in the same periods are described in Table 2.7.⁶

Based on the analyses in Tables 2.6 and 2.7, between 2010 and 2050, urban areas in the GMS will grow seven times faster than the total population on an annual basis, with average annual growth rates of 1.53% and 0.22%, respectively. This trend will result in 92.6 million more people living in urban areas by 2050 despite the forecast that GMS as a whole will only add about 30.5 million people in aggregate. This means that rural areas will lose more than 62 million people.

The most rapid urban growth will take place in the Lao PDR (2.45%), Cambodia (2.36%), and Viet Nam (1.97%); while the largest gains in urban population in absolute terms will occur in Viet Nam (29.9 million new urban residents), Thailand (20.3 million new urban residents), and Myanmar (18.7 million new

⁵ Note that in some cases, available data do not correspond to the 2000–2010 framework (e.g., in Viet Nam, census takings occurred in 1999 and 2009). These data are assumed to be accurate with no adjustments made to account for the 1-year discrepancy. Thus, the analyses may not represent actual urbanization dynamics, but do represent a close approximation.

⁶ Population forecasts for both urban and total populations rely on projected future annual growth rates from the UN World Urbanization Prospects 2011 Revision.

Table 2.6: Urbanization Trends in Greater Mekong Subregion Jurisdictions, 2000–2050

('000 persons)

Country/ Jurisdiction	2000		2010		2020		2030		2040		2050	
	Urban	Total	Urban	Total	Urban	Total	Urban	Total	Urban	Total	Urban	Total
Cambodia	1,796	11,438	2,614	13,396	3,275	15,063	4,221	16,459	5,403	17,404	6,658	17,969
PRC (Guangxi)	12,350	43,855	18,418	46,024	23,608	47,618	26,712	47,799	27,854	46,695	27,939	44,455
PRC (Yunnan)	9,903	42,360	15,959	45,967	20,457	47,559	23,146	47,740	24,136	46,637	24,209	44,400
Lao PDR	652	4,575	1,131	6,256	1,693	7,107	2,201	7,823	2,626	8,260	2,984	8,459
Myanmar	13,910	49,790	17,970	60,430	22,869	65,123	27,956	68,453	32,629	69,813	36,662	69,669
Thailand	18,972	60,916	29,134	65,982	34,207	68,816	40,036	69,990	45,327	69,678	49,443	67,809
Viet Nam	19,299	76,323	25,437	85,847	33,833	94,160	41,875	99,171	49,191	101,677	55,401	101,594
Total	76,882	289,257	110,663	323,901	139,942	345,445	166,148	357,434	187,166	360,164	203,295	354,354

Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Source: Calculated by Webster and Gulbrandson based on personal communication with governments.

Table 2.7: Recent and Future Urbanization Levels in Greater Mekong Subregion Jurisdictions, 2000–2050

Country/ Jurisdiction	2000		2010		2020		2030		2040		2050	
	Urban	Total	Urban	Total	Urban	Total	Urban	Total	Urban	Total	Urban	Total
Cambodia	1,796	11,438	2,614	13,396	3,275	15,063	4,221	16,459	5,403	17,404	6,658	17,969
PRC (Guangxi)	12,350	43,855	18,418	46,024	23,608	47,618	26,712	47,799	27,854	46,695	27,939	44,455
PRC (Yunnan)	9,903	42,360	15,959	45,967	20,457	47,559	23,146	47,740	24,136	46,637	24,209	44,400
Lao PDR	652	4,575	1,131	6,256	1,693	7,107	2,201	7,823	2,626	8,260	2,984	8,459
Myanmar	13,910	49,790	17,970	60,430	22,869	65,123	27,956	68,453	32,629	69,813	36,662	69,669
Thailand	18,972	60,916	29,134	65,982	34,207	68,816	40,036	69,990	45,327	69,678	49,443	67,809
Viet Nam	19,299	76,323	25,437	85,847	33,833	94,160	41,875	99,171	49,191	101,677	55,401	101,594
Total	76,882	289,257	110,663	323,901	139,942	345,445	166,148	357,434	187,166	360,164	203,295	354,354

Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Source: Calculated by Webster and Gulbrandson based on personal communication with governments.

Table 2.8: Greater Mekong Subregion Urban Quality of Life Indicators, Most Recent Year

Sector	Indicator	Year	Cambodia	Lao PDR	Myanmar	Thailand	Viet Nam
Education	Literacy rate, adult total (% of people 15 and above, national)	2009–2010	74		92		93
	Progression to secondary school (% national)	2009–2010	80	81	77		100
	Labor force with secondary education (% of total, national)	2010	21			14	
Environment	Air pollution, PM10 (micrograms per cubic meter, country level)	2010	42	45	40	53	54
	Access to improved water source, urban (% of urban population)	2010	87	77	93	97	99
Infrastructure	Access to improved sanitation facilities, urban (% of urban population)	2010	73	89	83	95	94
	Access to electricity (% of national population)	2009	24	55	13	99	98
Health	Access to water supply, urban (%)	2008	81	72	75	99	99
	Physicians per 1,000 people (national)	2010	0.2	0.3	0.5	0.3	1.2
	Nurses and midwives per 1,000 people (national)	2010	0.9	1.0	0.9		1.0

Lao PDR = Lao People's Democratic Republic, PM10 = particulate matter less than 10 micrometers.

Sources: World Bank. World Development Indicators Database (accessed July 2013); UN-Habitat. 2012. *State of the World Cities 2012–2013*. Nairobi.

urban residents). Notably, while the jurisdictions of the PRC will add a combined 17.8 million urban residents through 2050, the net total population is expected to decrease by more than 3 million, suggesting continued mass migration from rural to urban areas as birthrates in the PRC continue to fall.

In light of these forecasts, it is logical to suggest that future ADB urban development efforts (including multisector initiatives in transport, health care, education, urban infrastructure) focus on Viet Nam and Myanmar, which will account for more than half (54.3%) of absolute GMS urban growth through 2050. While Thailand will also account for considerable absolute urban growth (20.2% of the GMS), the country's status as the most developed jurisdiction in the GMS means that enhancing regional connectivity within and to neighboring GMS countries is likely to pay large dividends to Thai urban centers, enabling the country to self-finance needed urban infrastructure. The reemergence of Myanmar is particularly propitious to Thailand, providing Thai urban centers along the Southern Corridor with enormous export and joint venture opportunities ranging from construction to hospital services and banking.

Greater Mekong Subregion Urban Quality of Life

Obtaining city-scale data on the social, environmental, and public service provision in GMS cities is difficult, compared with accessing demographic, economic, and land use data. Table 2.8 describes selected data that were readily available. Selected data on urban quality of life indicators are available (Table 2.8); however, it is clear that more systematic research on quality of life and environmental urban subsystems in the GMS needs to be carried out.

In the percentage of urban population living in urban slums, the Lao PDR indicates the highest incidence (78.9%); Myanmar the next highest (45.6%), closely followed by Viet Nam (41.3%).

In public services, there is considerable variance. In access to improved urban water supply, Thailand and Viet Nam have virtually full coverage. At the other end of the spectrum, only 72% of the urban population in the Lao PDR has access to improved water supply. There is considerable variance ranging from 73% in Cambodia to 95% in Thailand in urban access to sanitation facilities. Electricity supply is a major problem in Myanmar—arguably the most pressing issue in the country—affecting even urban areas, with only 13% of Myanmar households having access to electricity. Cambodia also exhibits subpar performance in terms of electricity coverage.

Based on national data, air pollution is highest in Viet Nam and Thailand and lowest in Myanmar, and is likely related to industrialization and motorization levels. Data for urban areas of Guangxi and Kunming in Yunnan would likely show higher rates of air pollution than Viet Nam and Thailand due to use of coal for heating and cooking.

National literacy rates are relatively high at over 92% in every country, and are even higher for urban areas. Cambodia is an exception where the low literacy rate of 74% is related to the country's recent history.

Health indicators, measured in terms of national medical personnel, vary widely throughout the region. For example, Viet Nam has four times as many physicians per 1,000 people as Thailand or the Lao PDR, and six times as many as Cambodia. Myanmar scores second best, with Viet Nam having only 2.4 times as many physicians per 1,000 more as Myanmar.

Trends in Economic Development and Value Chains

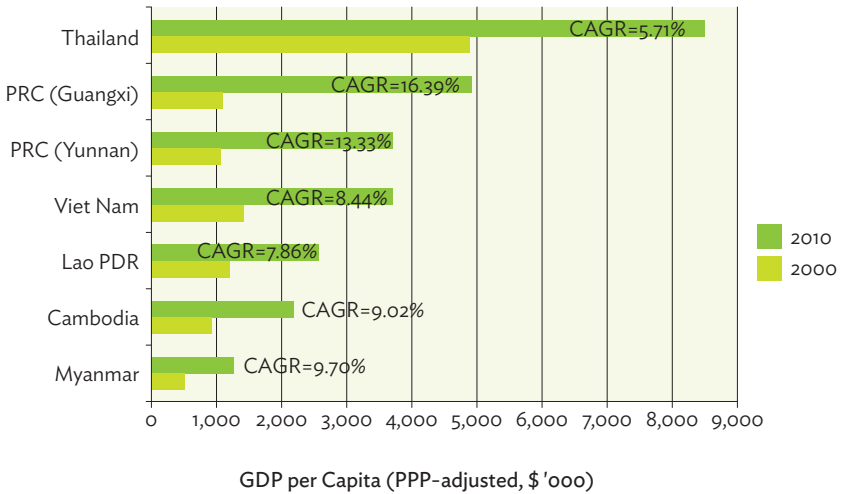
Much has been written about the economies of the GMS jurisdictions. This section will therefore be limited to briefly summarizing the main characteristics of GMS economic dynamics to provide context for the assessment of the GMS urban system.

Economic Performance and Structure

The size and structure of GMS economies, per capita GDP, and household income vary widely across the GMS. This is not surprising given that the GMS contains two of the founding members of ASEAN (Thailand and Viet Nam) and three new members (Cambodia, the Lao PDR, and Myanmar); and Guangxi and Yunnan of the PRC, which have experienced considerable economic takeoff since the late 1990s with the introduction of the Go West policy/strategy and other regional development measures designed to accelerate the development of western PRC.

Per capita GDP (adjusted for purchasing power parity in 2010) varied widely throughout the GMS region (Figure 2.2). With a per capita GDP of approximately \$8,500, Thailand is clearly an outlier relative to other Southeast Asian GMS countries. All the other ASEAN members of the GMS occupy a relatively narrow band between slightly less than \$1,500 in Myanmar to slightly more than \$3,000 in Viet Nam. The PRC's Guangxi ranks second in the GMS with a per capita GDP of close to \$5,000, while Yunnan ranks third with a per capita GDP in excess of \$3,500. Between 2000 and 2010, Guangxi was by far

Figure 2.2: Gross Domestic Product per Capita in the Greater Mekong Subregion, Adjusted for Purchasing Power Parity, 2000 and 2010



CAGR = compound annual growth rate, GDP = gross domestic product, Lao PDR = Lao People’s Democratic Republic, PPP = purchasing power parity, PRC = People’s Republic of China.

Sources: World Bank. World Development Indicators Database (accessed July 2013); ADB. 2012. *Key Indicators for Asia and the Pacific*. Manila; Guangxi Statistics Bureau. PRC; Statistical Bureau of Yunnan Province. PRC.

the fastest-growing jurisdiction in terms of per capita GDP, followed by Yunnan, with compound annual growth rates of 16.39% and 13.33%, respectively.

Economic structures vary widely (Table 2.9). Thailand is the leading manufacturing economy in the GMS, along with Guangxi. Viet Nam is significantly attempting to follow in Thailand’s footsteps as a producer of consumer durables by acting as a base for multinational corporations. The northern peri-urban area of HCMC is the manufacturing heartland of Viet Nam. Its development trajectory resembles the early dynamics of Thailand’s ESB, the most important and highest output value manufacturing cluster in ASEAN. Eastern Yunnan and several cities in Guangxi are known for their heavy industrial bases and large-scale agribusiness such as tobacco processing.

In exports, Myanmar and the Lao PDR are energy-oriented economies. Yunnan will increasingly export hydroelectricity. Cambodia, Guangxi, and Yunnan have a high dependence on agriculture and agricultural processing. Throughout the GMS, there are considerable differences in crops because of ecosystem differentiation.

**Table 2.9: Economic Structure of Greater Mekong Subregion Jurisdictions,
Share of Total Gross Domestic Product, 2010
(%)**

Jurisdiction	Cambodia	PRC (Guangxi)	PRC (Yunnan)	Lao PDR	Myanmar	Thailand	Viet Nam
GDP by industrial origin at current market prices	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture	33.9	17.3	17.7	28.4	36.4	10.9	20.6
Mining	0.6	2.5	4.1	7.6	0.9	3.2	10.9
Manufacturing	14.7	33.2	23.6	9.3	19.5	31.5	19.7
Electricity, gas, and water	0.5	4.2	4.4	4.0	1.0	2.8	3.5
Construction	6.0	6.7	3.9	5.2	4.5	2.7	7.0
Trade	13.8	9.3	11.0	20.3	19.8	14.6	14.6
Transport and communications	7.6	6.5	3.1	5.0	13.8	6.9	4.3
Finance	1.4	11.0	12.6	3.6	0.1	11.8	1.9
Public administration	1.7	4.4	...	4.5	2.1	6.0	7.6
Others	13.8	4.8	19.6	5.9	1.8	9.8	10.0

... = data not available, GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Sources: Asian Development Bank. 2012. *Key Indicators for Asia and the Pacific*. Manila: Guangxi Statistics Bureau. PRC: Statistical Bureau of Yunnan Province. PRC.

The jurisdictions of the PRC are known for tobacco processing, but have other specialties. The cut-flower cluster near Kunming is world-class, exporting globally; and the tea cluster in Yunnan—particularly Pu-erh tea, for which the city is named—exhibits rapid growth, again supplying global markets. Thailand and Viet Nam are leading global rice growers, processors, and exporters.

All countries/jurisdictions have considerable tourism; hospitality; meetings, incentives, conventions, and exhibitions (MICE); and amenity potential, with Thailand being in the lead (e.g., attracting over 20 million tourists annually, providing second and amenity migrant residences to over 100,000 non-Thai households). The potential for tourism and amenity-based development is one of the crosscutting themes that define the GMS.

High-end services are less than would be expected given the population of the larger Class I GMS cities, with the exception of Bangkok—a global player in medical services with small but growing export activity in consulting, engineering, and construction; and an emerging tertiary education export sector. It also plays a key regional role in international governance as the home to the UN Economic and Social Commission for Asia and the Pacific, UN agency regional headquarters, large embassies, etc., and it is a hub for advertising, marketing, and the media. The larger cities, particularly Bangkok and Kunming, offer second- to third-tier quality tertiary educational services that are beginning to attract some intra-GMS movement of students.

Port services are key to the GMS economy and its development. The relationship between landlocked areas of the GMS and the region's ports is a second key theme defining the GMS. The key ports are at Laem Chabang (Thailand) and HCMC (Viet Nam). Lesser ports include Map Ta Phut (Thailand), Hai Phong and Da Nang (Viet Nam), Fangchenggang (Guangxi, PRC), Preah Sihanouk (Cambodia), and Yangon (Myanmar), with a new port being constructed downstream of the Yangon River at Thilawa, with strong support from the Japanese public and private sectors. The port at Kyaukphyu in western Myanmar is being funded by a variety of investors, including state-owned enterprises (SOEs) from the PRC. Thai investors—supported by the Government of Thailand—are planning to build a new port at Dawei in Myanmar. India views port development at Sittwe in Myanmar as a potentially important outlet for trade to and from its outlying most easterly territory.

The economic structure of GMS national and provincial (in the case of the PRC) jurisdictions is described in Table 2.9. Research is urgently required on the economic structure, function, and dynamics of major GMS cities. Unfortunately,

it is beyond the scope of this study because it requires city-by-city assessment, data standardization, and compilation.

Agriculture varies widely in importance in the GMS, constituting approximately one-third of the economies of Myanmar, Cambodia, and the Lao PDR (36.4%, 33.9%, and 28.4% of GDP in 2010, respectively), but only 10.9% of Thailand's economy (Table 2.9). Viet Nam, Yunnan, and Guangxi represent middle cases where agriculture constitutes approximately 20% of their economies (20.6%, 17.7%, and 17.3%, respectively).

Guangxi and Thailand are the leading manufacturing economies with 33.2% and 31.5% of their economies, respectively, in manufacturing, although the structure of their manufacturing economies is very different. Guangxi is focused on heavy industry and agricultural processing, usually undertaken by SOEs, while Thailand is focused on automotives, electronic goods, and white goods (appliances), usually undertaken by multinational corporations. However, agricultural processing also plays an important role in Thailand, as in the PRC. For example, the global Charoen Pokphand Group, Thailand's largest agribusiness firm, is based in Bangkok but has strong regional and pan-Asian linkages.

Yunnan, Viet Nam, and Myanmar have some manufacturing activity constituting approximately 20% of their economies (23.6%, 19.7%, and 19.5%, respectively). As noted, Viet Nam is making a concerted effort to grow its manufacturing economy, based on the success of the Thai model. The Government of Myanmar, its private sector, and experts see potential for Myanmar to significantly grow its manufacturing sector as its economic restructuring continues. Manufacturing is insignificant in Cambodia and the Lao PDR, accounting for 14.7% and 9.3% of their economies, respectively. Of all the GMS countries, manufacturing is most spatially fluid in Myanmar, with the potential for several areas (peri-urban and port complexes) to rise—or not—in manufacturing activity.

Complementarity drives flows and enhances regional economic efficiency. Flow types include factors of production such as energy, export–import trade, tourism, and supply chains for manufacturing. Key existing and potential flows among GMS countries/jurisdictions are

- i. **Energy flows:** Energy flows from the GMS primarily involve hydroelectricity and/or natural gas from the Lao PDR, Myanmar, and Guangxi and Yunnan, exported mainly to Thailand. Yunnan's future hydroelectric production will both be consumed within the PRC and exported to Thailand. Energy exports are key pillars of the economies of the Lao PDR and Myanmar.

- ii. **Manufacturing flows:** Manufacturing flows in the GMS can be differentiated into two types: shipment of finished goods and supply chain flows.

In shipment of finished goods, flows are limited. Consumer goods flow from the PRC into the GMS. However, these are not usually sourced from Guangxi or Yunnan, although they may flow through Guangxi. Goods from the PRC are often low-end such as extruded plastic items and garments. There is a modest flow of consumer goods from Thailand's ESB—the only serious consumer durables manufacturing cluster in the GMS—to the GMS such as white goods and cars. In the future, goods from HCMC's north peri-urban region, an emerging important manufacturing zone, could potentially mimic the Thailand dynamic.

In cross-border—and even long-distance national—supply chain flows, flows are currently very limited but could potentially increase, especially with the introduction of the ASEAN Economic Community (AEC) in 2016. These flows include intermediate goods such as machinery from the PRC and automotive parts from Thailand.

However, manufacturing of upstream inputs in the GMS is very unlikely to decentralize into nonmanufacturing areas or along corridors. Suppliers almost invariably want to collocate with anchor firms. An obvious example of this is the location of suppliers to Thailand's important auto cluster—the largest in Southeast Asia—which is adjacent to the firms they supply. This is the case with other clusters.

- iii. **Port flows:** The Southern Corridor of the GMS has dominated the urban system and port services in the GMS for centuries, a function that was enhanced in the colonial period. Partly because the Southern Corridor is the marine interface of the GMS with the world, it continues to increase its urban dominance in the GMS. The Southern Corridor is essentially the “main street of the GMS.” The only global airport in the GMS is located east of Bangkok (Suvarnabhumi Airport) in the Southern Corridor, further enhancing the “global gateway” function of this corridor. The Southern Corridor was dominant already in 1900 and during the 20th century.⁷ The Southern Corridor's dominance is largely based on access to deep water—i.e., the port function, which has been reinforced by Suvarnabhumi's dominance in GMS aviation. Since much of the GMS area is landlocked—

⁷ H. Dick and P.J. Rimmer. 2003. *Cities, Transport and Communications: The Integration of Southeast Asia since 1850*. London: Palgrave Macmillan.

two of its jurisdictions, the Lao PDR and Yunnan, are completely landlocked—the story of GMS flows is largely one of chasing port access for exports, and to a lesser degree for imports. Supply chain flows pale in comparison. Fast-growing direct rail transport to Europe from southwest PRC is starting to challenge sea shipment (potentially creating northbound flows within the GMS to the PRC rail systems)⁸—scheduled container trains from Chongqing travel to Germany with connections to Kunming, making the trip in 13 days and cutting travel time relative to sea by over half. However, port access—along with tourism and energy, by value—will continue to be a leading driver of flows within the GMS.

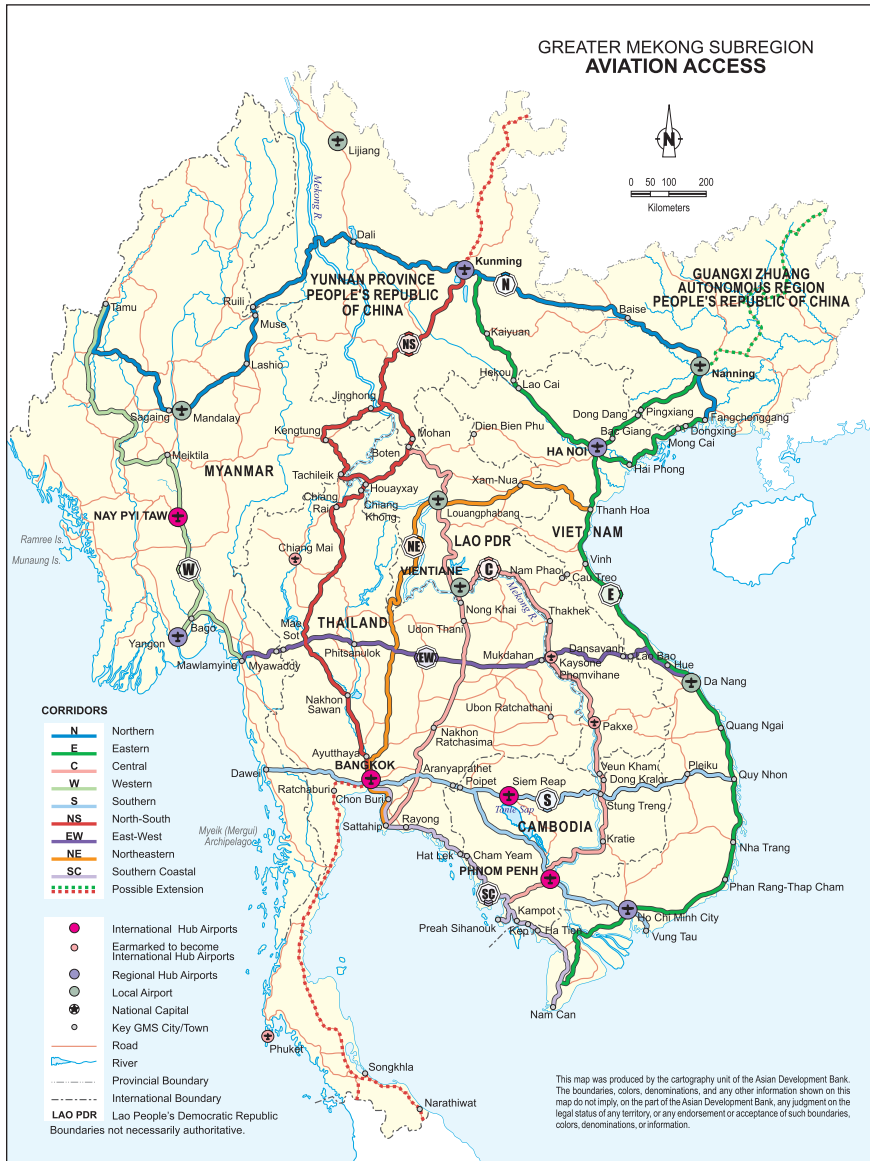
- iv. **Tourism:** Tourism is an extremely important source of flows within the GMS, which is not surprising, given that tourism is the world's largest industry and the GMS is a very attractive and interesting region owing to its beaches, scenery, culture, built heritage, and urban areas.⁹ Bangkok is now the most visited city in the world, having recently surpassed London and Paris. The Yunnan Amenity Corridor is one of the leading tourist attractions in the PRC, with an increasing global profile. Large new medieval ruins were recently discovered in 2013 in the Angkor Wat area. The variety and complementarity of tourist attractions in the GMS reinforce the potential of the tourism cluster, which will remain one of the pillars of the GMS economy, growing in both absolute and relative importance. The tourism sector in the GMS is now driving a broader GMS amenity economy, which includes MICE, second homes, amenity migration (including retirees), residences of footloose consultants and professionals (the creative class), and health services. This started in Thailand but is now taking off in Yunnan, among others.

Large-scale tourism and amenity-based economic development in the GMS essentially occur where aviation access and tourism assets intersect. Often, aviation justified by tourism supports other industries that value aviation access such as creative and knowledge economy activities and other nonplace-dependent activities, second home communities, and export of crafts. This has happened in the region on a large scale, as seen in Phuket and Bali. Figure 2.3 indicates major commercial airports in the region, classified by importance (i.e., international, regional, or local).

⁸ D. Roberts, H. Meyer, and D. Schampa. 2012. When It Doesn't Have to Be There Overnight: Companies Deep in China Lean on Railroads to Ship to Europe. *Bloomberg Businessweek*. 24 December. pp. 20–22.

⁹ Asian Development Bank. 2011. *Greater Mekong Subregion: Tourism Sector Assessment, Strategy, and Road Map*. Manila.

Figure 2.3: Aviation Access in the Greater Mekong Subregion



GMS = Greater Mekong Subregion.

Source: Asian Development Bank.

International tourist travel between key tourist nodes such as Chiang Mai, Dali, Guilin, Ha Noi, Kunming, Lijiang, Mandalay, Nanning, and Siem Reap is primarily by air. Thus, long-distance corridor travel is relatively rare in tourism, whereby point-to-point connectedness is more important. However, when tourist assets coincide with a corridor, tourists utilize these corridors to gain access to tourist destinations from their airport entry point. In the case of cross-border tourist flows, there are two components: cross-border travel by GMS nationals, and cross-border travel by non-GMS nationals—e.g., Northeast Asians, Europeans, North Americans, and Middle Easterners—which is essentially a reexport.

International tourism arrivals by GMS jurisdictions and estimated receipts for international tourism are provided in Table 2.10. In 2010 (the last year for complete data), over 31 million international tourists visited GMS jurisdictions. Domestic tourism is much more important in Guangxi, Thailand, and Yunnan than international tourism in terms of number of tourists, but it does not create inter-GMS jurisdiction flows. Tourism is very important to the GMS economies. It is the prime source of foreign currency in Thailand, and generates more revenue than manufacturing in many of the countries (e.g., the Lao PDR and Cambodia).

Table 2.10: Greater Mekong Subregion International Tourist Arrivals Parameters

Country/ Jurisdiction	International Arrivals (persons)		International Tourist Receipts (\$ million)
	2010	2011	2009
Cambodia	2,508,289	2,882,000	1,561.0
PRC (Guangxi)	1,996,452	3,027,900	640.0
PRC (Yunnan)	2,729,783	3,954,000	1,170.0
Lao PDR	2,513,028	...	267.7
Myanmar	310,688	391,000	196.0
Thailand	15,936,400	19,098,000	15,358.0
Viet Nam	5,049,855	6,014,000	4,227.0

... = data not available, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Sources: World Tourism Organization; Guangxi Statistics Bureau; Statistical Bureau of Yunnan Province.

Tourism flows into the ASEAN member states of the GMS from other GMS jurisdictions, with the majority of the tourists from the PRC but not from Guangxi and Yunnan. GMS nationals account for 43.5% of international tourists arriving in Cambodia in 2012, with Viet Nam being the leading source. GMS nationals account for 84.5% of international tourist arrivals in the Lao PDR, with Thailand being the leading source. For Myanmar, GMS nationals account for 27.8%, with Thailand being the leading source. In Thailand, GMS nationals account for the lowest share (28.7% in 2012), indicating that Thailand is a global entry point to the region, with a significant portion of the tourists also visiting other GMS countries. The PRC was the leading source of GMS tourists to Thailand. In the case of Viet Nam, 31.2% of international tourist arrivals in 2012 were GMS nationals, with the PRC also being the largest source.

- v. **High-end service flows:** High-end cross-border service flows are currently minimal. However, there are flows to medical services in Bangkok and other key Thai urban centers such as from the Lao PDR to Udon Thani; flows between Myanmar and Cambodia; and the purchase of advertising and educational services, among others, in Bangkok.

High-end services are highly centralized globally, regionally, and within national systems—even more so than manufacturing. Therefore, growth in high-end services will be largely confined to the largest cities of the region, primarily Bangkok, and perhaps HCMC and Kunming. Other large cities will attract some local serving high-end services such as media outlets and communication providers, among others. An example is the Associated Press, which has just opened offices in Yangon to cover the Myanmar reemergence story.

Impact of the ASEAN Economic Community on Greater Mekong Subregion Flows

In exploring the future of national and urban economies in the GMS, a key potential driver to be considered is the introduction of ASEAN free trade via the AEC in 2016. This has the potential to increase cross-border flows related to manufacturing, consumer goods, and port services in particular. Conversely, combined with rapid economic growth in the less developed countries of the GMS, it may lessen relative international differentials in GDP per capita and wages within the GMS. Arbitrage potential at borders—e.g., low-end manufacturing based on inexpensive labor on one side of the border and advanced infrastructure, management, and capital access on the other—is likely to diminish over the medium term.

However, casinos and gaming and other activities that are based on differences in legal regimes, will continue to thrive at border points (e.g., Aranyaprathet–Poipet and Bavet–Moc Bai). This means the border interfaces themselves will become relatively less important in the GMS, while key urban nodes specializing in manufacturing, tourism, agricultural processing, and amenity, among others, will become relatively more important.

Trends in Greater Mekong Subregion Trade and Traffic Flows

Intra-Greater Mekong Subregion Trade Overview

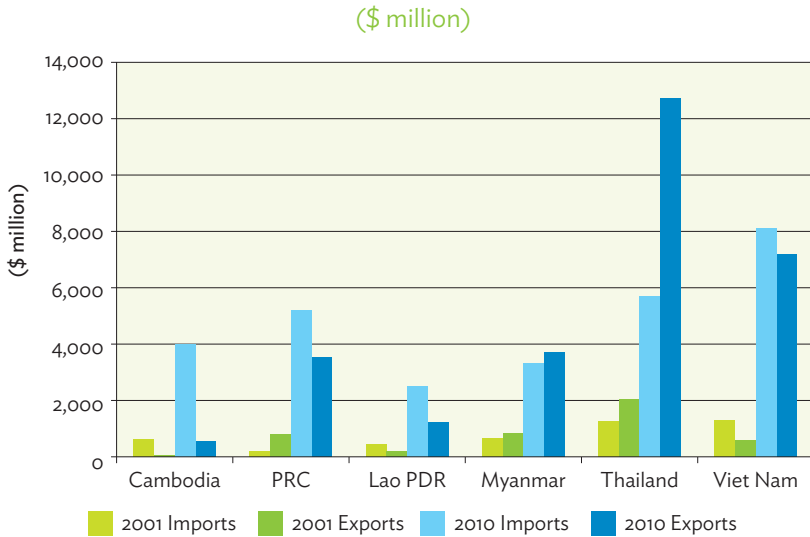
This section describes the value of trade (goods only) between the seven jurisdictions in the GMS. In 2010, intra-GMS trade was valued at an estimated \$28.96 billion, a more than sixfold increase since 2001 when intra-GMS was valued at \$4.54 billion.¹⁰ Figure 2.4 describes the changes in intra-GMS trade by country between 2001 and 2010.

The strongest gains in intra-GMS trade (in absolute terms) were experienced by Thailand and Viet Nam (Figure 2.4). In percentage terms, Viet Nam and the PRC (the combined compound annual growth rates trade of Yunnan and Guangxi) experienced the most rapid growth rates, with compound annual growth rates (CAGRs) of 26.2% and 24.7%, respectively. Even Myanmar—where trade volume grew more slowly than the other jurisdictions—experienced average annual trade growth of 18.5%, although much of the value in Myanmar’s exports in 2010 was attributable to natural gas export, rather than intermediate or consumer goods.

In 2010, trade of the five ASEAN jurisdictions in the GMS with the two GMS jurisdictions of the PRC totaled \$8.79 billion, or about 30.4% of intra-GMS trade, up from 18.8% of intra-GMS trade in 2001. More than half of this growth has been driven by trade between Viet Nam and Guangxi, which grew from \$291,920 in 2001 to \$5.1 million in 2010 (nearly all of the growth is due to rising exports from Viet Nam to Guangxi), suggesting a strong cross-border land connection, along with coastal shipping. In addition, the existence of a free trade zone at the border in Dongxing further enhances the flow of goods from Viet Nam.

¹⁰ Data are compiled from the Guangxi Statistics Bureau and Statistical Bureau of Yunnan Province, the Lao PDR Statistics Bureau, the Customs Department of the Ministry of Finance in Thailand, and the General Statistical Office of Viet Nam.

Figure 2.4: Change in Total Intra-Greater Mekong Subregion Trade by Country, 2001 and 2010



GMS = Greater Mekong Subregion, Lao PDR = Lao People’s Democratic Republic, PRC = People’s Republic of China.

Source: Asian Development Bank. 2011. *Greater Mekong Subregion: Tourism Sector Assessment, Strategy, and Road Map*. Manila.

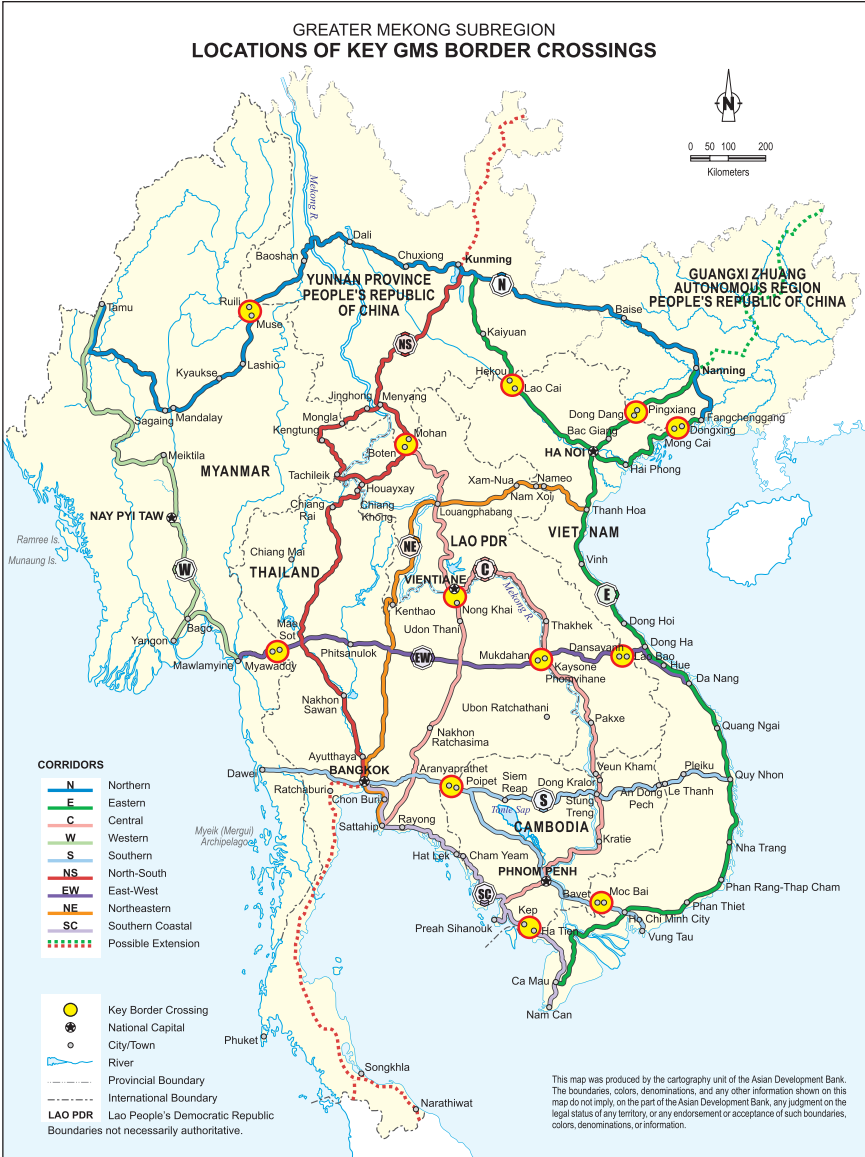
Overview of Key Greater Mekong Subregion Border Crossings

Land border crossings are essential to the movement of goods and people between GMS jurisdictions. ADB has identified 15 key border crossings that serve the seven jurisdictions and are responsible for facilitating the vast majority of passenger and goods flows between GMS jurisdictions (Figure 2.5).¹¹ Table 2.11 indicates the names of the 15 key border towns and the jurisdictions they serve.

Twelve of the border crossings are located along GMS corridors. In addition to these 15 border crossings, other border crossings between GMS countries that are important to bilateral trade include the Three Pagodas Pass crossing (Thailand–Myanmar) and the border crossing at Nong Khai (Thailand) near Vientiane (Lao PDR), the latter of which lies along the GMS Central Corridor.

¹¹ Please note that Figure 2.5 shows only 10 major border crossings.

Figure 2.5: Locations of Key Greater Mekong Subregion Border Crossings



GMS = Greater Mekong Subregion.

Source: Asian Development Bank.

Table 2.11: Description of Key Greater Mekong Subregion Border Crossings

GMS Corridor	Border Town 1	Jurisdiction 1	Border Town 2	Jurisdiction 2
Northern	Ruili	Yunnan, PRC	Muse	Myanmar
East–West	Mae Sot	Thailand	Myawaddy	Myanmar
	Mukdahan	Thailand	Kaysone Phomvihane	Lao PDR
	Dansavanh	Lao PDR	Lao Bao	Viet Nam
North–South	Mohan	Yunnan, PRC	Boten	Lao PDR
	Mae Sai	Thailand	Tachileik	Myanmar
Southern	Aranyaprathet	Thailand	Poipet	Cambodia
	Bavet	Cambodia	Moc Bai	Viet Nam
Southern Coastal	Kep	Cambodia	Ha Tien	Viet Nam
Eastern	Mong Cai	Viet Nam	Dongxing	Guangxi, PRC
	Dong Dang	Viet Nam	Pingxiang	Guangxi, PRC
	Hekou	Yunnan, PRC	Lao Cai	Viet Nam
None	Chong Mek	Thailand	Vang Tau	Lao PDR
	Dong Kralor	Cambodia	Veun Kham	Lao PDR
	Nam Phao	Lao PDR	Cau Treo	Viet Nam

GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Source: Asian Development Bank.

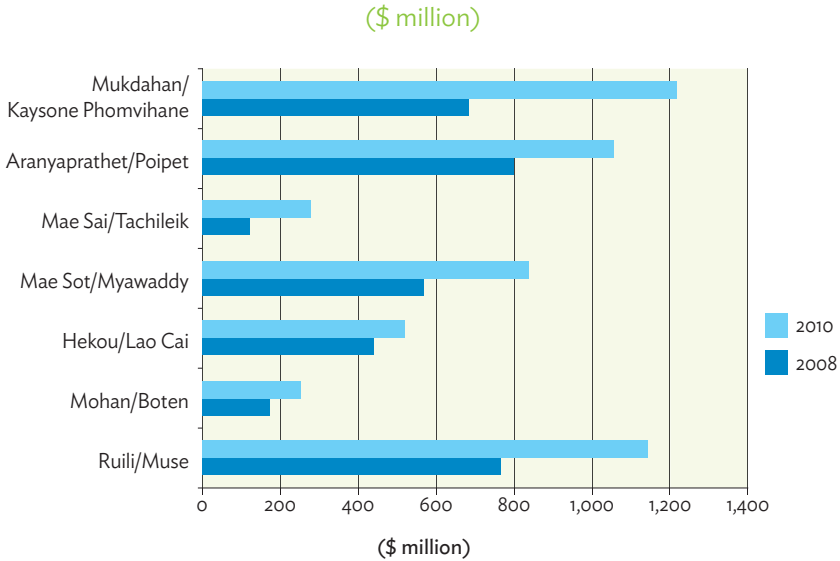
Bilateral Trade at Key Greater Mekong Subregion Border Crossings

Examining the actual amount of trade taking place at key border crossing provides critical insight into the importance of these locations in relation to total border crossings. Figure 2.6 describes the growth of trade by value at seven GMS border crossings (for which data were available) between 2008 and 2010.

In 2010, the value of trade at the seven border crossings totaled \$5.29 billion, or roughly 18% of total intra-GMS trade.¹² However, this is almost certainly an undercount of the importance of border-crossing trade, given the

¹² The seven border crossings accounted for \$5.29 billion in intra-GMS trade against total intra-GMS trade of \$28.96 billion. Thus, the seven crossings represented about 18% of all intra-GMS trade.

Figure 2.6: Value of Border Trade at Select Greater Mekong Subregion Border Crossings



Sources: Customs Department of Thailand; Statistical Bureau of Yunnan Province.

significant levels of surface smuggling across borders in the GMS. Surface flow undercounting, due to smuggling, is probably greater than that for marine and aviation flows. Between 2008 and 2010, total border trade at these crossings increased by almost 50%. In bilateral GMS trade, it is estimated that cross-border trade accounts for about one-third of bilateral trade between the entire PRC and Viet Nam.¹³

This suggests that the Lang Son–Pingxiang and Mong Cai–Dongxing border crossings are of significant economic importance to Viet Nam. Similarly, trade between Dehong Prefecture (Ruili) in Yunnan and Muse on the Myanmar side accounted for 64.7% of bilateral trade between Myanmar and Yunnan in 2010, up from 57.3% in 2000. Furthermore, trade at this border crossing accounted for one-third (33.7%) of total trade between Yunnan and the GMS, excluding Guangxi.

¹³ *Thanh Nien Daily News*. 2011. Vietnamese Drawn to Easy, Risky Chinese Border Trade. 29 July. <http://www.thanhniennews.com/20110801163620.aspx>

Notably, the Hekou–Lao Cai border crossing grew at only 18.8% between 2008 and 2010, nearly three times slower than the average growth rate for the seven border crossings. Nanning has emerged as the PRC’s key gateway to Southeast Asia, particularly Viet Nam, reducing Kunming’s relative importance. Thus, the secondary corridor from Ha Noi to Yunnan pales in importance relative to the link between Ha Noi and Nanning and the link between Nanning and Kunming. Slow growth in the Hekou–Lao Cai border crossing is exacerbated by the mountainous terrain and poor quality of roads along the Ha Noi–Kunming corridor, as well as the relatively sparse population in Honghe Prefecture in Yunnan.

New Corridor-Dampening Transport Trends and Technologies

In terms of cross-border flows, the GMS Economic Corridor network is inherently road-based, with very minor exceptions. Although river transport is relatively unimportant in cargo movements, the eastern branch of the Central Corridor parallels the Mekong River for most of its length. Cross-border rail connections are currently limited to Nong Khai–Vientiane and Ha Noi–Nanning. And even where domestic rail networks exist in the GMS, with the exception of Yunnan and Guangxi, they carry very low shares of cargo compared with global norms.

Not surprisingly, with the encouragement of ADB and other donor agencies such as Australian Aid, the Export–Import Bank of Korea, the Japan International Cooperation Agency (JICA), and the World Bank, national governments in the GMS have made significant investments in road infrastructure that have greatly improved travel speeds and reduced transport costs. Nevertheless, this heavy dependence on intercity road transport is troubling from environmental and economic competitiveness perspectives.

In Yunnan, the Government of the PRC has upgraded the highway linking Kunming with Muse via Dali and Baoshan, with plans to extend the existing Kunming–Dali expressway all the way to the Myanmar border (Northern Corridor). Similarly, expressway construction from Kunming to Mohan at the Lao PDR border (Boten) was completed in 2011, providing high-quality access to both the Lao PDR and onward to Thailand (North–South Corridor). In Viet Nam, the government has prioritized the rehabilitation and expansion of National Road 1A (Eastern Corridor) linking Ha Noi and its surroundings with HCMC and its environs—Southern Viet Nam’s economic heartland.

While these road sector investments have reduced logistics costs and facilitated increased long-distance passenger travel, their impact on urban development and social welfare for residents in smaller cities and towns along the corridors is less well understood.

As new transport technologies and associated trends take root in the GMS, it stands to reason that in the future, such road-oriented investment will no longer deliver the returns (on the margin) that it has over the last 2 decades. There are several trends in transport technology that have the potential to reshape the GMS from being corridor-based to being a constellation of urban economic and administrative nodes. In other words, the GMS urban system may evolve to be more like that of the PRC, which is understood by Chinese economic geographers to be more constellation than corridor oriented.¹⁴

In the freight transport sector, the increasing containerization of freight continues to reduce the ability of small corridor towns to trade goods with the region as a whole as most containers are loaded at a small number of strategically located logistics clusters that may include SEZs and export trade zones. As these clusters are often production-focused, urban areas where such activity is located stand to benefit from increased investment and urbanization. Examples of the importance of cargo containerization include the construction of new inland container terminals across the GMS and local instances such as the Bavet–Moc Bai border crossing where an estimated 90% of cargo is shipped in containers.¹⁵

In the passenger transport sector, rising levels of aviation traffic—driven in large part by the rapid growth of low-cost carriers (LCCs) such as AirAsia, as well as planned future high-speed rail (HSR) linkages—will bias urbanization, investment, and economic growth in the GMS toward medium-sized and especially large urban areas. In the aviation sector, LCCs are connecting cities that previously required long, costly journeys such as Thai Smile Air’s daily service between Bangkok and Mandalay; and Nok Air in Thailand, which plans to connect cities in northern Thailand such as Mae Sot and Chiang Mai with destinations in Myanmar such as Mawlamyine and Yangon. The addition of such short-haul routes operated by LCCs will drastically reduce travel times and bolster the importance of both origin and destination cities.

In the medium to long term, planned HSR linkages will reinforce the importance of existing large and medium-sized cities, which (i) are served by HSR stations and (ii) reduce the relative economic and demographic importance of smaller

¹⁴ D. Webster, J. Cai, W. Ting, and L. Muller. 2012. *A First Glance at China’s 2010 Census: Urbanization and Regional Dynamics*. Cambridge, MA and Beijing: Lincoln Institute of Land Policy; D. Webster, J. Cai, L. Muller, and W. Ting. 2013. *Urban Systems / Regional Development Policy Implications: China’s 2010 Census*. Cambridge, MA and Beijing: Lincoln Institute of Land Policy.

¹⁵ L.D. Hiep. n.d. *Trade Facilitation and Cross-Border Trade Among Viet Nam, Cambodia, and Thailand*. Viet Nam International Freight Forwarders Association.

urban areas that are located along HSR corridors but do not have direct HSR access (i.e., a station). It is highly likely that such changes will appear on the national scale such as in Guangxi, Thailand, and Yunnan well before having an impact on intra-GMS passenger flows. If international HSR service is introduced in the GMS, the first line will almost certainly be Kunming to Bangkok through the Lao PDR. The impact on the urban system of the North–South Corridor will be significant.

National Urban Systems and Development Strategies

This section provides an overview of national urban systems in the GMS. As spatial and urban development policy frameworks are set at the national level, GMS urban system synergies are dependent on understanding national systems and achieving GMS scale coordination in regional scale dynamics to the greatest extent possible.

Urban Systems of Cambodia

As of the 2008 national population census, Cambodia had a total population of 13.4 million people, up from 11.4 million in 1998 when the last census was taken. The addition of roughly 2 million people over the 10-year period represents a compound annual growth rate (CAGR) of 1.6%. Cambodia's urban population was approximately 2.6 million in 2008 (19.5% of the total national population), up from 1.8 million in 1998 (15.7% of total), representing a CAGR of 3.8%—more than double the national annual population growth rate and more than three times the rural annual population growth rate of 1.1%.

In 2008, there were nine cities or urban areas in Cambodia with populations over 50,000. These nine cities accounted for about 2.3 million people, or about 89% of Cambodia's urban population and 17.4% of the national population. Table 2.12 describes the eight cities in terms of population and location relative to the GMS economic corridors.

Nearly 2 million people reside in Cambodia's five largest urban centers, all of which are located along the GMS Southern Corridor (Table 2.12). As the country's capital city, Phnom Penh's population grew more than twice as fast—8.1% per year—as the rest of Cambodia's urban population between 1998 and 2008, and more than five times faster than the country's total population. Ta Khmau in the neighboring province of Kandal effectively serves as a commuter suburb for Phnom Penh as it is only 10 kilometers (km) away. Its location proximate to Phnom Penh is likely the driving force behind its rapidly increasing population; it grew by 12.9% per year during the intercensal period.

Table 2.12: Population and Location of Major Urban Centers in Cambodia

Urban Center Name	Urban Center Class/Rank	Population			GMS Corridor
		1998	2008	CAGR (%)	
Phnom Penh	Class I	570,155	1,242,992	8.1	Southern, Central
Ta Khmau	Class IV	58,264	195,898	12.9	Southern, Central
Sisophon	Class IV	98,848	181,396	6.3	Southern
Battambang	Class IV	139,964	180,853	2.6	Southern
Siem Reap	Class IV	119,528	174,265	3.8	Southern
Kampong Cham	Class IV	45,354	118,242	10.1	Central
Poipet	Class IV	43,366	89,549	7.5	Southern
Preah Sihanouk ^a	Class V	...	89,447	...	Central, Southern Coastal
Kampong Spoe	Class V	41,478	54,505	2.8	Central
Total		1,116,957	2,327,147	7.6	

... = data not available, CAGR = compound annual growth rate, GMS = Greater Mekong Subregion.

Notes: Class I refers to cities or districts with urban populations of more than 1,000,000. Class IV refers to cities or districts with urban populations of 100,000–250,000. Class V refers to cities or districts with urban populations of 50,000–100,000.

^a Data are unavailable for Preah Sihanouk from 1998. Around the time of the 2008 census, it was part of a larger province, being defined as a separate jurisdiction.

Source: National Institute of Statistics of Cambodia. Census 2008 and 1998.

The Phnom Penh metropolitan area, which includes Ta Khmau, collectively totaled 1,438,890 in 2008, accounting for 55% of Cambodia's urban population, up from 35% in 1998. At the same time, the metro area's share of the total national population nearly doubled, going from 5.5% in 1998 to 10.7% in 2008.

The remaining three urban areas along the Southern Corridor had a combined population of 536,514 in 2008, up from 358,340 in 1998, representing a 4.1% CAGR. These three areas accounted for about 20% of Cambodia's urban population in both 1998 and 2008.

Kampong Cham's rapid growth (10.1%) is difficult to account for; however, its location along the Mekong River and its relative proximity to economic

opportunities in Southern Viet Nam may serve as strong economic and population drivers.

Kampong Spoe's small population and slow growth can likely be attributed to its distance (about 45 km) from Phnom Penh. Its location along the Cambodian Central Corridor connecting Phnom Penh and Preah Sihanouk may provide new opportunities for future growth.

Poipet is a key border town facing Aranyaprathet on the Thai side. This border crossing experiences large movements of freight, day laborers, migrant workers, and tourists—many of whom frequent Poipet's casinos. It is significantly larger than Aranyaprathet and may become an even more important location for cross-border trade when planned rail investments link Thailand with Cambodia through this border crossing.

Preah Sihanouk currently has a relatively small population. However, there is likely to be an influx of migrant workers from other parts of Cambodia if the deep-sea port facilities and SEZ, which are prime targets for future foreign investment, take off. ADB estimates metropolitan Preah Sihanouk's population as of 2013 to be 235,190. Nearby Kampot is estimated to have a population of 30,000.

Siem Reap experienced relatively slow demographic growth from 1998 to 2008. However, as the tourist gateway to Angkor Wat and with associated aviation services, its growth is likely to speed up despite its landlocked geographic position.

Urban Systems of the People's Republic of China (Guangxi Zhuang Autonomous Region and Yunnan Province)

In 2010, the combined population of Guangxi and Yunnan was 92.0 million, up from 86.2 million in 2000, growing by 0.65% annually. During the same period, the urban population increased from 22.3 million in 2000 to 34.4 million in 2010, growing at a CAGR of 4.44%. Most of the increase in urban population has been driven by migration rather than natural growth or urban annexation, raising the combined urbanization level of both jurisdictions from 25.8% in 2000 to 37.4% in 2010. Nevertheless, this is considerably lower than the urbanization level of 52.0%, which prevailed in the PRC in 2012.

In 2010, there were 38 cities with urban populations greater than 50,000, with a total population of 27.5 million people. This accounted for more than 80% of the total urban population in Guangxi and Yunnan. Of these 27.5 million people, more than 16.0 million live in cities of more than 1 million people, accounting for

more than 47% of the urban population and 17% of the total population. The demographic dynamics and locations relative to GMS corridors of these seven large cities are described in Table 2.13.

The GMS Economic Corridor system does not serve many of Guangxi and Yunnan's important population centers (Table 2.13). The two provincial capitals, Kunming and Nanning, accounted for about 7.7 million people in 2010, up from 4.8 million in 2000, and they account for about half of the urban growth in the seven largest cities and about one-quarter of the total urban growth in Guangxi and Yunnan.

Table 2.13: Urban Dynamics in Seven Key Urban Centers of Guangxi Zhuang Autonomous Region and Yunnan Province, People's Republic of China, 2000 and 2010

Urban Center Name	Urban Center Class/ Rank	Population			GMS Corridor
		2000	2010	CAGR (%)	
Kunming	Class I	2,993,359	4,095,647	3.18	North-South, Northern
Nanning	Class I	1,785,749	3,578,333	7.20	Northern, Eastern
Liuzhou	Class I	1,255,841	2,166,882	5.61	None
Guilin	Class I	1,256,036	1,840,230	3.89	None
Qujing	Class I	811,620	1,713,862	7.76	None
Yulin	Class I	1,337,125	1,520,065	1.29	None
Dali	Class I	623,606	1,121,395	6.04	Northern
Total – Seven Key Centers		10,063,336	16,036,414	4.77	
Total – Five Classes		...	27,531,876	...	
Total – Urban Population		22,253,134	34,376,915	4.44	

... = data not available, CAGR = compound annual growth rate, GMS = Greater Mekong Subregion.

Note: Class I refers to cities or districts with urban populations of more than 1 million.

Source: National Bureau of Statistics, People's Republic of China. Census 2000 and 2010.

The urban systems of the two jurisdictions are significantly different (Table 2.14). In both, Class I cities account for close to half the urban population (Guangxi, 49.4% and Yunnan, 43.4%). However, in Yunnan, the urban hierarchy lacks a significant middle, dropping off quickly into small cities. Guangxi has 29.30% of its urban population in Class II cities, whereas in Yunnan, Class II cities constitute only 7.24% of the population. In contrast, at the bottom of the population size hierarchy, about one-third (32.22%) of Yunnan's population is in cities less than 50,000, compared with only 9.25% in Guangxi. These differences are not unexpected. Yunnan is much less of an industrial economy than Guangxi, with weaker connections to the PRC's heartland. Much of Yunnan is on the edge of the Tibetan plateau, with terrain even more difficult than Guangxi.

Kunming on the Northern and North–South corridors is the PRC's largest city in the GMS with a population of 4.1 million, and dominates Yunnan's urban system. The second-largest city is Qujing—not located on the GMS corridor system—with a population of 1.7 million. It is located near the border with Guizhou Province, which is known for food processing. Dali, on the Northern

Table 2.14: Share of Urban Population by City Class Division, Guangxi Zhuang Autonomous Region and Yunnan Province, People's Republic of China, 2000 and 2010
(%)

City Class	Guangxi		Yunnan	
	2000	2010	2000	2010
Class I cities	45.62	49.44	44.72	43.43
Class II cities	...	29.30	...	7.24
Class III cities	...	9.95	...	7.84
Class IV cities	...	0.84	...	8.03
Class V cities	...	1.21	...	1.25
All class cities	...	90.75	...	67.78
Less than 50,000	...	9.25	...	32.22

... = data not available.

Notes: Class I refers to cities or districts with urban populations of more than 1,000,000. Class II refers to cities or districts with urban populations of 500,000–1,000,000. Class III refers to cities or districts with urban populations of 250,000–500,000. Class IV refers to cities or districts with urban populations of 100,000–250,000. Class V refers to cities or districts with urban populations of 50,000–100,000.

Source: Calculated by Webster and Gulbrandson based on Census 2000 and 2010 data from Yunnan and Guangxi.

Corridor, has a diverse economy that is driven by tourism, being the southern anchor of the Yunnan Amenity Corridor. Baoshan, Dali, and Ruili along the Northern Corridor will increase in importance as surface linkages to Myanmar and India become more important.

In the case of Yunnan, tourism is a major driver of urbanization, propelling the economies of Dali, the third-largest city and a tourism magnet since the 1980s; Lijiang, a United Nations Educational, Scientific and Cultural Organization (UNESCO) world heritage site and the sixth-largest city in Yunnan; Jinghong, the center for hill tribe tourism in southern Yunnan and the 12th-largest city; and Diqing, the growth pole for fast-growing tourism in the “Shangri-La” area, at the northern end of the Yunnan Amenity Corridor.

Guangxi’s largest city and capital is Nanning, with a population of 3.6 million. It is home to the PRC’s Southeast Asia Expo and the country’s gateway to Southeast Asia, a role it has been gaining relative to Kunming. It is the only city in Guangxi on the GMS corridor system with more than 1 million people. Liuzhou is the fast-growing second-largest city with a population of 2.2 million and is known for heavy industry. Guilin, with a population of 1.8 million, is a globally known tourist attraction. The fourth city over 1 million in population is Yulin—known for manufacturing, tobacco processing, and tourism—with a population of 1.5 million. Although not on the GMS corridor system, Yulin is on the busy corridor that connects the PRC’s jurisdictions in the GMS with the country’s economically dominant coast and its ports in Guangdong Province.

Urban Systems of the Lao People’s Democratic Republic

The last population census in the Lao PDR was carried out in 2005, at which time the national population was 5.6 million. Since then, updated estimates for 2010 by the Lao PDR Statistics Bureau suggest that the national population increased to 6.3 million, growing by an average of 2.3% per year. The Lao PDR Statistics Bureau does not publicly provide information pertaining to urban and rural population splits. However, data are available for the country’s four major cities, which had populations in excess of 50,000 in both 2005 and for 2010.¹⁶ Table 2.15 describes the four cities in terms of population and location relative to the GMS economic corridors.

¹⁶ Data for 2005 are from the Lao PDR Statistics Bureau, while data for 2010 are estimates carried out by a JICA study team in preparation for a JICA-funded 2012 study entitled Basic Data Collection Study on Low-Emission Public Transport in Lao PDR.

Table 2.15: Population and Location of Major Urban Centers in the Lao People's Democratic Republic, 1995, 2005, and 2010

Urban Center Name	Urban Center Class/Rank	Population			CAGR 1995–2005 (%)	CAGR 2005–2010 (%)	GMS Corridor
		1995	2005	2010			
Vientiane, capital	Class II	524,107	691,721	840,489	2.81	3.97	Central
Kaysone Phomvihane	Class IV	62,200	112,915	122,220	6.14	1.60	East–West
Pakse	Class V	32,500	78,669	86,432	9.24	1.90	None
Louangphabang	Class V	33,500	78,516	82,056	8.89	0.89	Central, Northeastern
Total		652,307	961,821	1,131,197	3.96	3.30	

CAGR = compound annual growth rate, GMS = Greater Mekong Subregion.

Notes: Class II refers to cities or districts with urban populations of 500,000–1 million. Class IV refers to cities or districts with urban populations of 100,000–250,000. Class V refers to cities or districts with urban populations of 50,000–100,000.

Sources: Lao People's Democratic Republic Statistics Bureau; Japan International Cooperation Agency.

In 2010, the combined population of the four key cities accounted for 18.1% of the national population, up from 14.2% in 1995 and 17.2% in 2005. The UN World Urbanization Prospects 2011 Revision suggests that the Lao PDR's total urban population in 2010 was 2.1 million. Given the large gap between the reported population of the four largest cities by the Lao PDR Statistics Bureau and the aggregate figure from the UN, it is likely there are major discrepancies in either or both datasets. That said, the available data do describe important trends.

For example, the population of the three smaller cities grew much faster than the national capital of Vientiane (Table 2.15) and accounted for nearly half of the total growth of the four cities (46.7%), which might be associated with the opening up of border trade with Thailand as in the case of Kaysone Phomvihane and Pakse. As one of the country's two major tourist bases, Louangphabang benefited from the opening up of the Lao PDR to tourists in the 1990s. However, more recently (between 2005 and 2010), Vientiane has grown at more than double the rate of the three smaller cities and accounted for 87.8% of growth during the period, or more than 148,000 people.

During the periods of analysis 1995–2005 and 2005–2010, the combined population of the four leading cities grew by 4.0% and 3.3% per year, respectively, which is notably faster than the total national population, which grew by 2.0% and 2.3% per year, respectively. While there are no clear-cut reasons why the most rapid urban growth has shifted from the smaller cities to the capital in recent years, it is likely that as the national economy grows and its formal component expands, Vientiane is becoming more important as a hub for business and more attractive for migrants, based on its status as the political and economic heart of the country.

Urban Systems of Myanmar

There exists a dearth of information pertaining to Myanmar's urban systems, both at the macro and micro levels. No national population census has been taken since 1983. In the interim, the only relatively consistent source of population data is the General Administration Department, which effectively tracks the registrations of births and deaths at multiple administrative levels. No internal migration data are collected and oftentimes available data are only recorded by hand and not systematically reported to national level authorities. The data pertaining to microlevel urban systems in this analysis have been obtained by the consultants to Myanmar's Ministry of Construction, which houses the Department of Human Settlements and Housing Development (DHSHD). Since 2006, the DHSHD has partnered with the University of

Cologne in Germany in a long-term study of urban and regional development in Myanmar.

Results from the DHSHD partnership suggest that in 2009, there were 80 important urban centers in Myanmar, 58 of which have a population greater than 50,000. These 58 urban centers have a total population of about 13.0 million. According to data from the General Administration Department, Myanmar's national population in 2010 was 60.4 million, while the country's urban population was 18.0 million. It is assumed that these data are directly comparable for the purpose of this study, resulting in approximately 29.8% of the population as residing in urban areas, with 21.5% residing in cities with more than 50,000 people. These larger urban centers thus account for 72% of Myanmar's urban population.

Given the large number of urban centers with populations of more than 50,000 in Myanmar, and the lack of time-series data, the foregoing analysis focuses on the largest and most important urban centers relative to national functional roles and proximity to GMS economic corridors. Table 2.16 describes Myanmar's most important urban centers.

Yangon, the former political and administrative capital of Myanmar, remains the nation's most important urban area. With a current estimated population of around 5.1 million (Table 2.16), it accounts for more than a quarter of Myanmar's urban population. It currently serves as Myanmar's economic and financial hub and is the country's only true international gateway, accounting for 96% of international aviation passenger traffic in 2012. It is the third-largest city in the GMS, after Bangkok and HCMC.

Yangon's central business district lies about 80 km southwest of Bago, the regional capital of Bago Region and an important trading hub for goods moving between Thailand and Myanmar. It is expected that a new international airport—called Hanthawaddy International Airport—will be constructed just outside of Bago to be operational by 2020. If built alongside new road and rail links to Yangon, the airport will foster the development of a megapolitan region that may have as many as 14 million people by 2040, about 11 million of whom will reside in and around Yangon.

Mandalay was a major precolonial center. Its role was reinforced during the colonial period and has been of national importance for more than 150 years. Its official population of 963,000 belies the fact that a large number of migrant workers and businesspeople from the PRC call the city home, owing to its

Table 2.16: Population and Location of 10 Major Urban Centers in Myanmar, 2009

Urban Center	GMS Corridor	2009 Population	Specialization
Yangon ^a	Western	5,142,128	National financial and economic center
Mandalay	Western, Northern	963,350	Regional administrative and trading center
Mawlamyine	East–West, Western	435,422	Regional administrative and trading center
Bago	Western	283,786	Regional administrative and trading center
Meiktila	Western	252,294	Major trading center
Nay Pyi Taw	Western	244,863	National administrative capital
Lashio	Northern	179,190	Major trading center
Pyin Oo Lwin	Northern	166,768	Popular amenity center
Dawei	Southern	151,865	Future site of Dawei Port and SEZ
Kale	Northern	117,517	Key center near Indian border
Total – 10 Key Centers		7,937,183	
Total – 58 Urban Centers^b		13,079,416	
Total – 80 Urban Centers		13,606,142	
Total Urban Population		17,970,000	

GMS = Greater Mekong Subregion, SEZ = special economic zone.

^a Yangon population figure is from 2011 General Administration Department data.

^b Centers greater than 50,000.

Sources: Department of Human Settlements and Housing Development, Myanmar; General Administration Department, Myanmar.

strategic location as the main entrepôt between the Muse–Ruili border crossing in Shan State and the existing and improving transport linkages to Nay Pyi Taw, Yangon, and other points south, including Kyaukphyu.

An investment consortium has invested in port development in Kyaukphyu, 400 km northwest of Yangon. Kyaukphyu is the terminus of a pipeline corridor—owned by the China National Petroleum Corporation—from Kunming. The 793 km natural gas pipeline to Kunming, which also serves Luzhou and Guigang, opened in 2013 for natural gas flows and has a capacity of 12 billion meters per year. A parallel petroleum pipeline will open in 2014 with an eventual capacity of 400,000 barrels of petroleum per day, enabling the PRC to import petroleum from the Middle East without going through the Strait of Malacca. Additionally, the port will handle natural gas from the Bay of Bengal. Stakeholders from the PRC have plans to develop a major economic and technological development zone at Kyaukphyu, creating a deep-sea port complex and industrial zone that would resemble plans for Dawei. However, the future of this development is uncertain. PRC investors have also indicated that they intend to construct a single-track, freight-only rail line to Kyaukphyu, connecting it with the Yunnan rail system. If constructed, the Kunming–Kyaukphyu line will pass more or less directly through Mandalay and Ruili, essentially bisecting Myanmar. A memorandum of understanding exists for passenger service—potentially high-speed rail (HSR)—along the corridor.

Also along the Mandalay–Muse route (Northern Corridor) lies the city of Pyin Oo Lwin with a population of about 167,000, a former colonial hill station and contemporary amenity destination drawing foreign and domestic tourists, as well as residential real estate investment. As Myanmar becomes wealthier, this amenity-driven city could considerably outpace national urban growth. Also along the Mandalay–Muse route is Lashio (population 179,000), which is the site of logistics and customs facilities for goods flowing into and out of the PRC. Like Mandalay, Lashio has relatively large numbers of PRC-born residents not counted in official statistics. Some unofficial estimates place the PRC national population in Mandalay and Lashio as high as 30% of the population.

Nay Pyi Taw was established in 2005 as Myanmar’s national political and administrative capital. It currently has a population of about 250,000, most of whom were transplanted from Yangon when the national government relocated ministries, most headquarters of state-owned enterprises (SOEs), and other related organizations. Thus, government employees and their families account for nearly all of the population. Nay Pyi Taw’s rural hinterland is estimated to number another 750,000 people. As administrative employment

grows in line with Myanmar’s economic growth—along with the relocation of foreign diplomatic services, multinational companies, and development and nongovernment organizations—urbanization in the Nay Pyi Taw area is expected to rapidly increase, though it will still be smaller in population than both Yangon and Mandalay in the foreseeable future.

Mawlamyine, which lies at the crossroads of the GMS East–West and Western corridors, is Myanmar’s third-largest city with 435,000 people. It serves as both the administrative center for Mon State and as a major trading hub for import and export activities with neighboring Thailand. It is also the location of a proposed future deep-sea port to serve the greater Yangon region (the other two being Ngayok Bay west of Patheingyi and a location at the mouth of the Yangon River on the Gulf of Martaban). Its strategic location suggests that it will continue to be a key regional center in Myanmar’s future economic development.

Dawei, which is the administrative seat of Tanintharyi Region, is also expected to host a deep-sea port and SEZ proposed by Thailand’s private sector. However, given Dawei’s remote location relative to Yangon—the distance between Yangon and Dawei is greater than the distance between Yangon and Mandalay—it is highly unlikely that it will become a key regional center like Mawlamyine. Rather, it is much more probable that, if fully built out, the Dawei port and industrial complex will serve as Thailand’s “Western Seaboard,” drawing investment for heavy industry and labor-intensive firms and catering to the needs of Thailand’s private sector.

Urban Systems of Thailand

As of the 2010 census, Thailand’s national population stood at 66.0 million, up from 60.9 million recorded in the 2000 census (0.80% CAGR). During the period between 2000 and 2010, Thailand’s urban population grew from 19.0 million to 29.1 million, a CAGR of 4.38%. This represents an unexpected jump in Thailand’s urbanization rate from the previous decade (1990–2000). Of the more than 10 million new urban residents, roughly half migrated from rural areas, increasing Thailand’s level of urbanization from 31.1% in 2000 to 44.2% in 2010.¹⁷

¹⁷ Thailand’s urban data undercount urbanization because urbanized peri-urban areas adjoining cities are often still classed as *tambons*, a rural categorization. Often, these local governments resist being upgraded administratively to urban status. Thailand’s “real” urbanization level at present is over 50%.

In 2010, there were 67 cities and districts with urban populations of more than 50,000 that had a combined urban population of 18.8 million and a combined total population (including rural within urban region boundaries) of 24.4 million, up from 12.2 million and 18.5 million in 2000, respectively. The urban population increase of 6.6 million in these urban areas suggests that it accounted for nearly two-thirds (64.8%) of Thailand's urban growth during the study decade. Table 2.17 describes population dynamics in Thailand's key administrative and economic urban centers between 2000 and 2010.¹⁸

Collectively, these 10 key urban centers accounted for 11.3 million people in 2010 and the majority of Thailand's economic output. Bangkok and its neighboring provinces, including Samut Prakan and Nonthaburi, form the Bangkok Metropolitan Region (BMR), which is an official statistical region. In 2000, the population of the BMR was 9.8 million and in 2010 it was 14.6 million, a CAGR of 4.12%. Owing to Bangkok's primacy, this conurbation accounts for a disproportionately large share of Thailand's urban population. Within the BMR, the core city of Bangkok (locally governed by the Bangkok Metropolitan Administration) had a 2010 population of 8.3 million, indicating slower growth than the BMR. Nonthaburi, another core unit of the BMR, also experienced slower growth.

Using the official urban categorization of the Government of Thailand rather than a functional categorization, the 10 largest urban centers grew by more than 6% per year between 2000 and 2010. These 10 jurisdictions accounted for only one-fifth of Thailand's total urban population growth during the same period, mainly because much of the urban growth was occurring in peri-urban areas, the Eastern Seaboard (ESB), and major tourist areas such as Phuket, which are not counted as official urban units in Thailand's data system.

Four of the 10 key urban centers—Bang Lamung, Muang Chonburi, Muang Rayong, and Si Racha—lie within the ESB, Thailand's industrial heartland and the most important industrial cluster in Southeast Asia. Its automotive cluster is particularly important. The ESB includes the deep-sea ports of Laem Chabang (containers) and Maphaput (bulk cargo and energy). While the combined population of these four urban centers only amounted to about 1.2 million in 2010, the urban population in these areas more than doubled between 2000 and 2010, with an aggregate CAGR of about 8%—nearly double Thailand's

¹⁸ For a more detailed discussion of Thailand's rapidly changing spatial system, see D. Webster. 2006. *Supporting Sustainable Development in Thailand: A Geographic Clusters Approach*. Bangkok: National Economic and Social Development Board of Thailand and World Bank.

Table 2.17: Urban Dynamics in 10 Key Urban Centers of Thailand, 2000 and 2010

Urban Center Name	Urban Center Class/Rank	Population			CAGR (%)	GMS Corridor
		2000	2010			
Bangkok	Class I	6,355,144	8,305,218		2.71	North-South, Southern, Southern Coastal, Northeastern
Muang Samut Prakan	Class II	378,741	681,000		6.04	Southern Coastal, Northeastern
Muang Khon Kaen	Class III	141,202	416,475		11.42	East-West, Central
Muang Nonthaburi	Class III	291,555	415,138		3.60	North-South
Muang Chonburi	Class III	183,317	321,149		5.77	Southern Coastal, Northeastern
Bang Lamung	Class III	117,044	320,262		10.59	Southern Coastal, Northeastern
Si Racha	Class III	141,410	277,395		6.97	Southern Coastal, Northeastern
Muang Rayong	Class III	106,737	267,521		9.62	Southern Coastal, Northeastern
Korat ^a	Class III	204,641	213,577		0.43	Central
Chiang Rai	Class IV	61,188	131,227		7.93	North-South
Total – 10 Key Centers		7,980,979	11,348,962		3.58	
Total – Five Classes		12,243,128	18,825,330		4.40	
Total – Urban Population		18,972,330	29,133,829		4.38	

CAGR = compound annual growth rate, GMS = Greater Mekong Subregion.

Notes: Class I refers to cities or districts with urban populations of more than 1,000,000. Class II refers to cities or districts with urban populations of 500,000 – 1,000,000. Class III refers to cities or districts with urban populations of 250,000–500,000. Class IV refers to cities or districts with urban populations of 100,000–250,000.

^a Korat is the informal name given to both the province and city of Nakhon Ratchasima.

Source: Government of Thailand, National Statistical Office. Census 2000 and 2010.

average urban growth rate. High levels of foreign direct investment (FDI) in the ESB, which has delivered numerous well-paying jobs, have primarily driven urbanization in these areas. As of 2012–2013, Japanese FDI substantially increased from an already high base.

In sum, the two largest urban conurbations in Thailand are along the Southern Coastal Corridor. The BMR population of 14.6 million as of 2010 make it by far the largest metropolitan region in the GMS. The neighboring industrially driven ESB has a total population of approximately 3 million as of 2010 (1.8 million urban), if defined and measured functionally.

There is little large-scale urbanization outside the BMR and ESB. Urbanization outside the BMR and ESB falls under two categories: emerging tourist centers such as Phuket, whose urban populations are significantly undercounted; and traditional urban regional service centers. Of the latter, Chiang Rai, Khon Kaen, and Korat (Muang Nakhon Ratchasima) are provincial seats located along GMS corridors. The combined population of these cities is relatively small (761,000 in 2010) and their importance continues to decline relative to the BMR, ESB, and emerging tourist centers. However, they represent possible locations to focus investment in the future. For example, Khon Kaen lies at the crossroads of the East–West and Central corridors while Chiang Rai is effectively the northernmost urban center in Thailand’s section of the North–South Corridor. There have been strong efforts and investments by state actors—e.g., Industrial Estate Authority of Thailand, an SOE, and the Board of Investment of Thailand—to create industrial clusters in Thailand’s traditional regional centers such as Greater Chiang Mai, Hat Yai, and Khon Kaen. However, these attempts have failed. The only exception is Korat, which has experienced limited success in attracting industrial investment such as Seagate (hard drive and data storage provider) and Coca-Cola. The government has wisely abandoned plans for an industrial Western Seaboard along the Gulf of Thailand, instead facilitating the development of this region along the Gulf of Thailand as a major tourism corridor, the Thai Riviera. Dawei may play the role formally designated for the Western Seaboard, as earlier described in the discussion of the Myanmar settlement system.

Urban Systems of Viet Nam

Viet Nam is the largest jurisdiction of the GMS in population, with a total population of 85.8 million as of the 2009 census, up from 76.3 million in 1999 (1.18% CAGR). During the same period, Viet Nam’s urban population increased from 19.3 million in 2000 to 25.4 million in 2010, growing more than twice as fast as the national population on an annual basis (2.80% CAGR). Viet Nam’s 6.1 million new urban residents accounted for about two-thirds (64.4%) of

total national population growth. As a result of these changes, Viet Nam's urbanization level increased from 25.3% in 1999 to 29.6% in 2009, which is still very low given the level of Viet Nam's development.

In Viet Nam, there are 73 cities and/or urban districts with urban populations greater than 50,000. These 73 urban areas had a total population of 19.4 million, or about 76.1% of the national urban population. Table 2.18 describes the demographic dynamics and location of Viet Nam's 10 largest urban centers in relation to the GMS corridors.

Viet Nam's urban structure is economically dominated by HCMC in the south, which has over twice the population of the national capital, Ha Noi, in the north. Given that Viet Nam's administration is highly centralized, Ha Noi dominates in public sector functions. In 2009, these two cities had a combined population of about 8.6 million, or roughly one-third of Viet Nam's total urban population (Table 2.18). Of Viet Nam's 6.1 million new urban residents in 2009, about 4.2 million (68.8%) were located in either Ha Noi or HCMC, based on an aggregate CAGR of 4.11% for the two cities.

This trend suggests that these large metropolitan areas are key drivers of both urbanization and economic growth. However, some of Ha Noi's urban growth was the result of a redistricting process in 2008 wherein Ha Noi annexed a number of surrounding areas from other provinces.¹⁹ Hai Phong, a major port and tourist center at the estuary of the Red River, is increasingly becoming the eastern anchor of a Ha Noi–Hai Phong economic corridor that could evolve into a megapolitan region.

With the exception of Vung Tau, the remaining seven cities are all located along Viet Nam's coastline within the GMS Eastern Corridor. These seven cities have a combined urban population of nearly 3.8 million (2009). When aggregated, they experienced rapid urban population relative to that of Ha Noi and HCMC (aggregate CAGR of 4.18%). However, this is misleading, given the wide variance in urban demographic growth rates among these cities. Can Tho has grown particularly fast.²⁰ Its rapid growth has been driven by its nationally designated role as the hub of the Mekong Delta, and because of redistricting

¹⁹ In 2008, Ha Tay Province, Me Linh District of Vinh Phuc Province, and four communes of Luong Son District of Hoa Binh Province were merged into the metropolitan area of Ha Noi.

²⁰ In Can Tho municipality, O Mon District was split into Co Do District and O Mon urban district; Vinh Thanh was split from Thot Not; and Can Tho was split into Binh Thuy, Ninh Kieu, Cai Rang (with additional territory annexed from Chau Thanh in Hau Giang Province), and Phong Dien (with additional territory annexed from Chau Thanh A in Hau Giang Province).

Table 2.18: Urban Dynamics in 10 Key Urban Centers of Viet Nam, 1999 and 2009

Urban Center Name	Urban Center Class/Rank	Population		CAGR (%)	GMS Corridor
		1999	2009		
Ho Chi Minh City	Class I	4,204,662	5,968,384	3.56	Eastern, Southern
Ha Noi	Class I	1,553,866	2,644,536	5.46	Eastern
Da Nang	Class II	543,637	770,911	3.55	Eastern
Hai Phong	Class II	569,771	769,739	3.05	Eastern
Can Tho	Class II	245,364	731,545	11.54	Eastern, Southern Coastal
Bien Hoa	Class II	435,400	652,646	4.13	Eastern
Hue	Class III	233,768	302,983	2.63	Eastern
Nha Trang	Class III	261,121	292,693	1.15	Eastern
Vung Tau	Class III	196,754	282,415	3.68	Southern
Quy Nhon	Class III	218,484	255,463	1.58	Eastern, Southern
Total – 10 Key Centers		8,462,827	12,671,315	4.12	
Total – Five Classes			19,356,832		
Total – Urban Population		19,299,100	25,436,896	2.80	

CAGR = compound annual growth rate, GMS = Greater Mekong Subregion.

Notes: Class I refers to cities or districts with urban populations of more than 1,000,000. Class II refers to cities or districts with urban populations of 500,000–1,000,000. Class III refers to cities or districts with urban populations of 250,000–500,000.

Source: Government of Viet Nam, General Statistics Office. Census 1999 and 2009.

between the 1999 and 2009 censuses. A new bridge link along National Highway 1A north of Can Tho and large-scale directed public investment has facilitated industrial investment by both foreign and domestic firms, creating new economic opportunities for residents of the surrounding hinterland.

As Viet Nam's tourist industry grows, it will drive urbanization in central Viet Nam, attracting millions of urban residents, as has been the case in Thailand. For example, An Bang Beach in Hoi An—close to Da Nang, Viet Nam's third-largest city—is ranked by news channel CNN as one of the 100 top beaches in the world.

Summary of Urban Systems in the Greater Mekong Subregion

Table 2.19 describes key indicators of urbanization in the GMS. With the world over 50% urbanized, urbanization levels are clearly low in the GMS at 33.1% for the region as a whole. Only Thailand approaches global norms with an official urbanization level of 44.1% and a “real” level of somewhat over 50.0%. Cambodia and Myanmar have strikingly low urbanization levels (19.5% and 22.1%, respectively), while Viet Nam's level of urbanization (29.6%) is much lower than expected, given its level of economic development.

In all cases, GMS governments, with the exception of the PRC, have not encouraged accelerated productive urbanization. Until recently, most have discouraged urbanization, including Thailand and Viet Nam. The new administration of the PRC has indicated that it intends to further accelerate urbanization, especially in under-urbanized provinces such as Yunnan and Guangxi. The PRC is the only jurisdiction in the GMS with an overtly prorapid urbanization policy stance. The other jurisdictions were negative, skeptical, or neutral to urbanization in the period before 1990. In contrast to its policies in the late 20th century, Viet Nam now encourages moderate urbanization.

However, urban growth rates in the region are high by world standards—particularly when related to relatively low national population growth rates in the region—especially in the PRC and Thailand. When taken as a ratio of national (provincial in the case of the PRC) population growth rates, urban populations are growing fastest in the PRC, especially Guangxi, and Thailand. These jurisdictions also exhibit the strongest economic performances, which is probably not a coincidence. Myanmar and Viet Nam have been experiencing the lowest urban growth rates in the GMS, a dynamic of concern (Table 2.19). However, as earlier discussed, it is expected that Viet Nam will be the third fastest-growing urban system in the GMS—essentially a latecomer to rapid urbanization. Myanmar's future urbanization rates are difficult to forecast. However, rapid urbanization is very likely to occur if the economy takes off.

Table 2.19: Greater Mekong Subregion Urban System: Summary Indicators

Indicators	Cambodia	PRC (Guangxi)	PRC (Yunnan)	Lao PDR	Myanmar	Thailand	Viet Nam	GMS
Urbanization level (%)	19.51	40.02	34.72	32.83	22.12	44.15	29.63	33.07
Intercensal urban growth rate, CAGR (%)	3.83	4.08	4.89	3.30	2.59	4.38	2.80	
Intercensal national growth rate, CAGR (%)	1.59	0.48	0.82	2.30	1.56	0.80	1.18	
Ratio of inter-census urban to national growth	2.4	8.5	6.0	1.4	1.7	5.5	2.4	
Total urban population by city class (%)								
Class I	47.55	49.44	43.43	0	37.79	28.51	33.86	36.87
Class II	0	29.30	7.24	40.92	7.08	2.34	11.50	11.21
Class III	0	9.95	7.84	0	9.14	11.26	4.46	8.19
Class IV	32.54	0.84	8.03	5.95	17.76	13.40	14.47	12.95
Class V	8.93	1.21	1.25	8.20	24.36	9.12	11.81	7.78
All classes	89.03	90.75	67.78	55.08	96.13	64.62	76.10	77.01
Urban areas under 50,000 (%)	10.97	9.25	32.22	44.92	3.87	35.38	23.90	22.99
Primacy ^a	6.3	1.7	2.4	6.9	5.3	6.5	2.3	
Urban population in cities over 50,000 along GMS corridors (%)	100.00	34.17	46.85	100.00	74.28	54.79	69.00	56.83

CAGR = compound annual growth rate, GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Notes: Class I refers to cities or districts with urban populations of more than 1,000,000. Class II refers to cities or districts with urban populations of 500,000–1,000,000. Class III refers to cities or districts with urban populations of 250,000–500,000. Class IV refers to cities or districts with urban populations of 100,000–250,000. Class V refers to cities or districts with urban populations of 50,000–100,000.

^a Primacy is the ratio of a jurisdiction's largest urban center (by population) to the second largest.

Source: Calculated by Webster and Gulbrandson based on personal communication with governments.

In the structure of the urban systems across the seven GMS jurisdictions, the share of urban population living in cities larger than 1 million varies from a high of 49.4% in Guangxi, 47.5% in Cambodia, and 43.4% in Yunnan to a low of 28.5% in Thailand. Only the Lao PDR lacks a city over 1 million in size.

Generally speaking, the share of population living in cities from 250,000 to 1 million is low in the region. An exception is Guangxi, which has a well-balanced urban system. To the extent possible, national urbanization policies should support the development of a system of strong second tier (250,000–1 million) “workhorse” cities in the GMS. This would entail facilitating the graduation of some current cities in the 100,000–250,000 range with the potential to play a strategic role in the GMS to the 250,000–500,000 category.

Cambodia, Myanmar, and Viet Nam have considerable portions of their urban populations living in small cities from 50,000 to 250,000 in size (41.5%, 42.1%, and 26.3%, respectively). The Lao PDR, Thailand, Yunnan, and, to a lesser degree, Viet Nam have strikingly large portions of their urban populations living in settlements less than 50,000 in size, which are mainly rural region service centers. In the Lao PDR, 44.9% of the urban population live in such small settlements, while Thailand and Yunnan have more than 30% of their urban population living in small settlements.

In sum, the urban system of the GMS features at least one dominant city in all cases (albeit Vientiane is less than 1 million in size, which is not surprising given the small national population). It lacks a strong middle cohort of cities with a population of 250,000 to 1 million; has a high share of population in small cities from 50,000 to 250,000; and in most countries, has a considerable portion of the population living in cities less than 50,000.

The majority of the urban population in cities over 50,000 in the GMS are on the ADB-defined corridors. However, there is wide variance in the urban population’s occupancy of the corridors. Cambodia and the Lao PDR already have 100% of their urban population in cities over 50,000 on the GMS corridors, Myanmar has 74%, and Viet Nam has 69%. Thailand, whose southern provinces are not part of the GMS, has 55% of its population on the GMS corridors. In Yunnan, the figure is 47%, and in Guangxi, it is only 34%. This is because much of the territory of these jurisdictions is outside the GMS corridor system.

In urban primacy of the GMS—with the exception of Viet Nam and the two jurisdictions of the PRC—the ratio of the population of the largest city to the second largest is relatively high, ranging from 6.9 in the Lao PDR to 5.3 in Myanmar. This is not of particular concern, as the GMS jurisdictions require at least one large metropolitan region to efficiently function globally.

The Role and Potential of Urban Modules in the Socioeconomic Development of the Greater Mekong Subregion

Context

Flows of goods in the GMS are driven by urban areas that originate and receive goods. These are usually major urban regions—especially those engaged in manufacturing and agricultural distribution and processing—and ports.

In cross-border passenger flows, aviation and road transport such as private vehicles and buses will dominate for the foreseeable future because of the lack of cross-border rail services in the region, with the exception of the Nong Khai–Vientiane rail connection and daily standard gauge passenger service between Ha Noi and Nanning. Regional and local airports will become more important in the economy of the GMS, with air travel gaining passenger mode share, significantly boosted by the rise of low-cost air carriers. The growing importance of tourism in the gross regional product of the GMS, as well as incipient development of business and producer services, will drive aviation-based passenger flows.²¹

The relative importance of border-crossing frontier zones in the GMS urban system is likely to decline—except as obstacles to seamless movement of goods and people—as factor prices and the quality of infrastructure and management becomes more even across national jurisdictions. The introduction of the ASEAN Economic Community (AEC) in 2016 will further contribute to a lessening of arbitrage opportunities by making migration easier and tariffs lower. The exception will be where there are sharp differences in regulatory environments, particularly pertaining to casinos and entertainment, among others.

Smaller urban centers along corridors are likely to become relatively less important in terms of Greater Mekong Subregion development. A higher percentage of cross-border flows by value (e.g., tourists and knowledge workers engaged in business transactions) will not move by surface and will instead utilize aviation or electronic communication. Coastal shipping will continue to be more important than highways in intraregional border crossing, especially for high bulk to value commodities. Furthermore, increased surface travel along

²¹ See Figure 2.3 (on p. 80) for key airport locations in the GMS.

corridors (e.g., by trucks and buses) may result in limited benefits to corridor urban centers, except those from service stops such as refueling and eating at a few key locations. Transportation improvements will further reduce the relative importance of urban areas along corridors as it enables faster travel between major urban centers by reducing unnecessary stops.

Cross-border high-speed rail (HSR) services are unlikely to be developed in the GMS in the medium run (i.e., before 2040), with the possible exception of a Kunming–Vientiane–Bangkok rail. However, improved rail routes such as those with double-track railways and new rail corridors are being planned. For example, the entire Thai trunk rail system from Kyaukphyu in Myanmar to Kunming in Yunnan will accommodate dedicated sealed rail containerization. Container trains with locked access are less likely to stop in small places along corridors. If the planned HSR line connecting Kunming with Vientiane and Vientiane with Bangkok is built—with very limited stops—this will further reinforce the role of major urban centers along the North–South Corridor. The rapid growth in rail traffic from the PRC to Europe (e.g., Chongqing–Europe) will strengthen the demand for fast, dedicated container train traffic that values nonstop movement. In sum, transportation technologies are likely to work against the development of smaller centers in the GMS.

An important exception in the development along corridors is agriculture, including agricultural distribution and processing. Improved corridor access will open larger commercial agricultural markets to farmers, thereby incentivizing the growing of high-value crops, and enable “along corridor” agricultural processors to access large markets in the GMS and beyond. This dynamic will be enhanced by the AEC and through free trade agreements among GMS countries in regard to agricultural goods (e.g., the existing free trade agreement between Thailand and the PRC for agricultural produce). Furthermore, major tourist assets located along a corridor also drive the development of smaller urban centers such as Jinghong in Yunnan. Because tourism is labor intensive—about 30% more jobs are created per unit of output compared with manufacturing—and attracts large numbers of visitors, it can rapidly change small urban areas into large ones such as in Phuket (Thailand), Sanya (PRC), and the Thai Riviera along the Gulf of Thailand.

Cross-Border Arbitrage Activities

Cross-border arbitrage based on factor prices and other factors such as management quality and infrastructure may decline in importance. However, it

will still have the potential to drive development over the next 2 decades. Cross-border factor price and availability arbitrage take two forms geographically:

- i. firms immediately at border areas such as small and medium-sized enterprises (SMEs) that manufacture garments and undertake labor-intensive activity (e.g., near Mae Sot); and
- ii. export processing zones (EPZs), which are often farther from borders and combine cross-border factors (e.g., the proposed labor-intensive EPZ at Dawei, which would combine inexpensive Myanmar labor with Thai management and capital). Such zones usually draw more capital and larger firms, and are involved in higher value-added activity.

It is unclear what the future will be for such arbitrage-based export processing in the GMS. However, relative decline is expected over the longer run. In the medium run, EPZs—often not directly located at borders—are likely to grow faster than the traditional border straddling SME complexes.²² Very few specific border areas could sprout major industrial clusters, such as Windsor–Detroit on the Canada–United States (US) border and the maquiladoras along the US–Mexico border, which have been driven by the seamlessness of these borders—a condition that does not exist in the GMS—even while cross-border factor prices differentials have declined. As noted, such development does not need to be directly located on the border. In the GMS, a major constraint to maquiladora-type border development is the lack of seamless borders, a drawback that is proving too difficult to solve.

In manufacturing investment in the GMS, of greater importance is the potential rise of manufacturing in a few key industrial zones in the region to serve domestic and regional markets not directly driven by cross-border arbitrage, wherein manufacturing is often oriented to the production of low-cost products for export. Although the East Asian propensity to export globally will remain important, manufacturing for domestic and regional markets will become relatively more important with the region's increased affluence, including the opening up of Myanmar, the expected rise of a large urban middle class in Viet Nam, and explicit policies of countries such as the PRC and Thailand to rebalance their economies toward more domestic consumption relative to export. Intra-East Asian trade will become more important—a trend that has been under way for several years—bolstered by AEC and other East

²² C. Maneepong. 2010. *Dynamics of Cross Border Industrial Development in Mekong Sub-region: A Case Study of Thailand*. Saarbrücken: Lambert.

Asian bilateral and multilateral trade agreements. Given this shifting economic context, of particular importance are existing or future peri-urban places such as Bago; northern HCMC; the Kunming Central Business District–Airport Corridor, which should continue to grow; and Thailand’s ESB, which has exhibited the most successful trajectories. Manufacturing—with the partial exception of agriculturally oriented activities—will not spatially decentralize in the region but instead be limited to very few industrial areas that are usually peri-urban in character and have inexpensive port access. At the very least, existing industrial areas in the GMS are likely to increase their dominance.

Along Corridor Activities

The prime impact of corridor development is to open up land territory to commercial agriculture and resource development, thus making roads very potent. Consistent with ADB policy, sustainable development along corridors requires first-rate environmental management and land use planning. Otherwise, new road corridors constitute a threat to the environment, as has been the case in the Amazon region. Market access by road means that agriculture is likely to be commercialized, manifesting in higher value crops, among others, which may lead to opportunities for agricultural processing. In limited key urban areas along corridors, small to medium-sized agricultural processing parks could be viable such as those in Guangxi and Yunnan. Wholesale agricultural markets should be developed in the same places as the agroprocessing parks to create distributional efficiency and urban economies of scale. The cut-flower wholesale market in Kunming’s southern peri-urban area, with its daily Dutch auction, is an example of a world-class agricultural distribution system in the GMS. In remote areas opened up by corridors, a green branding of products can result in higher market value—a strategy being pursued in Heilongjiang Province in remote northeastern PRC, and in the remote province of Prince Edward Island in Canada.

Service stops should also be rationalized along corridors, providing fuel, vehicle service, and services to drivers and passengers as is the case along the US interstate highway system. Logistics functions—e.g., storage facilities for trucks—will be required at certain points. If such logistics functions are clustered at a few points along corridors, it is possible that they could support functions such as inland container terminals, resulting in urban agglomeration benefits.

ADB has been channeling investment to small and medium-sized urban areas along the GMS economic corridors, and three subsequent investments are in

play in the ADB GMS Corridor Towns Development Project. ADB's rationale for this approach includes the fact that major cities in the GMS are largely economically and infrastructurally self-sustaining and/or have more ready access to finance. ADB's corridor-building approach to GMS development is based on the premise that urban centers should be strengthened at regular intervals along corridors, particularly at border-crossing points, major junctions, and underserved midpoints. The first corridor towns have already been approved for first-generation projects, while the second corridor towns have been approved for implementation. Assessment is under way to identify the third corridor towns.

The first corridor towns development project focused on the Southern and East–West corridors covering 10 towns with a total population of 496,892, or 0.47% of the urban population in the GMS. The average (mean) population of the 10 towns was 49,689, with the largest being Battambang in Cambodia with a population of 142,878, and the smallest being Phine in the Lao PDR with a population of 5,643.

The seven towns covered under the second corridor towns project have a considerably higher average (mean) population of 89,884, ranging from 235,190 in Preah Sihanouk, Cambodia to 9,000 in Sa Pa, Viet Nam. Even though it has fewer towns than first corridor towns, the total population coverage of second corridor towns is considerably higher at 629,190, or 0.59% of the urban population in the GMS. Most second corridor towns are strategically located, providing support to the emerging port function in the Preah Sihanouk area at the terminus of the Central Corridor, and support to the Ha Noi–Guangxi link of the Eastern Corridor. The latter is important because of fast-growing trade; access to ports at Fangchenggang in Guangxi and Hai Phong in Viet Nam; some manufacturing; sizable wholesale and consumer markets at the Mong Cai–Dongxing border crossing; and increased economic activity in the Bac Giang–Lang Son–Pingxiang corridor.

The preferred route of traffic on the important North–South Corridor is through the Lao PDR branch, small cities of Houayxay at the Thai border, and Luangnamtha at the PRC border. Support to these two small cities will improve conditions for the rapidly growing traffic along this branch of the North–South Corridor. The one outlier at face value appears to be Sa Pa with its small population (9,000) and location on a slow-growing corridor for trade. However, it has considerable potential as a tourist center, served by the Viet Nam rail, with tourism ranging from backpacking in the local mountains to high-end ecotourism.

The urban population is smaller than expected in the region's urban centers sized 250,000–1 million. If the above “along corridor” activities could be nucleated in a few places where major highways—even corridors—intersect, a few viable opportunities might exist for creating cities that would grow to a population in the 250,000 range. ADB might wish to consider direct or indirect technical or investment assistance to facilitate the development of second- and third-tier cities in the GMS. Its current direct involvement is primarily with towns and small cities.

Ports

Figure 2.7 describes key existing and proposed ports in the GMS. Ports are one of the prime underlying rationales of the GMS concept and are, to a significant degree, what makes the GMS a region. Ports enable the considerable landlocked areas of the GMS to gain access to deep water, including the Gulf of Thailand and the Indian Ocean. By improving corridor access to ports, the severe development constraints associated with being landlocked—such as with the Lao PDR—are reduced.

The PRC is a particularly strong driver in regard to ports, with increased demand to access the Indian Ocean through Myanmar, at Yangon and at Kyaukphyu. Guangxi is less connected (currently and in the future) to the GMS in terms of chasing port access, as it has the option of shipping and receiving through the major Guangdong ports or its own relatively small port at Fangchenggang, which has excellent physical characteristics to grow into a more important port. There is some shipment of the PRC's goods through Hai Phong, Viet Nam.

For the Lao PDR, with both the North–South and Central corridors passing through its territory (Figure 2.8), there is increasingly good access to the major port at Laem Chabang in Thailand's ESB. Preah Sihanouk is growing in importance as a port, owing to a quality expressway constructed between Phnom Penh and Preah Sihanouk. ADB assistance to Preah Sihanouk also aims to improve its urban platform. Preah Sihanouk is emerging as a key port in the GMS, which helps to reinforce the dominance of the Southern Corridor and the developing and parallel Southern Coastal Corridor. The new port development south of HCMC (about 20 km downriver from the city core), Hiep Phuoc New Port Area, continues to be expanded and modernized. Its effective catchment is being expanded by considerable improvements to the north–south highway (National Highway 1A) between HCMC and Ha Noi, as well as by improvements to the Southern Corridor, which links HCMC to Phnom Penh.

Figure 2.7: Key Ports: Existing and Proposed in the Greater Mekong Subregion



Source: Asian Development Bank.

Figure 2.8: Proposed Priority Greater Mekong Subregion Economic Corridors



GMS = Greater Mekong Subregion.

Source: Asian Development Bank.

Yangon Port is being rapidly modernized to expand its capacity and efficiency in handling containers. New facilities, benefiting from Japan International Cooperation Agency assistance, are being developed about 20 km downriver at Thilawa. Yangon Port is likely to see very rapid growth based on economic takeoff in Myanmar and recent improvements in road connections from Ruili to the PRC through Mandalay. Development assistance from the PRC helped build the road from Ruili to Mandalay; the Myanmar military built a significant portion of the road from Mandalay to Yangon. This new Myanmar Western Corridor makes many of the GMS corridor maps now in circulation obsolete.

In sum, port development is a very strong driver of GMS development and integration, and a major justification for investment in surface corridors. New and upgraded corridors are—to a considerable extent, especially in Myanmar—important for the country’s regional integration.

Industrial Clusters and Manufacturing

In the contemporary globalized world, it is very difficult and usually unwise to geographically decentralize industry to numerous points in a country. The “market rationale” location of manufacturing in East Asia is in peri-urban regions or industrial belts located within 100–150 km of major metropolitan regions, with inexpensive access to ports. Attempts by countries such as the PRC, Thailand, and Viet Nam to decentralize industry through construction of numerous spatially widespread industrial parks—e.g., in every province in Viet Nam—have largely failed.²³

In the 1990s, Thailand abandoned creating a second major industrial zone (the Western Seaboard), which would need deep economic clusters (supply chains) and an enormous investment in infrastructure such as ports, expressways, inland container terminals and other container facilities, rail spurs, water supply and wastewater, and flood protection, among others. Given the magnitude of these requirements, it was realized that ASEAN countries were fortunate to already have one globally competitive industrial platform in the ESB.

²³ See, for example, D. Webster. 2003. *Identifying Strategic Priorities for Urbanization in Viet Nam*. Washington, DC: World Bank (East Asia Sustainable Urban and Regional Development); National Economic and Social Development Board of Thailand, Prime Minister’s Office. *Spatial Development Framework for Thailand*. Bangkok: National Economic and Social Development Board of Thailand; Norconsult, Oslo. 1997; World Bank. 2005. *Towns and Cities Strategy for China*. Washington, DC: World Bank; J. Studwell. 2003. *The China Dream*. London: Profile Books; D. Webster. 2006. *Supporting Sustainable Development in Thailand: A Geographic Clusters Approach*. Washington, DC and Bangkok: World Bank.

Viet Nam's attempt to create industrial zones in every province has stymied its economic development. The PRC long abandoned its rural industrialization policies, and in 2003, strictly limited the development of industrial zones in secondary cities. Thus, little decentralization of manufacturing to smaller cities in the GMS, including smaller cities along corridors, is expected. A few small GMS cities, particularly Korat in Thailand, represent a minor exception.

Another possible exception is highly energy-intensive industry such as aluminum, which might locate in an area of inexpensive, highly reliable energy (e.g., the Lao PDR). One more possibility is decentralization of heavy industry that is unwanted in the more developed GMS countries such as Thailand and is seeking a home elsewhere such as Dawei. Lastly, agriprocessing is often an important exception.

Tourism

Tourism is one of the most important cross-border activities in the GMS by economic value, including foreign exchange earnings or—as it is labor intensive—employment. Tourism occurs where aviation and attractions such as scenery, culture, beaches, and vibrant urban environments coincide. Thus, aside from some adventure tourists, corridors per se are unlikely to attract tourists for medium- and long-distance travel. There is no culture of motoring holidays in the GMS as in Europe and/or North America. In fact, in the PRC—the fastest-growing market for GMS tourism—there is a general dislike of motoring vacations.

Thus, tourism will continue to grow where the attractions are—if they are accessible. Where attractions coincide with corridors such as in southern Yunnan, mid-coast Viet Nam, the Shangri-La Amenity Corridor, and Koh Chang, corridors will be important in providing access from aviation nodes to the attractions (e.g., cultural tourism in southern Yunnan relies on Jinghong Airport). However, corridors will not in themselves create tourist activity.

Figure 2.9 indicates where existing and potential major tourism areas coincide with high-priority corridors. These high-priority corridors (Figure 2.8) are defined later in this report.

Tourism can generate secondary benefits from “along corridor” activity such as enhanced demand for high-quality agricultural products, including organic produce, which tourists increasingly want.

Implications for Greater Mekong Subregion Development

Context

Based on the foregoing discussion, GMS development, from a spatial perspective, is best viewed as a set of urban constellations—including key ports—joined by corridors. Urban development in the GMS is not so much driven by corridors as by urban constellations and ports, which justify corridor development. Corridors are an instrument of development, not in themselves an end. Many of the highways defining the most important corridors connecting these constellations have been or are being upgraded, a process that has been under way for 2 decades. However, there are still sections of very poor roadway on the major corridors, which is incongruous as there are many highways in the GMS that are far superior in terms of quality but are much less important in terms of GMS flows or even national rationale.²⁴

In particular, serious gaps exist in terms of the Southern Corridor between the Thai border (Aranyaprathet) and Phnom Penh, and the Southern Coastal Corridor between the Thai border (Chan Yeam) and Preah Sihanouk; the East–West Corridor from the Thai border (Mae Sot) to Mawlamyine, and onward along the Western Corridor to Bago; and the Western Corridor, which needs to be officially realigned, between Bago and Mandalay.

Investment should be focused on the priority corridors (Figure 2.8) rather than the upgrading of feeder corridors that offer much less potential in terms of cost-effective economic development and poverty alleviation—although feeder corridors may access pockets of severe poverty and small underdeveloped settlements. The emphasis in supporting urban development should be based on

- i. facilitating the development of a second tier of GMS cities with populations of 250,000 to 1 million;
- ii. facilitating the development of cities with development potential based on competitive and/or comparative advantage;
- iii. recognizing that urban function in the GMS includes tourism and/or amenity development, manufacturing (whose potential is geographically concentrated), and agriculture (whose economic importance considerably varies among jurisdictions);

²⁴ Some of these roads that are of high quality but lesser importance were built for military or political reasons, or reflect past rather than current spatial dynamics.

- iv. downgrading the emphasis on cities as instruments of corridor creation; and
- v. downgrading the emphasis on frontier (border crossing) areas.

Key Corridors and Urban Centers

The most important corridors in terms of GMS integration and economic performance over the medium term (i.e., until 2040) were identified based on the foregoing analysis, communication with key GMS stakeholders, and in consideration of the drivers that will shape the future GMS. It is based on current and potential traffic and likely scenarios of future GMS economic-spatial development. All of the indicated corridors are existing GMS corridors or represent minor alterations or improvements to existing ADB- and GMS-defined corridor routes (Figure 2.8).

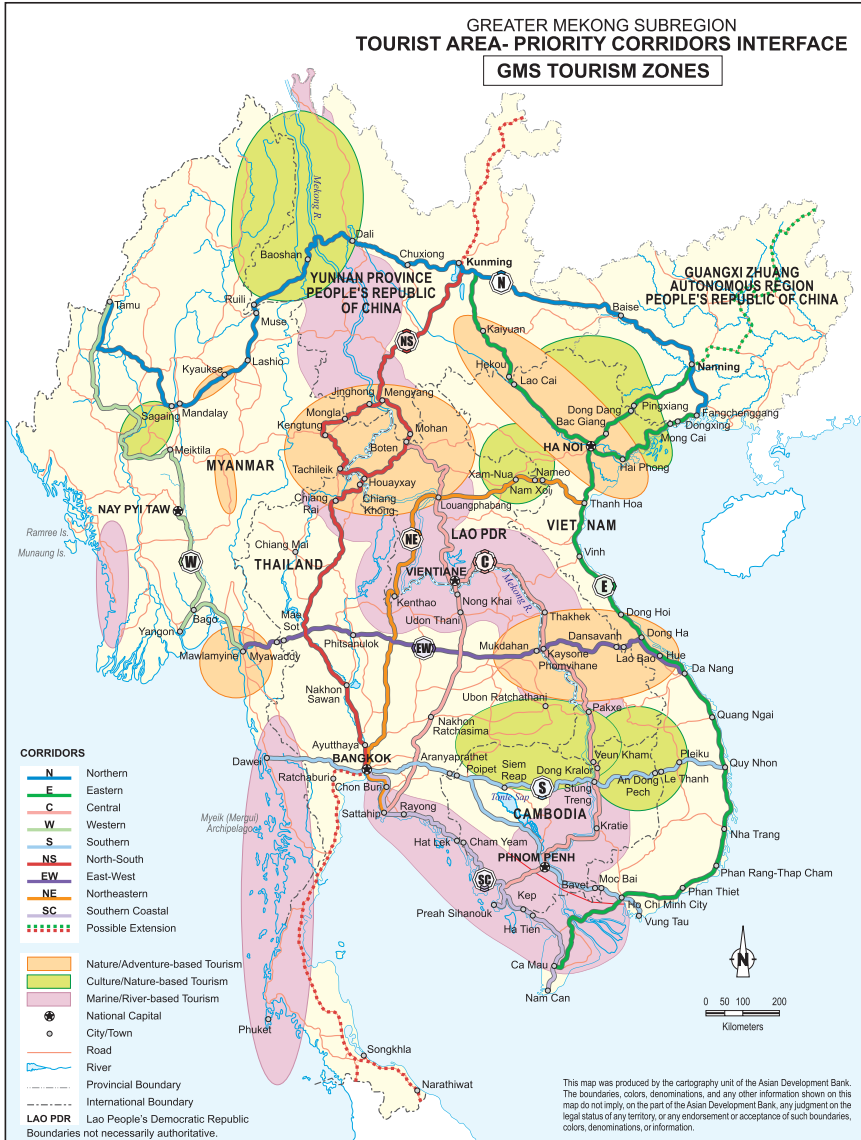
The Priority Economic Urban Corridors encompass most of the current and future cross-border surface flows and all the major cities of the region, recognizing that much of Guangxi and Yunnan are outside the GMS corridor system. The identified priority corridors intersect most of the leading tourist and amenity areas of the GMS (Figure 2.9). Furthermore, prioritizing investment in corridors is the most effective strategy in terms of spatially addressing poverty because a large percentage of the poor in the region live within these corridors (assuming a 50 km width of corridor influence).

The emphasis of this section is on highways, as cross-border rail is virtually nonexistent in the GMS, with two exceptions noted below, while aviation is point-to-point, although the advocated corridors are home to virtually all major airports in the regions (Figure 2.3). If the GMS is to become a mature, solidly middle-income region, the priority corridors proposed will need to become multimodal, multimedia corridors. Figure 2.8 is based on five priority corridors and the cities that define these corridors.

The Southern East–West Corridor

The Southern East–West (E–W) Corridor, as it has been termed, derives its predominance in the GMS from its ports. It will continue to be spatially dominant as the “main street” of the GMS, a position it has occupied for more than 2 centuries. Port access, which has been made more cost-effective through containerization introduced in the 1950s, continues to drive this corridor. The corridor encompasses the three largest metropolitan regions in the GMS—Bangkok, HCMC, and Yangon; and two of the three largest manufacturing clusters in the GMS, the third being in Guangxi—the ESB in Thailand and the north HCMC peri-urban industrial cluster.

Figure 2.9: The Greater Mekong Subregion Tourist Area–Priority Corridors Interface



GMS = Greater Mekong Subregion.

Source: Asian Development Bank.

The Southern E–W Corridor also directly passes through Cambodia’s capital, Phnom Penh, and several very important secondary cities, including Bago (possibly the site of a leading Myanmar industrial cluster) and Mawlamyine (a historical and contemporary junction and regional service center) in Myanmar, and Ayutthaya and Chonburi in Thailand. Ayutthaya and Chonburi anchor the leading multinational manufacturing centers in the GMS and ASEAN.

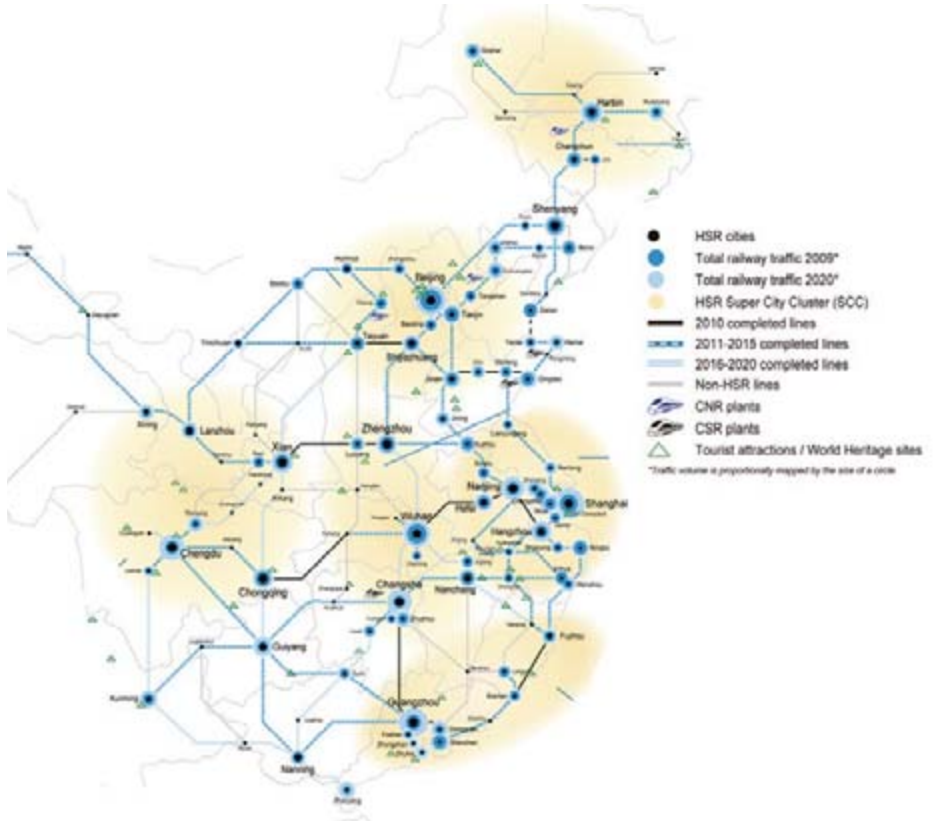
The western terminus of the Southern E–W Corridor is Yangon, a metropolitan area of enormous potential and the predominant city in Myanmar, a country with approximately the same population as Thailand (66 million in Thailand versus 60 million in Myanmar), but with a GDP per capita (adjusted for purchasing power parity) one-seventh that of Thailand. The Southern E–W Corridor links the major ports of the GMS: Yangon; Laem Chabang, the largest port by value in the GMS; the bulk commodities port at Map Ta Phut; Preah Sihanouk Port with its very significant potential; and the fast-growing HCMC container port. If the Dawei industrial complex—a Thai-initiated proposal—is built, an important feeder corridor will be constructed from the Southern E–W Corridor to Dawei with its mix of port functions, heavy industry, and labor-intensive (based on cross-border arbitrage) manufacturing.

The Eastern North–South Corridor

The Eastern North–South (N–S) Corridor, as it has been termed, connects with the Southern Coastal Corridor at HCMC and extends northward to Nanning. The vast majority of its length is along Viet Nam’s main north–south National Highway 1A, along which a parallel north–south expressway is currently under construction.

The Eastern N–S Corridor encompasses the major Vietnamese cities of Da Nang, Hue, and Hai Phong (via a short feeder). Nanning, the terminus of this corridor, is recognized by the Government of the PRC and the GMS as the PRC’s gateway to Southeast Asia, although it is slightly smaller than Kunming. For example, Nanning hosts the annual PRC–ASEAN Expo, now in its 10th year. At Nanning, the Eastern N–S Corridor connects to the Northern E–W Corridor, which links Nanning and Kunming. Eastward from Nanning, there is expressway access to Guangdong, the most important industrial region in the PRC by output value, known as “the factory of the world” with its world class ports. At Nanning, there will be connections to the continental-scale HSR network of the PRC. HSR service is expected to be available from Nanning to Guangzhou, Changsha, and Wuhan; and Guiyang to Chongqing and Kunming by 2020 (Figure 2.10).

Figure 2.10: Planned High-Speed Rail System of the People's Republic of China



CNR = China North Locomotive and Rolling Stock Industry Corporation, CSR = CSR Corporation Limited, HSR = high-speed rail, PRC = People's Republic of China.

Source: Morgan Stanley. <http://www.morganstanley.com/>

Although the terrain is rough for much of the distance between Ha Noi and Nanning, there are some urban settlements—especially in Guangxi, including Pingxiang—along the way. Rail service exists between Ha Noi and Nanning, a route that is of particular interest to tourists and that offers daily service, but is of little commercial significance to date. However, given that the Ha Noi–Nanning rail service will connect with the PRC high-speed rail (HSR) system around 2020, the case for upgrading this rail link is strong and consistent with the position that priority GMS corridors should be transformed into multimodal, multimedia conduits.

The rate of growth in the volume and value of cross-border trade at the Lang Son (Viet Nam)–Pingxiang (Guangxi) border crossing is among the highest in the GMS, and has the potential to increase much further if economic and political relationships between Viet Nam and the PRC improve. The port at Hai Phong is becoming increasingly important as a conduit not only for goods to and from northern Viet Nam, but also from the PRC, as Guangxi lacks a significant port of its own, with the possible exception of Fangchenggang.

National Highway 1A through Viet Nam has been known for rough road conditions and traffic jams, although it has been considerably upgraded with many four-lane sections as of late. However, given the importance of this corridor—traversing the most populous jurisdiction of the GMS—it requires considerably more investment, and should be to the quality of the US interstate highway system or the Malaysian North–South Expressway. While construction is under way to develop a parallel expressway for much of the length of National Highway 1A, the importance of this corridor cannot be understated and investment and highway upgrading should be encouraged to take place as fast as possible.

The Northern East–West Corridor

The Northern E–W Corridor, as it has been termed, extends from Nanning to Kunming, then westward through Dali and Baoshan into Myanmar at Ruili, extending to Mandalay. At Mandalay, this corridor intersects with the Western N–S (Myanmar) Corridor, before continuing on to the Indian border at Tamu. Much of the traffic on the busy expressway and rail corridor between Kunming and Nanning is actually not GMS-oriented; rather, much of the flow is constituted by products moving into and out of Yunnan and Guangxi to the world-class ports of Guangdong. The introduction of HSR services between Nanning and Kunming around 2020 may increase flows of people between these two most important cities in the PRC’s portion of the GMS. These two

metropolitan regions are also strong competitors, which is a largely beneficial situation from a development perspective. Between Nanning and Kunming, this corridor serves a few urban centers, namely Baise, although the terrain is very rough.

From Kunming westward, the Northern E–W Corridor—intersected by the Yunnan Amenity Corridor at Dali—serves the most important emerging amenity tourism region in the PRC.²⁵ The future economic significance of the Yunnan Amenity Corridor in terms of tourist visits and amenity economic output cannot be overestimated. In northern Myanmar, the Northern E–W Corridor traverses rough terrain, much of it suitable for upland commercial agriculture. Depending on future accessibility and security, the highland areas of northern Myanmar have considerable potential for tourism such as the former colonial hill station of Pyin Oo Lwin, which is already of interest to regional property developers.

The PRC’s public and private sectors place high priority on the link to India through Tamu. Although current flows of goods and people are minimal, PRC stakeholders view this future landbridge between the PRC and India as having enormous economic potential, despite the rough terrain and challenging road alignments through northern Myanmar.

The current highway in Yunnan to the PRC–Myanmar border at Ruili and Muse is excellent by expressway standards for most of the distance. The link from Muse to Mandalay has recently been significantly upgraded with a quality surface based on the PRC’s investment. However, it is a difficult drive due to the terrain and road alignment. To straighten much of the route would require very large investment in tunnels, among others.

The Western North–South Corridor

Stakeholders from both Myanmar and the PRC increasingly view the Western N–S (Myanmar) Corridor, as it has been termed, as critical to future trade ties and economic development. Over the last decade, new highway and expressway building—linking Yangon and Mandalay via Nay Pyi Taw—has redefined its route. Unlike other key corridors that are historically defined, the route of this corridor has been in flux.

²⁵ For example, the northern portion of the Yunnan Amenity Corridor, centering on Lijiang and Zhongdian, was allocated 4 days out of 12 in an itinerary recommended by the trendsetting *Conde Nast Traveler* magazine in 2008. See W. Perrin. 2008. Iconic Itineraries: 12 Perfect Days in Classic China. *Conde Nast Traveler*. March. pp. 93–116.

Accordingly, the most current GMS maps of Myanmar are out of date. Figure 2.11 more accurately illustrates the key national corridor routes within Myanmar. It is expected that Mandalay will become the junction point for the PRC–India landbridge, which is of considerable future importance.

The Central North–South Corridor

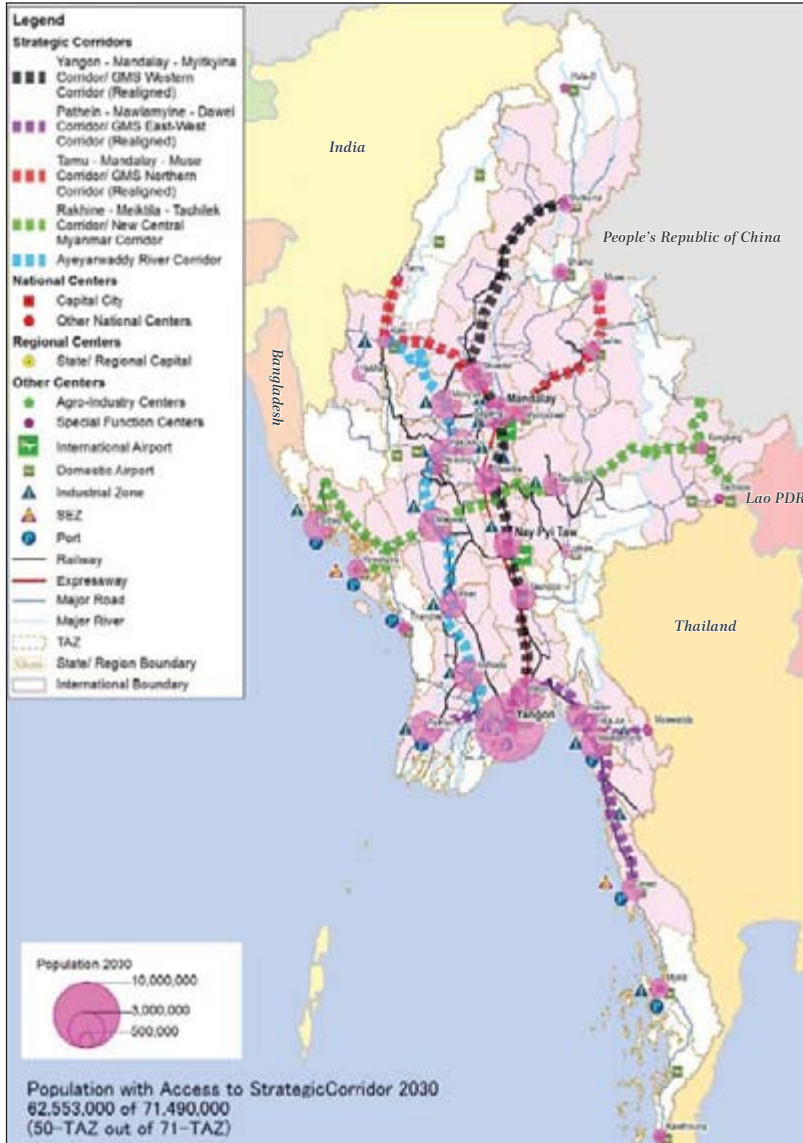
The Central N–S Corridor, as it has been termed, consists of a main route or western branch (Central N–S Corridor to the west), which passes through northern Chiang Rai of Thailand and northwest Lao PDR (R3 road to the east); and an alternative route or eastern branch (Central N–S Corridor to the east), which passes through Isan, the northeastern region of Thailand, and bisects the Lao PDR along its north–south trajectory. The Central N–S Corridor joins the largest metropolis in the GMS, Bangkok, with the fourth largest, Kunming. It passes through the important highland hill tribe tourist areas of southern Yunnan and its western branch through similar environments in northern Thailand.

Although the western branch is currently the most efficient route to travel, future rail routes—both conventional and HSR—are likely to follow the eastern branch. The PRC has put forward a proposal to finance the planned HSR link between Kunming and Vientiane, which would in turn connect with the Thai rail system, including the planned Thai HSR service. However, the outcome of these negotiations is still in doubt. At present, there is direct rail service between Bangkok and Vientiane—one of only two cross-border rail links in the GMS, along with the Ha Noi–Nanning link—which could be extended in the future.

The eastern branch of the Central N–S Corridor actually serves more population and settlements than the western branch. Northeast Thailand is the most populated region in Thailand, with a string of secondary cities—in particular Khon Kaen, Korat, Nong Khai, and Udon Thani. Furthermore, the eastern branch of the Central N–S Corridor directly passes through Vientiane, the political, administrative, and business capital of the Lao PDR, as well as through Louangphabang, a leading GMS tourist destination. Thus, it possesses considerable potential. The western Central N–S Corridor connects with the Southern E–W Corridor near Mae Sot, which heads west into Myanmar. This junction and nearby urban settlements will grow in importance over the medium term.

Highway conditions are excellent in Thailand in the case of both branches of the corridor, and poorer—but improving—in the Lao PDR. However, because the western branch has less length through the Lao PDR, it is by far the preferred

Figure 2.11: Myanmar’s Proposed Key Spatial Development Corridors (Draft)



GMS = Greater Mekong Subregion, Lao PDR = Lao People’s Democratic Republic, SEZ = special economic zone, TAZ = territorial administrative zone.

Source: Japan International Cooperation Agency Study Team. 2013. *The Survey Program for the National Transport Development Plan in the Republic of the Union of Myanmar.*

route for movement of goods and passengers. Highway conditions are excellent from the PRC border northward, and a four-lane expressway will soon reach the PRC–Lao PDR border at Boten.

Both the Lao PDR and Yunnan are—or will be—selling electricity to Thailand, creating high-voltage electrical transmission corridors along the North–South Corridor. The Electrical Generating Authority of Thailand recently signed an agreement with the China Southern Power Grid Company to ship electricity southward to Thailand. However, the exact location of the transmission corridor is not known.

Thailand intends to construct an HSR line to Nong Khai under a more than \$2 billion infrastructure program that was recently approved by the Government of Thailand. This means that an HSR connection between Bangkok (as well as Malaysia and Singapore to the south) and the PRC HSR system could happen in the medium term. The missing link, which is very difficult link to finance, is through the Lao PDR.

Investment Recommendations and Implications

Based on the foregoing, there are priority highway links for investment (Figure 2.12). The rationale for priority investment in key urban centers along these corridors is described in the next section.

Accelerating the Greater Mekong Subregion Development Process: Innovative Measures

Based on the foregoing analysis, strengthening the GMS urban system has its implications.

Comprehensive Urban Database and Spatial Framework for the Region

Data on the region’s cities and urban systems—including their environment, quality of life, and economic performance—are not being systematically collected or assessed. The lack of knowledge of the region’s cities is especially acute below the Class I (more than 1 million population) level. Although there are case study materials on the largest cities of the region, much less is

Figure 2.12: Proposed Greater Mekong Subregion Urban Investment Priorities



GMS = Greater Mekong Subregion.

Source: Asian Development Bank.

known about the smaller cities. There are a number of public agencies and development organizations studying national urban systems and specific cities. However, there has not been a systematic effort to assess these data in a pattern-seeking manner for the GMS as a whole in order to extract common themes, characteristics, and drivers affecting GMS cities.

Based on more systematic evidence, a spatial or urban systems framework for the GMS should be developed. In the past, corridor frameworks for the region were often defined by supply—such as existing highway geometries—and a corridor-building objective, rather than being based on forecasted urban development opportunities and demand, with corridors serving as one instrument to facilitate development of the GMS urban system. Furthermore, existing corridor maps and frameworks often do not show the most recent alignments or new and more direct highways, and require updating.

Transport and Seamless Borders

The region's rail-based transport system is very underdeveloped. In contrast to successful multinational regions elsewhere, the GMS has virtually no cross-border rail system. Moreover, even the existing GMS-scale highway system—the centerpiece of the GMS Economic Corridor concept—is still plagued by problematic links suffering from issues such as road quality. Key links have been indicated for upgrading. Because road transport is inherently energy- and environmentally inefficient, the road dependence of the GMS means that its regional transport is environmentally and competitively inferior to many other East Asian regions. Firms in the GMS essentially pay a tax for this dependence on road transport, while the underdevelopment of environmentally friendly rail networks—rail being the most efficient means to move people and goods in terms of energy and greenhouse gas—means that the GMS transport corridors are much less environmentally friendly than rail-based freight corridors in many other parts of the world, including the PRC.

By global and East Asian standards, the percentage of cargo moving by container in the GMS is very low, resulting in high logistics costs (over 20% of gross regional product) in the region. Such high logistics costs act as a tax on most cities in the region that lack a nearby container port.

Although progress has been made in cross-border travel facilitation—e.g., electronic one-window filing of cargo manifests in a few cases—much remains to be done. Inefficiencies in the software related to border crossing in the GMS aggravate the problems associated with road quality, further raising logistics costs.

The high cost of surface shipment in the GMS discourages trade among GMS cities. Often, it is less expensive for firms in a given GMS jurisdiction to access cities outside the region by sea via coastal shipping, or by aviation—in the case of high-value goods and people movements—to meet supply chain needs.

Multimodal Corridors

The lack of rail transport connecting GMS cities puts the urban system at a major disadvantage relative to competing East Asian multinational regions. This disadvantage will continue to grow as domestic rail systems are improved, encouraging within-country movement relative to cross-border movement, and the container rail bridge between the PRC and Europe continues to carry more traffic. Fortunately, rail systems within GMS countries are being improved or have proposed improvements on a significant scale such as the double-tracking of the rail network in Thailand, proposed upgrading of the Yangon–Mandalay rail link, construction of a Kunming–Kyaukphyu rail link, upgrading of the Yunnan east–west rail corridor, expansion of HSR service in the PRC to Nanning and Kunming, and possible construction of a Kunming–Bangkok HSR link, among others. The challenge will be to interconnect these upgraded domestic rail routes. For GMS corridors to be green, they need to incorporate rail.

However, assuming the continued high dependence of the GMS on highway transport, ADB and other institutions with a regional mandate could consider facilitating more energy, pollution, and greenhouse gas-efficient highway travel, especially for trucks. For example, in the US, compressed natural gas and liquefied natural gas corridors for long-haul truck fleets are being developed, with fueling stations as the prime ingredient. Given the relative abundance of natural gas available in the GMS, this could be considered as one option to green highway traffic along the GMS corridors.²⁶

Where possible, high-voltage electrical lines should follow priority corridors to minimize environmental disruption and serve settlements en route, among others. There are major existing or future high-voltage flows from the Lao PDR, Myanmar, and Yunnan to other countries in the region, primarily Thailand. Although cell phone coverage is generally good in the GMS, there should be absolutely no gaps in service along corridors in the GMS. Broadband penetration and corresponding Wi-Fi coverage should be extended in key business points of the region's major urban centers and at service complexes along the corridors.

²⁶ B. Olson. 2003. Which Would U Rather Pay: Natural Gas Hits the Road. *Bloomberg Businessweek*. May, pp. 59–62.

Intermediate-Sized Cities

In the GMS, the population living in cities of 250,000–1 million is smaller than expected. National governments and international development agencies should encourage the development of medium-sized cities where a strong rationale exists. Such a rationale needs to be realistic—e.g., based on tourism and/or amenity, regional service functions, and agricultural processing—and locations should be ideal such as junctions, which feature high accessibility. What should be avoided at the national and international levels is an attempt to decentralize manufacturing, create too many tourist destinations (often without sufficient attraction), or encourage city building from a supply side approach (“build it and they will come”) simply to generate more balanced rank-size systems within countries or along specific corridors. There is no need to ensure regular spacing of cities along corridors as long as service complexes exist at regular intervals. As argued earlier, simply being on a corridor is not a rationale for aggressive city building. Nor is there a need, per se, to populate the corridors. They are instruments of connection. As the literature in economic geography clearly indicates, mid-point or along corridor locations are often very uneconomic in terms of firm investment. For example, the corridor between Canada’s two largest cities (Montreal–Toronto) has little economic activity and urbanization, whereas the extended peri-urban areas around these two major metropolitan areas are booming. The same is true of the PRC, where the urban system is constellation based, not corridor based, providing the PRC with economic advantage.

However, where a strong case exists, development of such medium-sized cities along priority corridors should be encouraged. Examples of these cities (Figure 2.12) include the following:

Bago. As Myanmar opens up and accessibility improves, it may develop a sizable manufacturing economy based on relatively low cost, available labor, and port access, among others. If this occurs, the manufacturing cluster will develop in peri-urban areas or free-standing cities within approximately 150 km of Yangon, as per the government’s plans. International business appears to view Bago on the Southern E–W Corridor as a likely candidate for such activity. The Danish brewing company Carlsberg is currently making a major investment there.

Mawlamyine. Mawlamyine has a long history as an important junction city, where the Southern E–W Corridor intersects National Highway No. 8—currently in poor condition and less than two lanes in width for its entire

length—to southern Myanmar. If the Southern E–W Corridor is upgraded from the Thai border to Yangon (a distance of roughly 350 km), Mawlamyine would have the advantage of being accessible in a few hours (as opposed to the day-long journey currently required) to both Thailand and Yangon. Based on cross-border arbitrage factors, a potentially strong economic future as a regional service center and a manufacturing center is envisaged for Mawlamyine.

Khon Kaen and Louangphabang. The currently dominant western branch of the Central N–S Corridor has a mature—albeit slow growing—set of cities along its route in Thailand, north of Ayutthaya, the highly dynamic peri-urban manufacturing and UNESCO world heritage site, to the Lao PDR border. The Thai cities along the route have benefited from a multitude of large-scale urban programs, both national and international, over the last 3 decades such as the World Bank’s regional cities program. Market forces and large-scale public investment are delivering and improving urban settlements along the Central N–S Corridor from the Lao PDR border to Kunming.

However, in the medium to long run, the eastern branch of the corridor is expected to become more important. The population is larger and poverty rates higher along the eastern branch. Furthermore, the current Thai government is investing very heavily in northeast Thailand, the poorest region of the country, including the regional cities such as Khon Kaen and Udon Thani along the western branch of the Central N–S Corridor. Thus, key cities along the eastern branch of the Central N–S Corridor should be strengthened. In Thailand, Khon Kaen can play a more important role. Although GMS countries are currently not prioritizing nor strongly supporting the long-standing proposal for a GMS East–West Corridor (from Mawlamyine to Hue, passing through Phitsanulok, Khon Kaen, and Mukdahan), being at the junction of the eastern branch of the Central N–S Corridor and the GMS East–West Corridor could provide Khon Kaen with a geostrategic advantage in logistics and regional service functions.

In the Lao PDR, especially if the GMS North–South Corridor highway were to be further improved (it is currently hard surfaced but could be widened and in some places, straightened), Louangphabang should be strengthened to act as the growth pole of northern Lao PDR. It has enormous tourist potential and an active airport serviced by regional flights, is located on the Mekong River, and has potential high-quality road access to northern Viet Nam. Given its heritage status, city building in Louangphabang should be guided by an enforced urban heritage plan.

Preah Sihanouk. Preah Sihanouk is already the object of ADB city-building efforts. Its port function is likely to become more important. There is potential for some manufacturing activity based on this port, given the city's relative closeness to the dominant city, Phnom Penh—a location with parallels to Bago. Furthermore, there are significant beach assets in the Preah Sihanouk area, which are easily accessible from the Class I city of Phnom Penh. If the Southern E–W Corridor continues to be improved, and the GMS Southern Coastal Corridor becomes a reality, Preah Sihanouk will have easy access by road to the largest cities in the GMS, including Bangkok. Road quality to HCMC has already been dramatically improved, giving Preah Sihanouk easy access to the second-largest city in the GMS. Furthermore, connecting the rail systems of Thailand and Viet Nam along the Southern E–W Corridor through Cambodia is feasible, which would dramatically improve Preah Sihanouk's prospects, enabling lower cost container handling.

Da Nang–Hue. The Da Nang area is already one of the leading urban conurbations in Viet Nam. However, it is not large enough—nor is its present economy deep enough—to be the growth pole for central Viet Nam and to act as the critical midpoint service center on the Eastern N–S Corridor. As noted earlier, the nearby coastline has the potential to be a beach resort and amenity coastline with a global profile and economic significance comparable to Bali, Honolulu, Phuket, or Sanya (Hainan). Significant urban environment issues exist in Da Nang, which can be more effectively addressed now rather than later.

Lang Son–Pingxiang. Although it can be argued that urban centers immediately at border crossings will not enjoy particular advantages in the future such as assuming free trade and seamless movement of trucks and trains. However, Lang Son–Pingxiang is one of the fastest-growing border crossings in the GMS. The PRC views this crossing as its main entry point to Southeast Asia. Because this crossing is where the ASEAN Economic Community (AEC) meets the PRC, frontier-specific services are likely to continue to be built related to customs, logistics, and quarantine, among others. ADB already recognizes the importance of this border, providing city-building support to Mong Cai, Viet Nam on the PRC border; and to Bac Giang, a peri-urban city northeast of Ha Noi on the Ha Noi–Lang Son–Pingxiang highway.

Dongxing. Dongxing, which is across the border from Mong Cai in Viet Nam, is a priority urban system for development in Guangxi. The PRC's National Development and Reform Commission designated Dongxing as an experimental demonstration development zone. It is a free port, accounting for the high degree of consumer goods trading at the border. Nearby Fangchenggang is an

excellent port in terms of physical characteristics, but is presently a minor port for flows and more a regional port at best. Dongxing also has a small port, and there is a third port between Fangchenggang and Dongxing.

Ruili. Ruili is a very high priority for urban development. On the Myanmar border, it is the gateway to the Kyaukphyu port and oil and gas pipeline termini in Myanmar on the Indian Ocean. Ruili is connected to Kyaukphyu by road and gas pipeline, and will soon be connected by petroleum pipeline and rail. Furthermore, Ruili is the land corridor gateway to India through Myanmar. Ruili is on the Kunming–Dali–Baoshan expressway corridor, effectively connecting India and Myanmar to the PRC’s national transportation system. Its urban infrastructure is not as developed as Dali and Baoshan, buttressing the case for increased technical and financial support to city building.

Green Cities

Much has been written about green cities, both internationally and specific to East Asia. It would be redundant to elaborate on what constitutes a green or sustainable city. In a nutshell, green cities have high but variable densities (with nodes to encourage high ridership of public transit), contiguous physical development, and judicious allocation of green space (e.g., to areas with too many industrial zones or areas that have too much green space). They encourage development of energy-efficient buildings, emphasize electric or alternative powered public transit, carefully regulate rural–urban land conversion on the urban edge, and financially incentivize less pollution and greenhouse gas emissions and waste at the household and firm levels.

Because household incomes are relatively low in GMS cities—with the exception of Bangkok, and to a lesser extent HCMC, Kunming, and Nanning—consumption pressures are relatively subdued, but will grow fast.

On the supply side, the GMS system is challenged by an abundance of small cities, which makes it more difficult to achieve high environmental performance because they lack ridership for electric trains, have lower densities, and may lack capital for high environmental performance buildings, among others. Furthermore, many of these cities, especially the more remote ones, lack adequate knowledge of technologies and approaches to improve their environmental performance.

ADB has targeted smaller cities in the GMS, which will make urban greening initiatives more difficult to upscale in the GMS if action is limited to these

cities. Thus, ADB may wish to partially uncouple the GMS Corridor Towns Development Project from urban greening efforts in the GMS. Apart from the fact that the first and second corridor towns development projects only contain 1.1% of the GMS urban population—limiting direct leverage potential in urban sustainability in the region—small urban settlements offer much less potential for significant environmental sustainability improvements such as high-rise buildings, electric powered transport, and high density urbanization conserving surrounding farmlands. One exception is solar electricity, which loses efficiency from having collectors on vertical high-rise surfaces compared to rooftop installations on detached or row housing and low-rise buildings associated with smaller settlements. However, this advantage is diminishing.²⁷

Little is known about the actual environmental performance of the medium-sized and smaller GMS cities. A better database is needed. It is therefore recommended that a simple urban green report card and monitoring system based on flagship (composite) and specific indicators for GMS cities. Furthermore, it recommends convening a forum of GMS cities, involving both administrators and technical officials, to assess cost-effective means to improve urban environmental performance in the region and share experiences. A main subject would be to identify common themes that crosscut GMS urbanization and city building. For example, can GMS cities—especially the smaller, more remote ones—develop a positive reputation for green products, as cities in the remote northern PRC province of Heilongjiang have done?

Urban Economic Functions, Structure, and Dynamics

Relatively little is known about the economic functions, structure, and dynamics of GMS cities, making strategizing, greening, and other initiatives difficult. Systematic research should be undertaken to reduce this gap. Urbanization facilitation in the GMS should be demand based and not supply based, requiring better knowledge of the function of GMS cities.

Greater Mekong Subregion Urban Forum

It is recommended that ADB convene a major urban forum on city building and the role of cities in the GMS. Ideally, this would be built around the process to prepare a spatial or urban systems framework for the region as discussed

²⁷ Sunrise. 2008. *Barriers for the Introduction of Photovoltaics in the Building Sector*. <http://www.pvsunrise.eu/pv-diffusion-in-the-building-sector-bipv/studies-publications.html> (accessed 10 March 2013).

earlier. The medium-sized and smaller cities in the GMS are likely to be major beneficiaries of such a forum, because most have done little work on defining their functional roles and preparing city development strategies. In many cases, vision preparation processes would be of value. The bottom line would be to encourage cities in the GMS to realistically look at their assets and define practical roles for themselves. The demand for global cities is extremely limited; only Bangkok can aspire to that role in the medium term. However, the demand for specialized workhorse cities is high.

If a GMS urban forum were held, four types of individuals should be involved:

- i. political and administrative leaders of GMS cities;
- ii. technical personnel from GMS cities, e.g., urban planners and environmental engineers;
- iii. local leaders of the private sector, e.g., property developers, manufacturers, and tourist entrepreneurs; and
- iv. city systems, city building, and strategizing expertise at the national, regional, and international levels.

Private Sector Involvement in Greater Mekong Subregion Cities

The amount of capital and expertise needed to develop the urban system of the GMS, especially outside the PRC and Thailand, is enormous. Quality city building is mainly a function of the private sector, guided by public priorities and institutions. Thus, measures need to be taken to interest the private sector in investment opportunities in GMS cities, perhaps through a GMS urban investment fair.

The public sector—nationally and at the urban level—needs to establish mechanisms and priorities for public–private partnerships (PPPs). The PRC, including Guangxi and Yunnan, is currently prioritizing innovative financing such as PPP initiatives to encourage city building. This is due to the current PRC administration’s wish to accelerate urbanization, especially in noncoastal regions with low levels of urbanization such as Guangxi and Yunnan.

Agriculture and Logistics Considerations in Corridor Development

As argued earlier, one of the main potential benefits along corridors is increased value added in agriculture, both in crops (cropping systems and productivity) and agriprocessing. Realistically, most territory along corridors will never attract

manufacturing or large numbers of tourists, with the exception of key tourist destination areas along corridors. Thus, agriculture—along with logistics and servicing support to vehicles, freight, and people moving along corridors—is the prime economic and livelihood opportunity. To this end, agricultural and environmental agencies need to be more involved in urban development along corridors. Development of quality service centers requires public sector leadership and private investment, or PPP initiatives. As argued, economic activity suited to corridors should be geographically clustered to the extent possible to create larger urban places. Too many small urban settlements are neither economically efficient nor environmentally desirable, including from a perspective of land efficiency.

Priority Corridors

A GMS with a strong urban system is one with a limited number of high-quality, high-volume, multimodal corridors. Developed countries such as Canada, the Republic of Korea, and the US as well as fast-rising ones such as the PRC have relatively few corridors. There are many defined corridors in the GMS; ironically, the few priority corridors that probably account for 90% of the value of international flows still suffer from gaps such as poor road quality that inhibit easy movement, and corridors remain overwhelmingly vehicle dependent.

Tourism and Amenity as a Major Driver of Greater Mekong Subregion Development

Tourism is a major element of the GMS economy—albeit still only about 5% of the region's gross regional product—and will grow much faster than the overall GMS economy. Tourism diversifies, as it has in Thailand, into second home communities, health services, amenity migration, and residences for knowledge workers. This will happen in the high amenity areas of the region such as the Yunnan Amenity Corridor and the prime beach area of Central Viet Nam. In Thailand, amenity dynamics have already dramatically reshaped the urban system. Amenity and tourism centers such as Phuket, where the urban population increased from 91,000 to 358,000 between 2000 and 2010, have eclipsed the former second-tier regional centers such as Hat Yai and Khon Kaen in importance. PRC authorities are increasingly preparing for this dynamic, especially in the case of Yunnan. However, more understanding and preparation for the dramatic impact of amenity drivers on cities and the urban system are needed in other countries of the GMS.

ADB has recognized the importance of tourism in the GMS, as has UNESCO, but there is a need to broaden the concept to include MICE and the amenity economy, among others. There is a lack of recognition that amenity and tourism activity in the GMS is primarily urban based. The fact that a significant proportion of the GMS cities will have tourism and amenity-based economies has been overlooked in much of the urban analysis of the GMS region to date. Tourism planning for the region often wrongly assumes it to be a rural rather an urban activity.

ADB Greater Mekong Subregion Urban Facilitation

The prime criterion of ADB in investing in and facilitating urban development in the GMS should be the contribution of the city in question to overall GMS socioeconomic integration, economic competitiveness, and environmental performance.

Corridors per se are instruments to support the urban nodes of the region, not an end in themselves. ADB investment should focus on actions that strengthen the GMS as a high-performing economic and environmental region, recognizing that cities are the critical economic and human nodes in the region where the vast majority of its population will live by 2050. For example, facilitation of connectedness by enabling major logistics complexes would be useful. Technical assistance in establishing innovative financing mechanism, including PPP mechanisms; visioning and strategizing processes; and green city building would be valuable. Routine investment in urban civil infrastructure should be carefully allocated—e.g., to strengthen specific fast-growing or high-potential GMS urban places—particularly in support of a strong second tier of cities.

Chapter 3

Greater Mekong Subregion Corridor Towns Development Projects: The First Generation

Florian Steinberg and Aldrin Plaza

Rationale for the Focus on Greater Mekong Subregion Corridor Towns

In 1998, countries from the Greater Mekong Subregion (GMS) at the 8th GMS Ministerial Meeting in Manila adopted the economic corridor approach as a strategy for subregional development in the GMS. Apart from infrastructure and economic development, this approach is also designed to enhance collaboration among the towns and cities located along these corridors and help improve interaction of economic activities between public and private sectors and between central and local governments. Specifically, it is expected that operationalizing this approach in the GMS would (i) provide a spatial focus to GMS activities, with the backbone, growth centers, and nodal points catalyzing the development of surrounding localities; (ii) open up many opportunities for various types of investments from within and outside the subregion; (iii) promote synergy and enhance the impact of subregional activities through the clustering of projects; (iv) provide mechanism(s) for prioritizing and coordinating investments among neighboring countries; and (v) generate tangible demonstration effects.

In 2012, the Asian Development Bank (ADB) approved three development projects that cover 10 GMS corridor towns in Cambodia, the Lao People's Democratic Republic (Lao PDR), and Viet Nam.¹ These projects will develop the competitiveness of these 10 towns along the Southern Economic

¹ Asian Development Bank (ADB). 2012. *Kingdom of Cambodia: Greater Mekong Subregion Southern Economic Corridor Towns Development Project*. Manila (Loan 2983/Grant 0334 and Grant 0335, \$46.1 million approved on 10 December, financed by the Asian Development Fund, Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility); ADB. 2012. *Lao People's Democratic Republic: Greater Mekong Subregion East–West Economic Corridor Towns Development Project*. Manila (Loan 2931/Grant 0314 and Grant 0315, \$41.4 million approved on 6 November, financed by the Asian Development Fund and the Urban Financing Partnership Facility); ADB. 2012. *Viet Nam: Greater Mekong Subregion Corridor Towns Development Project*. Manila (Loan 2969/Grant 0329, \$131.0 million approved on 12 December, financed by the Asian Development Fund and the Urban Financing Partnership Facility).

Corridor (SEC) and the East–West Economic Corridor (EWEC). These projects will transform the towns into economic hubs by improving their urban environmental infrastructure and strengthening the institutional capacities of provincial and local authorities on urban infrastructure management. The productivity of economic enterprises in these towns will be significantly improved since there will be better infrastructure and increased climate resilience through flood control measures. The 10 towns' environmental conditions will be improved through clean wastewater; disposal of solid waste with the provision of environmental infrastructure for wastewater treatment; and solid waste management, which will, among others, help to reduce the carbon footprint of these towns, making them cleaner, greener, and more livable. Mobility of people and goods will also be improved with the investments to upgrade and develop new urban roads.

Strategic Economic Development

Considerable investments of the governments of the GMS countries (Cambodia, the People's Republic of China [PRC], the Lao PDR, Myanmar, Thailand, and Viet Nam) and ADB in the development of priority transport corridors have established physical connectivity among the GMS countries, providing the foundation for more efficient movement of people, goods, and services (Figure 3.1).

The towns and cities along the SEC, which links Cambodia and Viet Nam, are well positioned to serve as dynamic centers of investment and inclusive economic growth for these countries and the GMS. The strategic location of the corridor towns provides the stimulus for increased trade and investments along the transport routes. Amid these development opportunities, the rapid growth of the urban population and the expansion of urban areas caused several corridor towns to face the daunting task of meeting the demands for urban infrastructure and essential support services.

Local authorities aim to plan and manage urban growth using an integrated approach, operate and maintain urban environmental and economic infrastructure, and efficiently deliver municipal services. Despite policy reforms to promote decentralization, local institutional capacity has not kept pace with urban sector development and economic growth in the GMS. With increasing trade and traffic flows in the GMS corridors, there is an urgent need to strengthen the capacities of the corridor towns to manage local economic development in an environmentally sustainable manner.

Figure 3.1: The Greater Mekong Subregion Economic Corridors



Source: Asian Development Bank.

Table 3.1 shows the population growth trends of the capital cities of the three GMS countries (Phnom Penh, Cambodia; Vientiane, the Lao PDR; and Ha Noi, Viet Nam) and the 10 project towns of the Corridor Towns Development Project. With the expected growth of the three capital cities, the corridor towns are also expected to grow at rates faster than the capital cities. For example, the Cambodian town of Poipet is expected by 2030 to increase by almost three times its population of 2010 mainly because of its proximity to Thailand and the robust development of its industrial zones, which will create demand for labor, housing, and services. The same population growth scenario will be expected from Kaysone Phomvihane in the Lao PDR and Lao Bao and Moc Bai in Viet Nam, with the other six corridor towns expected to increase by at least two-thirds of their 2010 population by 2030.

A strong correlation can be seen in Table 3.2, where the decrease in the participation of local labor on agriculture-related activities is translating into increases in labor force participation in the trade, industries, and services sector. In the case of Poipet, although there is an observed parallel increase in labor participation in the agriculture sector, the increase in labor participation in trade, industry, and services is noticeably bigger, therefore indicating faster growth in this sector compared with agriculture. This is expected to accelerate not only because of the growth of industrial activities, but also because of the expected annual increase in the influx of tourist arrivals in these border towns.

The planned development of these towns will induce more regulated and sustainable growth, attracting public sector investments in urban environment infrastructure and encouraging private sector interest in urban economic infrastructure. The functions of small and medium-sized towns are crucial in terms of their role as markets and transport hubs for agricultural produce from rural areas, as well as centers for production and distribution of goods and services to urban areas.

The three GMS corridor towns development projects make up the first phase of a long-term engagement with secondary towns and cities of the GMS economic corridors, concurrent with the strategic framework of the GMS Economic Cooperation Program, 2012–2022. They are also in line with the ADB country partnership strategies for Cambodia, the Lao PDR, and Viet Nam, and support ADB's Urban Operational Plan and Water Operational Plan.

The three projects have four special features. They (i) support regional development in the GMS and the Association of Southeast Asian Nations by creating growth engines in corridor towns, (ii) support climate resilience of towns through adaptation initiatives to reduce the adverse impacts of climate

risk on infrastructure investment,² (iii) pursue recycling of solid waste through the innovative materials recovery facilities (MRFs) for waste segregation,³ and (iv) support decentralization through capacity development of local authorities to ensure sustainability of subprojects. The investments covered by these projects include drainage and flood control measures, river embankments, solid waste management, urban roads, recycling facilities for solid waste, water supply, wastewater treatment, and rehabilitation of a river port (see Appendix for an overview of subprojects).

Economic Characterization of the Towns at the Southern Economic Corridor

The SEC covers

- i. six provinces in the eastern region of Thailand: Bangkok, Chonburi, Rayong, Chantaburi, Trat, and Sakaew;
- ii. four zones in Cambodia, involving 21 provinces and municipalities: Phnom Penh Zone (Phnom Penh), Tonle Sap Zone (Banteay Meanchey, Siem Reap), Mountain Zone (Stung Treng, Ratanakiri), and Coastal Zone (Koh Kong and Kampot);
- iii. four regions in Viet Nam: South East (Ho Chi Minh City and Ba Ria–Vung Tau Province), Central Highland (Gia Lai Province), South Central Coast (Binh Dinh Province), and the Mekong River Delta (Kien Giang and Ca Mau provinces) regions; and
- iv. six provinces in southern Lao PDR: Khammouane, Kaysone Phomvihane, Saravan, Champasak, Sekong, and Attapeu.

The towns covered by the project in the SEC are Poipet, Battambang, Neak Loeung, and Bavet in Cambodia and Moc Bai in Viet Nam (Figure 3.2). Table 3.3 provides an overview of the profile of each town.

In the SEC, the proximity of Ho Chi Minh City in Viet Nam, Phnom Penh in Cambodia, and Bangkok in Thailand is leading to the development of new urban areas for residential and commercial development, with an increasing number of industrial areas and economic zones.⁴ In order to guide these new developments, master plans and other development plans that have been

² With cofinancing from the Strategic Climate Fund under its Pilot Program for Climate Resilience in Cambodia.

³ With grant cofinancing from the Urban Environmental Infrastructure Fund of the Urban Financing Partnership Facility of ADB.

⁴ A. Maulion and F. Steinberg. Bangkok to Ho Chi Minh City: Competitiveness of Cities Along Transport Corridors in South-East Asia. Unpublished. pp. 16-17.

**Table 3.1: Urbanization of Capital Cities and Project Towns
by Population Growth Trends**

City/Town	Previous Census Year		2010 ^a	Projected Population		
	1998	2008		2015	2020	2030
Cambodia						
Phnom Penh ^b	950,373	1,374,451	1,504,361	1,835,090	2,126,617	2,450,717
Battambang ^c	137,630	140,533	142,878	161,443	178,246	213,148
Poipet ^d	...	74,852	83,857	107,692	131,527	231,154
Neak Loeung ^e	...	24,726	25,225	26,518	27,878	30,810
Bavet ^f	...	35,675	37,149	39,044	41,035	45,373
Lao PDR						
Vientiane ^g	528,109	698,308	801,000	927,000	1,074,000	1,439,000
K. Phomvihane ^h	...	...	76,905	...	90,206	130,000
Phine ⁱ	...	...	5,643	6,095	6,299	7,031
Dansavanhi ^j	...	...	7,296	8,392	8,894	10,841
Viet Nam						
Ha Noi ^k	2,672,122	6,448,837	6,562,000	...	7,400,000	9,200,000
Dong Ha ^l	69,705	81,951	83,191	85,295	87,950	105,545
Lao Bao ^m	...	...	9,974	...	20,000	28,000
Moc Bai ⁿ	...	...	25,258	...	40,000	63,000

... = data not available, K. Phomvihane = Kaysone Phomvihane, Lao PDR = Lao People's Democratic Republic.

^a Source of 2010 population data for the 10 development project towns and annual growth rates used in some of the population projections: Asian Development Bank (ADB). 2012. GMS Corridor Towns Development Project. *Strategic Economic Development Plans*. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).

- ^b Population data for Phnom Penh taken from Bureau of Statistics, Japan Ministry of Internal Affairs and Communications. 2008. *Population Projections for Cambodia, 2008–2030*. http://www.stat.go.jp/info/meetings/cambodia/pdf/rp12_ch10.pdf
- ^c 1998 and 2008 population census data for Battambang are taken from City Population (<http://www.citypopulation.de/Cambodia.html>). Projected populations are based on an annual growth rate of 2% from the 2010 population data using the exponential growth method.
- ^{d,e,f} Projected populations are based on annual growth rates of 5.68% for Poipet, and 1.00% for Neak Loeung and Bavet, respectively, based on 2010 population data using the exponential growth method.
- ^g 1995 and 2005 population census data for Vientiane are taken from City Population (<http://www.citypopulation.de/Laos.html>). 2010 and projected populations are taken from Public Works and Transport Institute and Japan International Cooperation Agency, 2011. *Vientiane Capital Urban Master Development Plan Proposal*. Vientiane. http://www.jica.go.jp/project/english/laos/009/materials/pdf/pamphlet_01.pdf
- ^h Projected population data are taken from ADB. 2012. *GMS Corridor Towns Development Project. Kaysone Phomvihane Strategic Local Economic Development Plan*. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).
- ⁱ Projected populations are based on annual growth rates of 1.1% for Phine and 2.0% for Dansavanh based on 2010 population data using the exponential growth method.
- ^k 1999 and 2009 population data for Ha Noi are taken from the Government of Viet Nam, General Statistics Office. 2011. *Migration and Urbanization in Viet Nam: Patterns, Trends and Differentials*. Ha Noi: Ministry of Planning and Investment. 2010 population and population projections are taken from Ngo Trung Hai. 2010. *Urban Development Strategy for Viet Nam Cities System to 2050*. A presentation at the International Conference on Eco2 Cities, and Workshop for East Asia Pilot Eco2 Cities. Yokohama, Japan.
- ^l 1999 and 2009 population census data for Dong Ha are taken from City Population (<http://www.citypopulation.de/Vietnam.html>). Projected populations are based on annual growth rate of 1.19% based on 2010 population data using the exponential growth method.
- ^m Projected population data are taken from ADB. 2012. *GMS Corridor Towns Development Project. Lao Bao Strategic Local Economic Development Plan*. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).
- ⁿ Projected population data are taken from ADB. 2012. *GMS Corridor Towns Development Project. Moc Bai Strategic Local Economic Development Plan*. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).

Source: Asian Development Bank.

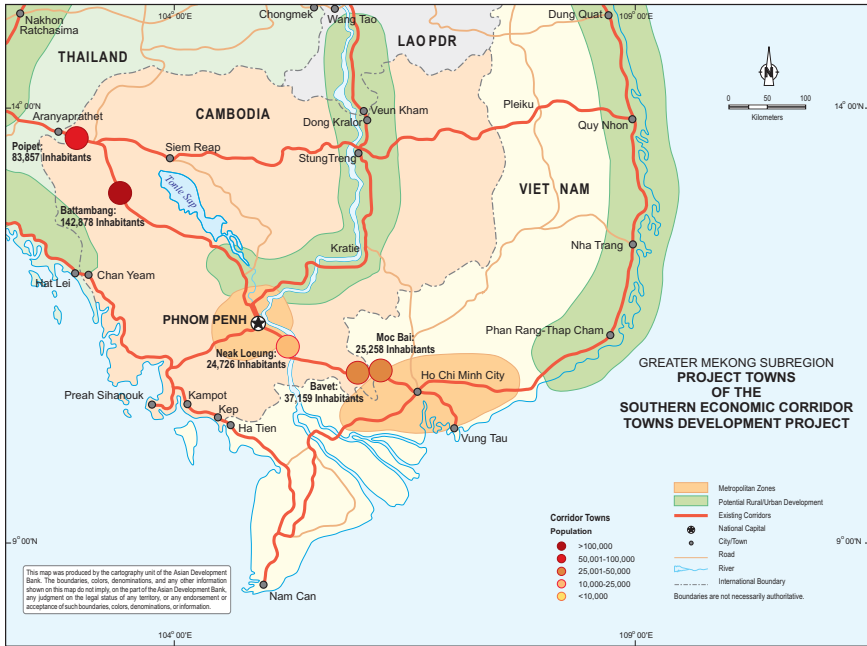
Table 3.2: Urbanization in Project Towns Based on Percentage Changes on Engagement of Working Age Group Population in Agriculture and Trade, Services, and/or Industry Sectors

City/Town	Working Age Group Population Engaged in Trade, Services, and/or Industry Sector (%)		Working Age Group Population Engaged in Agriculture (%)	
	Previous Incidence and Year	2010 Incidence	Previous Incidence and Year	2010 Incidence
Cambodia				
Battambang	(CY 2005) 4.3	8.0	(CY 2005) 47.2	32.0
Poipet	(CY 2008) 31.9	40.8	(CY 2008) 19.9	22.5
Neak Loeung	(CY 2007) 81.0	...	(CY 2007) 7.8	...
Bavet	(CY 2005) 26.94	33.88	(CY 2005) 73.06	66.12
Lao PDR				
Kaysone Phomvihane	(CY 2005) 79.06	79.67	(CY 2005) 20.94	20.33
Phine	(CY 2009) 28.24	28.51	(CY 2009) 71.76	71.48
Dansavanh	(CY 2005) 34.89	36.83	(CY 2005) 65.11	63.17
Viet Nam				
Dong Ha	...	97.1	...	2.9
Lao Bao	...	59.3	...	29.67
Moc Bai	...	94.4	...	5.6

... = data not available, CY = calendar year, Lao PDR = Lao People's Democratic Republic.

Source: Asian Development Bank. 2012. GMS Corridor Towns Development Project. *Strategic Local Economic Development Plans*. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).

Figure 3.2: Project Towns at the Southern Economic Corridor



Lao PDR = Lao People's Democratic Republic.

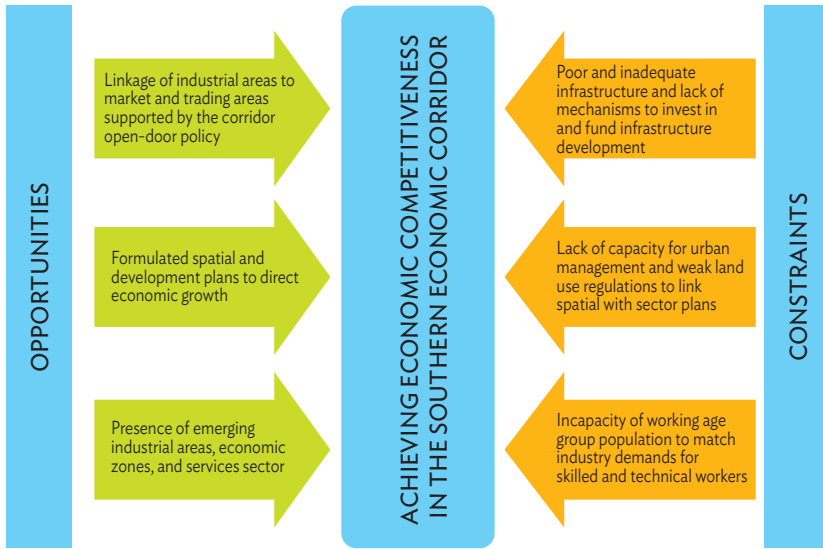
Source: Asian Development Bank.

prepared by these cities are also aimed at strengthening the linkages of the industrial and production areas with market and trading areas along the SEC. In major cities and border towns, the expansion of the service economy is starting to create new opportunities for the working age group.

A force field analysis was used to identify the constraints to the development potentials of the GMS East–West and Southern economic corridors based on field experiences working with the 10 project towns.⁵ The force field analysis model for the SEC shows the constraints that hinder opportunities for developing the competitiveness of the project towns along the SEC (Figure 3.3). The lack of investment to improve the existing state of infrastructure in these towns not only makes them susceptible to climate change and disaster impacts but also makes investing difficult given the poor infrastructure to support economic

⁵ The force field analysis is an analytical tool devised by Kurt Lewin (1890–1947), whereby an issue or desired state is “held in balance by the interaction of two opposing sets of forces”—those seeking to promote change (driving forces) and those attempting to attain status quo (restraining forces)—and organizations are systems that exist in a dynamic balance or equilibrium of forces working in opposite directions. For a change to occur, the driving forces must exceed the restraining forces.

Figure 3.3: Force Field Analysis Model of the Development Opportunities and Constraints of Five Project Towns, Southern Economic Corridor



Source: Asian Development Bank.

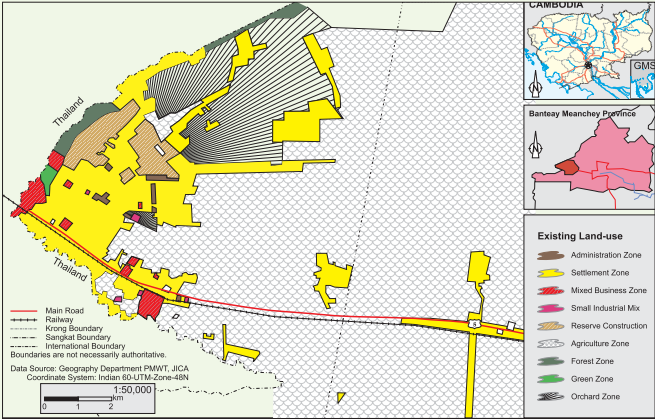
activities. Another constraint is the lack of qualified human resources to match the industry demands for skilled and technical workers. The lack of capacity of local governments to manage urban growth is another constraint, which affects the implementation of development and spatial plans that is supposed to guide the sustainable growth of these towns.

The analysis of the economic bases of the five towns along the SEC showed a balanced mix of industrial and logistics development, with centers of trade and tourism both at the Viet Nam–Cambodia and Cambodia–Thailand borders (Table 3.4). Among the five towns, only Battambang has a cultural heritage area with potential for tourism development.

Economic Characterization of Project Towns at the East–West Economic Corridor

The 1,320 km East–West Economic Corridor (EWEC) is a continuous land route stretching across Viet Nam, the Lao PDR, Thailand, and Myanmar, and provides a direct link between the Andaman Sea in the Indian Ocean and

Table 3.3: The Southern Economic Corridor Towns

Town	Summary Profile
Poipet	<p>The town of Poipet is located in the province of Banteay Meanchey, approximately 402 kilometers (km) from Phnom Penh. Poipet has a total land area of 273.14 square kilometers (km²), of which 183.54 km² (60%) are categorized as agricultural lands, shrubs, and idle lands. The town center of Poipet is characterized by the presence of several high-rise buildings functioning as hotels and recreational and gaming establishments along the main national road. Within the peripheries of these establishments are small local restaurants, guesthouses, and commercial shops.</p> <p style="text-align: center;">Poipet Land Use Map</p>  <p>The map displays the land use zones of Poipet, Cambodia. The zones are color-coded and pattern-coded as follows: Administration Zone (brown), Settlement Zone (yellow), Mixed Business Zone (orange), Small Industrial Mix (red), Reserve Construction (hatched), Agriculture Zone (green with diagonal lines), Forest Zone (dark green), Green Zone (light green), and Orchard Zone (grey with diagonal lines). The map also shows the Main Road (red line), Railway (black line with cross-ticks), Krong Boundary (dashed line), Sangkat Boundary (dotted line), and International Boundary (dashed line with triangles). A scale bar indicates 1:50,000. Inset maps show Cambodia and Banteay Meanchey Province.</p> <p>Source: Asian Development Bank. 2012. <i>GMS Corridor Towns Development Project. Poipet Strategic Local Economic Development Plans</i>. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).</p> <p>Poipet recorded a total population of 83,857 inhabitants with 20,651 families in 2010, with an average annual growth rate of 5.68%. The reported population density in Poipet is 307 persons/km². The main <i>sangkat</i> (district), which covers the town center of Poipet, has a population density of 716 persons/km². In the 2008 town census, the working age group (18–60 years old) accounts for 25,441 persons, representing 51.62% of the population, mostly residing in the town center.</p>

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Table 3.3. continued

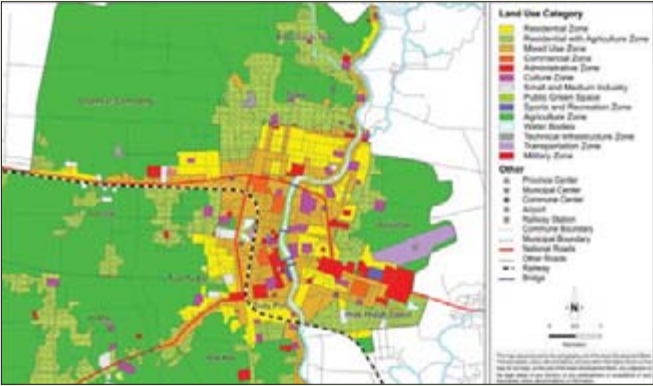
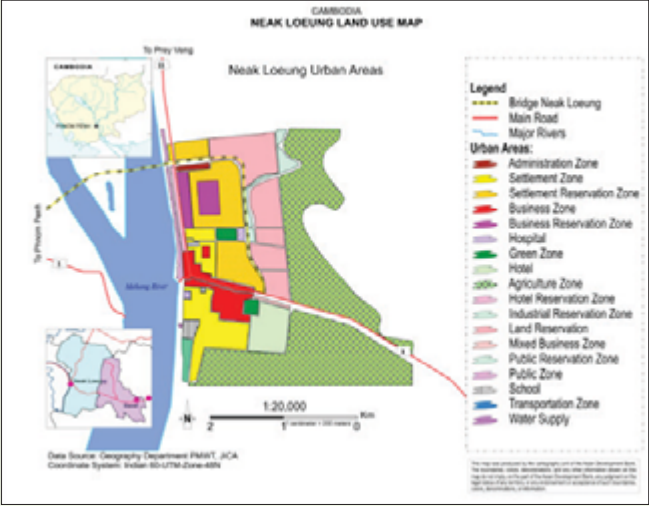
Town	Summary Profile
	<p>Poipet’s economic base has shifted from agriculture to services, with more than 40% of the working population engaged in the latter sector. This is largely due to the presence of recreational and gaming establishments, high-rise hotels, and restaurants with investments from the private sector.</p>
Battambang	<p>Battambang is situated in the northwestern part of Cambodia, about 300 km from Phnom Penh. It is renowned as the rice granary of Cambodia, supplying the major rice consumption requirement of the country in the 1970s. A major ecological resource endowment of Battambang is the Tonle Sap Lake located in the southeastern part of the municipality. The lake supplies irrigation water for agricultural production, domestic water, and is a major source of income and livelihood from fishing and fish farming.</p> <p>Battambang has a total land area of 115.44 km². The town’s major land use category is agriculture, which occupies more than 74% of the town’s total land area. The residential areas with agricultural zones represent a combined area of 18.47 km² hectares (ha), or almost 16%. The residential spaces are concentrated within the urban area along small and medium-sized roads. The residential areas with agricultural zones are situated within the suburban areas along small to medium-sized roads close to the city border limits. The mixed-use zones in Battambang, including all settlement categories in urban, suburban, and rural areas, cover a total area of 5.84 km², accounting for 5% of the total land area.</p> <p style="text-align: center;">Battambang Land Use Map</p>  <p>The map displays Battambang with various land use zones color-coded: Residential (yellow), Residential with Agriculture (orange), Mixed Use (red), Commercial (purple), Administrative (green), Culture (blue), Small and Medium Industry (light green), Public Green Space (dark green), Sports and Recreation (light blue), Agriculture (dark green), Water Bodies (light blue), Technical Infrastructure (grey), Transportation (black), and Military (red). Other features include Provincial Center, Municipal Center, Commune Center, Airport, Railway Station, Commune Boundary, Municipal Boundary, National Roads, Canal Roads, Railway, and Bridge. A legend on the right side of the map provides the key for these categories.</p>
	<p>Source: Asian Development Bank. 2012. GMS Corridor Towns Development Project. <i>Battambang Strategic Local Economic Development Plans</i>. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).</p>

Table 3.3. *continued*

Town	Summary Profile
	<p>In 2010, Battambang had a total population of 142,878 inhabitants, with 26,063 families and an average annual population growth rate of 2%. Battambang's population density of 12,666 persons/km² is one of the highest among the municipalities in the western part of Cambodia. Among the town's 10 <i>sangkats</i>, Svay Pao has the highest population density with 7,304 persons/km².</p> <p>Being a market town, Battambang's economic activities are in agriculture, industry, and services. Agriculture, combined with the fishery and forestry sectors, has always been the main source of income and livelihood of the majority of the population in Battambang. The major agricultural activities include rice production, vegetable growing, and livestock and poultry raising. The Tonle Sap Lake provides adjacent residents a means of livelihood resource. In the forestry sector, the economic activities involve craft works, furniture making, and extraction of raw materials for housing and building structures. From 2008 to 2010, local business establishments expanded in the town's urban areas, contributing to increased employment in the services sector and upsurge of economic activities.</p>
Neak Loeung	<p>The town of Neak Loeung is located within the Peam Ro District and is a traditional agricultural trading area along the Southern Economic Corridor (SEC). The town has a total land area of 29.18 km² and is located 61 km southeast of Phnom Penh. The construction of the second Mekong River Friendship Bridge will connect the east and west side of Neak Loeung and link the major towns and cities along the SEC. The town straddles National Highway 1, which runs from the capital of Phnom Penh to the town of Bavet on the border with Viet Nam.</p> <p>Neak Loeung's core urban area is 1.04 km² and has several commercial establishments such as markets, shopping stalls, hotels and guesthouses, restaurants, and financial facilities like banks and money changers. As the educational and cultural center of the Peam Ro District, Neak Loeung has several secondary and primary schools and traditional Buddhist temples and pagodas showcasing the historical and cultural heritage of what was once the center of the Golden Era of Cambodia.</p>

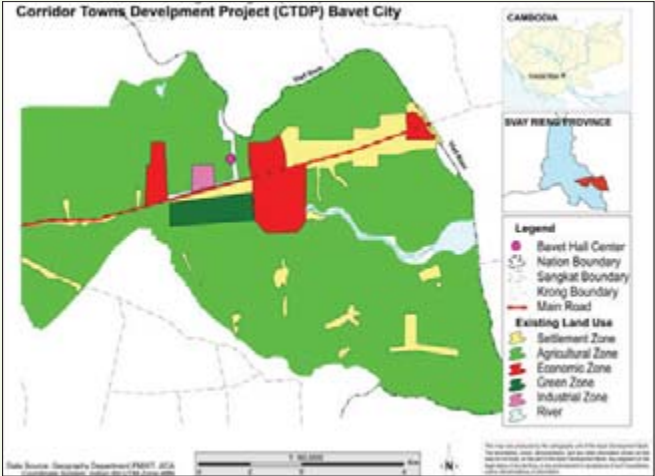
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Table 3.3. continued

Town	Summary Profile
	<p style="text-align: center;">Neak Loeung Land Use Map</p>  <p>Source: Asian Development Bank. 2012. <i>GMS Corridor Towns Development Project. Neak Loeung Strategic Local Economic Development Plans</i>. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).</p> <p>In 2008, Neak Loeung had a total population of 24,726 inhabitants, of which 12,267 are males and 12,459 females, with a total of 5,235 families. From 2005 to 2008, the town registered an annual population growth rate of 1%.</p> <p>Neak Loeung’s economic activities are in agriculture, industries, and services. The agriculture sector, composed of farming, fishery, and forestry, has always been the main source of income and livelihood of the majority of the population. The Mekong River provides adjacent residents a fishing resource for their livelihood and household incomes. In the forestry sector, the economic activities involve craft works, furniture making, and extraction of raw materials for houses and buildings. With the improved road and transport system along the corridor town, a gradual shift occurred in the town’s economic activities from the predominant agriculture, fishery, and forestry sector to the industry and services sectors.</p>

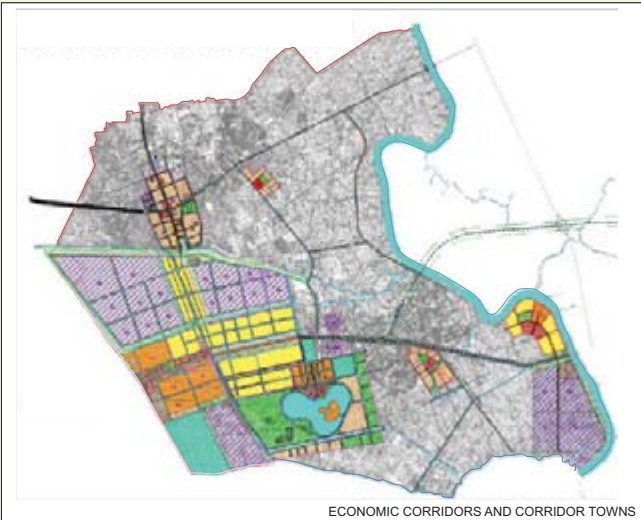
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Table 3.3. *continued*

Town	Summary Profile
Bavet	<p data-bbox="330 274 990 475">Bavet is a town situated at the Cambodia–Viet Nam border of the SEC. The town’s land use is composed of agricultural, industrial, commercial, residential, and administrative zones and is divided into five <i>sangkats</i> and 35 villages. The town has a total land area of 206.69 km² consisting of 43.10 km² of residential lands, 155.39 km² of agricultural lands, 4.04 km² of forestlands, and a remainder of 4.16 km² which will be devoted for future residential development.</p> <p data-bbox="556 505 766 531" style="text-align: center;">Bavet Land Use Map</p>  <p data-bbox="330 1031 982 1119">Source: Asian Development Bank. 2012. <i>GMS Corridor Towns Development Project. Bavet Strategic Local Economic Development Plans</i>. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).</p> <p data-bbox="330 1156 990 1269">In 2010, the town had a total population of 37,149 inhabitants with 8,321 families and a population density of 446 persons/km², with an estimated annual growth rate of 1%. The town’s projected population is estimated to be 39,043 by 2015 and 41,035 by 2020.</p> <p data-bbox="330 1303 990 1557">Bavet’s main economic activities are classified into four categories: agriculture, services, commercial, and other activities. About 66% of its population are dependent on agriculture as their source of livelihood, with 5,517 families cultivating a total rice production area of 155.39 km². Dry season farmland is about 500 ha, producing rice yields of up to about 2.5 tons/ha. There are families who are also into livestock and poultry raising and fishing. Bavet has hotels, casinos, and two special economic zones where the industry, commercial, and craft industries are located.</p>

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Table 3.3. continued

Town	Summary Profile
Moc Bai	<p>The town of Moc Bai is located at the Cambodia–Viet Nam border along the SEC and is designated by the national government and provincial people’s committee as an economic trade zone of Tay Ninh Province.</p> <p>Moc Bai has a total land area of 74.00 km² consisting of three communes: An Thanh, Ben Cau Town, and Loi Thuan. Based on the latest approved land use plan, the land area for urban development is about 74.00 km², including the built-up area of approximately 5.00 km². The urban town center has an area of 2.50 km², with the industrial zone area occupying 9.60 km² and another 6.00 km² being used for parks and ecotourism areas. The Moc Bai authorities allocated 1.50 km² as the site for the proposed technical hub. At the border area is a 3.70 km² site for commercial and business establishments that include the duty-free shop, transport terminal, and a dry port facility.</p> <p style="text-align: center;">Moc Bai Land Use Map</p>  <p style="text-align: center;">ECONOMIC CORRIDORS AND CORRIDOR TOWNS</p> <p>Source: Asian Development Bank. 2012. <i>GMS Corridor Towns Development Project. Moc Bai Bavet Strategic Local Economic Development Plans</i>. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).</p>

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Table 3.3. *continued*

Town	Summary Profile
	<p>The registered population of Moc Bai in 2010 is 25,258 inhabitants with an annual population growth rate of 1.7%. In the same year, the working age group (18–60 years old) accounted for 60% of the population—or about 15,000 people living in the urban town—in addition to over 38,000 working labor coming from outside Moc Bai (both in-province and out-of-province). People living in the urban center of the town accounted for 7,362, or 29.2% of the total population, with the remainder residing in the communes and rural villages. The dominant ethnic group in Moc Bai are the Kinhs, representing almost 95% of the population.</p> <p>The major source of income among local residents are the industrial, services, and commercial sectors. At least 34 enterprises have been operating in the industrial zones in Moc Bai. Of 60 registered companies, 47 have been operating in the nontariff area belonging to the economic zones at the border gate, including one market invested by the Saigon Trading Group which is expected to be converted into a supermarket; 2 trade centers built by Level 1 investors for transfer or lease to business locations, consisting of 7 supermarkets; and 39 duty-free shops. In terms of tourism, it is estimated that there were over 3.5 million tourist arrivals in 2009 and about 4 million in 2010.</p>

Source: Asian Development Bank.

Table 3.4: Crosscutting Economic Drivers of the Project Towns, Southern Economic Corridor

Poipet	Battambang	Neak Loeng	Bavet	Moc Bai
Logistics	Market center	Market center	Logistics	Logistics
Casino tourism	Urban heritage	Transport hub for river transport	Industrial zone	Industrial zone
Industrial zone			Casino tourism	

Source: Asian Development Bank.

the sea south of the PRC, east of Viet Nam, and west of the Philippines. The notable geographical features of the East–West Economic Corridor (EWEC) are the commercial nodes linking each member country; border nodes and checkpoints between each country; gateway nodes, particularly the ports in Da Nang in Viet Nam and Mawlamyine in Myanmar; and the interchange nodes, which link the EWEC to the other economic corridors of the GMS.

Under the project, five towns are covered in the EWEC: Kaysone Phomvihane, Phine, and Dansavanh in the Lao PDR and Lao Bao and Dong Ha in Viet Nam (Figure 3.4). Table 3.5 provides an overview of the profile of each town.

In the EWEC, the strengths, weaknesses, opportunities, and threats (SWOT) analysis indicated that the common result for all five towns is the realization of the importance of having spatial plans and other developments to guide their full progress. Factors that could be counted on to enhance the economic competitiveness of the towns and the EWEC include opportunities for potential foreign direct investment with the emergence of several industrial areas and economic zones, cross-border cooperation for agricultural development, and other economic cooperation initiatives between towns and countries.

Figure 3.4: Corridor Towns Development Project Towns at the East–West Economic Corridor




Source: Asian Development Bank.

Table 3.5: The East–West Economic Corridor Project Towns

Town	Summary Profile
Kaysone Phomvihane	<p>Kaysone Phomvihane is a major agro-industrial processing center located at the Lao People’s Democratic Republic (Lao PDR)–Thailand border linked by the new Friendship Bridge built across the Mekong River. The total land area of Kaysone Phomvihane is 779.03 square kilometers (km²) and it is divided into 31 villages situated along mostly flat and gently undulating land. The Savan–Seno Special Economic Zone (SaSEZ), with an area of 82.00 km², is located in the northern part of the town. The town center is characterized by thriving trading and commercial activities, including production of goods in Kaysone Phomvihane and trade of goods imported from Thailand and Viet Nam. The town center is divided into zones or areas, including the old city center with heritage buildings remaining from the French period. Around the old city center is the core business district, which includes banks, shops, hotels, and restaurants located along the major city thoroughfare.</p> <p>The population of the town in 2010 was 76,905 with 12,252 households, of which 38,914 are females and 37,991 are males. The working age group (14–60 years old) in Kaysone Phomvihane constitutes more than 68% of the current labor force. However, low-level skills and educational attainment hinder their opportunities for employment in the services and industry sectors. Given its agricultural resource base, more than 38% of households are engaged in agricultural activities in crop farming, particularly rice production, livestock and poultry raising, and fish farming.</p> <p>The service, industry, and commercial sectors are the major source of employment and income for local inhabitants who work in both private business establishments and government institutions. The town also has a total of five market trading centers that cater to the economic trade and commercial services activities of the town. This is expected to increase over the next 2 decades with the anticipated increase in the number of industry locators in the SaSEZ. As regards agriculture, rice is the predominant product in Kaysone Phomvihane. Others include rubber, eucalyptus, and aga wood. Livestock and fish farming are being promoted as alternative livelihoods by the government in the villages. Tourism is another sector expected to grow in the coming years in Kaysone Phomvihane.</p>

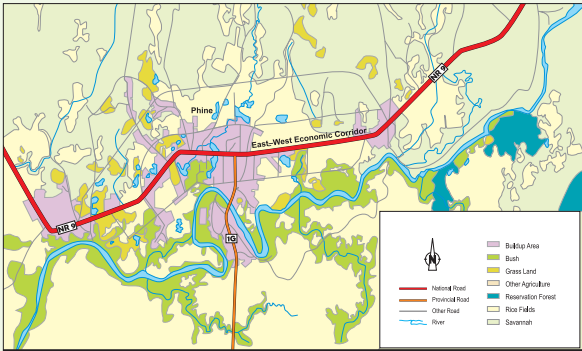
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Table 3.5. continued

Town	Summary Profile
	<p style="text-align: center;">Kaysone Phomvihane Land Use Map</p>  <p>Lao PDR = Lao People's Democratic Republic, SaSEZ = Savan–Seno Special Economic Zone.</p> <p>Source: Asian Development Bank. GMS Corridor Towns Development Project. <i>Kaysone Phomvihane Strategic Local Economic Development Plans</i>. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).</p>
Phine	<p>Phine is a market town situated at the road junction connecting the EWEC through a bypass road leading south to Saravan Province and National Road No. 9. The town's land use is allocated for agricultural, commercial, and services areas. Residential and commercial mixed-use areas along the National Road occupy approximately 3.00 km². The town center where the majority of population resides has an area of about 0.81 km². A 0.62 km² area within the town center has been designated as an urban green area where new developments are prohibited. The town center of Phine is characterized by thriving trading and commercial activity for goods and services produced in Kaysone Phomvihane and those imported from neighboring countries, particularly Thailand and Viet Nam. The other side of the town serves as the district administrative center.</p>

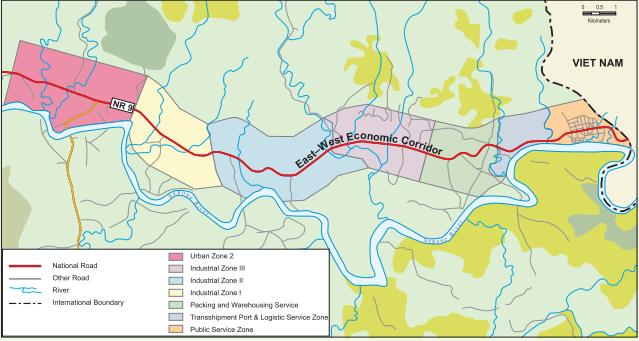
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Table 3.5. continued

Town	Summary Profile
	<p>Phine has five villages with a total population of 5,643 inhabitants distributed across 909 households. Considered one of poorest districts in the province of Kaysone Phomvihane, more than 70% of its working age population (those 15 years old and above) is engaged in agriculture and forestry. Those employed in the commercial and services sectors account for only 2.3% and those in industry and handicraft are less than 1%.</p> <p style="text-align: center;">Phine Land Use Map</p>  <p>Source: Asian Development Bank. 2012. GMS Corridor Towns Development Project. <i>Phine Strategic Local Economic Development Plans</i>. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).</p> <p>The main economic activities in Phine are agricultural production and services. Crops cultivated in the town include rice, rubber, and eucalyptus. Phine had a total of 213 enterprises and commercial shops in 2010. This includes 10 enterprises in agricultural production and processing, 55 handicraft enterprises, 98 commercial stores, and 50 service enterprises.</p>
<p>Dansavanh</p>	<p>Dansavanh is a trade town bordering the Lao PDR, with Viet Nam located in the Sepon District, and connected via a 20-kilometer (km) long special economic zone with Dongsavanh, the customs point and headquarters of the Dansavanh Border Trade Zone Authority.</p> <p>Dansavanh has a total land area of 2.49 km² divided into specific areas for certain land uses. This includes a town center (0.21 km²), commercial and services zone (2.89 km²), residential and small service or enterprise area (0.82 km²), agriculture zone (1.1 km²), and an urban green belt of about 0.08 km² serving as restricted open space and buffer area where construction of new developments are prohibited. The core urban area of Dansavanh is a strip of residential and commercial developments and temporary dwellings along National Road No. 9.</p>

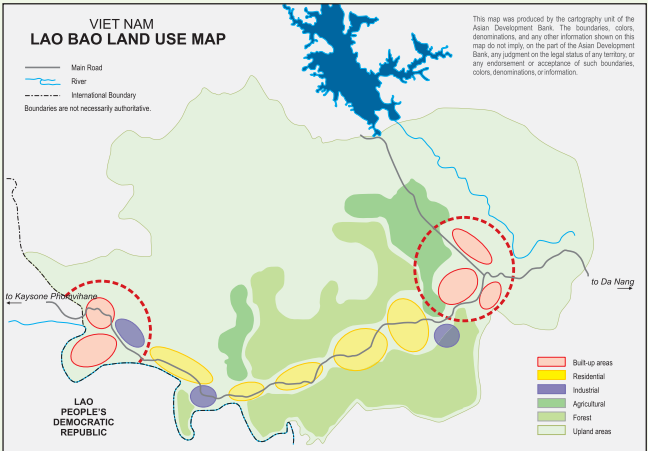
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Table 3.5. continued

Town	Summary Profile
	<p style="text-align: center;">Dansavanh Land Use Map</p>  <p>Source: Asian Development Bank. 2012. GMS Corridor Towns Development Project. <i>Dansavanh Strategic Local Economic Development Plans</i>. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).</p> <p>The Dansavanh Border Trade Zone (DBTZ) comprises eight villages with a total population of 7,296 inhabitants distributed across 1,226 households, including three major ethnic groups in the zone area: (i) the Phouthai, a subgroup of the Lao–Tai ethnolinguistic group (39%); (ii) the Tri, a subgroup of the Mon–Khmer ethnolinguistic group (60%); and (iii) the Makong group, also part of the Mon–Khmer group (11%). The population in the DBTZ is expected to increase to 8,894 by 2020 and to 10,841 by 2030. The working age group (14–60 years old) constitutes more than 49.47% of the current labor force.</p> <p>The DBTZ is the key economic resource endowment of Sepone District. It is situated in a 40.00 km² area of flat and undulating to rolling lands along National Road No. 9. Potential areas for agricultural development such as rice, banana, and rubber are located in the flat and hilly lands of the town. The DBTZ currently has 15 investors engaged in manufacturing, construction, and services, including a motorcycle tube factory and 12 construction firms. The Sepone District still has a predominantly agriculture-based economy and is considered a low-income district in Kaysone Phomvihane. The biggest percentage of households is engaged in agriculture and forestry at 97.21%, with income generation based on agricultural products. Those engaged in industry and handicraft make up only 0.19 %, and in commerce and services 2.60%.</p>

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Table 3.5. continued

Town	Summary Profile
Lao Bao	<p>Lao Bao is located at the intersection of National Road No. 9 and National Road No. 1, linking the Lao PDR, Thailand, and Myanmar in the district capital of Huong Hoa District, with a total land area of 17.01 km² divided into 12 villages. The land use allocations for the town are distributed into trade areas, service centers, tourism, industrial parks, new residential areas, and cultural and social welfare centers.</p> <p style="text-align: center;">Lao Bao Land Use Map</p>  <p>Source: Asian Development Bank. 2012. GMS Corridor Towns Development Project. <i>Lao Bao Strategic Local Economic Development Plans</i>. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).</p> <p>In 2010, Lao Bao’s population was 9,974 people (4,996 males and 4,978 females) distributed across 2,074 households, with an annual population growth rate of 2.85%. The town has a working age population group (15–64 years old) of 5,056 people in addition to over 100 workers coming from outside the town. There are three main ethnic groups in Lao Bao: Kinh (8,641 people), Van Kieu (1,288 people), and Paco (33 people). The average density in the Lao Bao is 578.8 persons/km². Lao Bao is a part of the Lao Bao Special Economic and Trade Zone that includes two towns and five communes.</p>


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Table 3.5. *continued*

Town	Summary Profile
	<p>Lao Bao has emerged as a traffic node between Viet Nam and the Lao PDR on the Trans-Asian Highway, with regular movement of haulers for trade and services (56.7%), industry and construction (34.7%), and agroforestry products (8.6%). The associated activities have also become a major source of income among local residents. This includes 50 private enterprises, 3 companies with foreign investment, 1 state enterprise, and 618 individual businesses. Lao Bao is also thriving with establishments for commercial services with its market and trade center, dry port and logistics facilities, and tourism activities where the main showcase is the duty-free supermarket that draws an average of 500 shoppers per day.</p>
Dong Ha	<p>Dong Ha City is located in Quang Tri Province in Viet Nam's central region and is considered the province's capital center for economic, cultural, and political activities. It is located at the intersection of National Road 1A and Road 9, about 70 km from Hue City and 83 km from Lao Bao in the Viet Nam–Lao PDR border area.</p> <p>The city is divided into nine wards and has a total land area of 72.96 km², which is classified into three uses: agricultural cultivation, nonagricultural production, and uncultivated or unused lands. Dong Ha has over 40.00 km² of agricultural land, or about 55.5% of the city's total land area. This includes areas for agricultural crop cultivation, forest production, and water surface for aquaculture production. The city's nonagricultural land of 30.00 km² is a built-up area for residential and commercial use, with portions used as single-purpose lands. The unused or idle land—mostly grasslands and shrubland—has an area of 164 ha.</p> <p>In 2010, Dong Ha had 83,191 inhabitants with an annual population growth rate of 1.19%. Dong Ha's population density is 1,140 persons/km². Ward 1 has the highest density with 9,023 persons/km², while Ward 3 has the lowest with 292 persons/km².^a</p>

continued on next page

Table 3.5. continued

Town	Summary Profile
	<p>The main economic activities in the city include trade and services, industry and construction, agriculture, and tourism. Every year, thousands of visitors come to Dong Ha to see the historic revolution landscapes in the vicinity of the city, which used to be part of the country's demilitarized zone. In 2010, the city registered more than 350,000 tourist arrivals and 7,694 commercial establishments and business enterprises engaged in tourism and services, with the majority coming from private sector investments. There are 639 private enterprises registered in Dong Ha that employ about 12,346 workers. The city also has three industrial zones. In the Nam Dong Ha Industrial Zone alone, there are 17 industry locators with a combined registered capital of 252 billion dong.</p> <p style="text-align: center;">Dong Ha Land Use Map</p>  <p>The map is titled 'VIETNAM QUANG TRI PROVINCE - DONG HA CITY REVISED MASTER PLAN 2020'. It features a legend with 18 categories of land use, each represented by a different color and symbol. The categories include: Public (red), Residential (orange), Industrial (purple), Agricultural (green), and various other zones like schools, hospitals, and parks. The map shows the city's layout with roads, rivers, and these designated zones. Key roads like Tran Phu, Tran Hung Vuong, and Tran Phu are labeled. The city is situated near the border with Laos, with the DMZ (Demilitarized Zone) indicated.</p> <p>Source: ADB. 2012. GMS Corridor Towns Development Project. <i>Dong Ha Strategic Local Economic Development Plans</i>. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).</p>

^a A ward is the smallest unit of government in towns and cities of Viet Nam.

Source: Asian Development Bank.

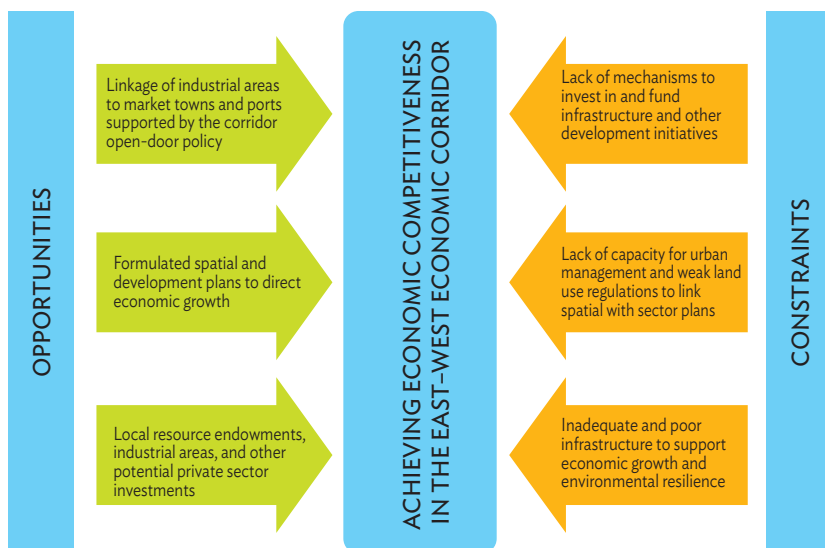
The primary development constraint based on the SWOT analysis is poor infrastructure conditions, which hamper the progress of economic activities and increase the vulnerability of these towns to possible climate change impacts such as floods and economic displacement caused by increased frequency of typhoons. The inadequate infrastructure in these towns may also lead to the worsening of other existing environmental problems such as solid waste disposal and sanitation. This is further aggravated by inadequate and insufficient mechanisms for encouraging investments in infrastructure development.

Based on the force field analysis model, the summary of opportunities and constraints in the towns along the EWEC to achieve economic competitiveness (Figure 3.5) illustrates that even though the towns have prepared development plans, available indigenous resources, and potential private sector investments, the lack of adequate infrastructure to support economic activities and resilience to disasters and other environmental problems hinders the full development of these towns. The lack of mechanism for encouraging investments and other means to fund development projects also hinders the realization of the objectives and targets of the development plans of the towns.

The analysis of the economic bases of the five towns along the EWEC exhibited an emerging cluster of industrial zones and logistics and transport facilities, particularly at the Viet Nam–Lao PDR border (Table 3.6). Other economic activities such as tourism and duty-free trading offer additional income opportunities for the local populace, especially in the services sector. The tourism development potentials in the EWEC can be propelled with the hinterland areas near the towns of Lao Bao, Dansavanh, and Phine, and the cultural and historical urban environment of Dong Ha and Kaysone Phomvihane.

Overall, both the EWEC and SEC have served as critical gateways between the GMS countries and have been instrumental in the development of cross-border economic activities, which can enhance the competitiveness of the towns located along these corridors. One of the key benefits gained by the GMS countries are expanded linkages of products from the rural areas and hinterlands for import and export, particularly in serving as a key supply chain of raw materials for industry locators in the export processing zones and industrial areas located along the border towns. Other potential economic opportunities for the GMS countries along the EWEC and SEC are import and export of agricultural products for mass consumption, specialized labor, cross-border tourism including casino tourism, cross-border energy distribution, and logistics.

Figure 3.5: Force Field Analysis Model of the Development Opportunities and Constraints of Five Project Towns, East–West Economic Corridor



Source: Asian Development Bank.

Table 3.6: Crosscutting Economic Drivers of Project Towns, East–West Economic Corridor

Kaysone Phomvihane	Phine	Dansavanh	Lao Bao	Dong Ha
Logistics	Market town	Logistics	Logistics	Logistics
Industrial zone		Industrial zone	Industrial zone	Industrial zone
Urban heritage		Ecotourism	Ecotourism	Emerging transport hub
			Duty-free trade	

Source: Asian Development Bank.

Implementing the First Greater Mekong Subregion Corridor Towns Development Projects

The implementation of the three GMS corridor towns development projects will represent new challenges since they are multisector and multitown projects. Provincial institutions and project management support consultants under the project will assist participating towns to help build the required capacity to sustain and maintain the new facilities. The participating towns will be expected to collect fees and charges for wastewater and solid waste to recover the cost for operation and maintenance (O&M) expenditures. This will be a relatively challenging experience since they have operated so far mostly in a subsidy-prone environment. Technical and administrative capacities of project staff will need to expand to be able to rise to the tasks of O&M. This will also include the dimensions of social and environmental safeguards and compliance with ADB requirements for effective project implementation. The possibility of delayed or incomplete settlement of land acquisition and resettlement entitlements needs to be contemplated as an implementation risk that requires attention during implementation. The benefits of these projects—increased competitiveness of the participating towns due to their improved environmental performance—shall merit the above risks. The expected benefits will improve the living environment and health status of the urban residents, especially of the poor.

Economic and Financial Viability Analysis of the Project Investments

Analysis of the economic and financial viability of the proposed subprojects demonstrated positive results. Computing for the cost-benefit of each subproject depended on their nature. Among the considerations in quantifying the economic benefits are savings in vehicle operating costs and travel time for road subprojects; health benefits, reduction in flood damage, and productivity improvement for drainage and flood control subprojects; economic efficiency and cost reduction impacts of recovering recyclable wastes for materials recovery facility (MRF) subprojects; and willingness and capacity to pay of intended beneficiaries for water supply, wastewater system, and solid waste management subprojects. Besides households, the other targeted beneficiaries of these projects include road users, the business sector, tourists and tourism service providers, and property owners. The base-case results indicate all components are economically viable with an estimated economic internal rate of return exceeding the assumed economic opportunity cost of capital of 12%, with results ranging from 12% to 32%. Except for the Neak Loeng flood protection subproject, sensitivity tests also show that the subprojects are still

viable under adverse scenarios in which costs were higher or benefits lower by 10% than the base case.⁶

Financial analysis on the revenue-generating projects, which include MRF for waste recycling, solid waste management, river port rehabilitation, water supply, and wastewater treatment, yielded financial rate of returns ranging from 2% to 23%, all above the computed weighted average cost of capital. The main consideration for the financial viability analysis is the level of fees that can be collected from their operations. For nonrevenue generating projects such as flood control and roads, their respective governments will cover the costs for O&M from their annual budget allocation.⁷

Environmental and Social Impacts

All the subprojects are classified as category B (limited impact) on environmental impacts, as they are not expected to cause any irreversible adverse environmental impacts. The initial environmental examinations conducted for each subproject showed that the environmental impacts are site-specific and construction-related, which can be mitigated with good practices in construction. The mitigation measures will be implemented through the environmental management plans. These plans will form part of the contract bidding documents. For wastewater treatment and solid waste management subprojects, the final receiving environments will be further evaluated during the preparation of the detailed engineering design to guarantee that local groundwater and human use of the affected areas are not adversely affected (footnote 7).

The subprojects are all classified as category C (no impact) on indigenous peoples as there is no impact on any indigenous communities, including recognized sacred sites and traditions. The beneficiary communities are likewise supportive of the subprojects, as they can see clear and direct benefits for them. Moreover, the indigenous communities are located far from the urban centers where the subprojects will be implemented (footnote 7).

⁶ ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Kingdom of Cambodia for the Greater Mekong Subregion Southern Economic Corridor Towns Development Project*. Manila; ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Lao People's Democratic Republic for the Greater Mekong Subregion East-West Economic Corridor Towns Development Project*. Manila; ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Socialist Republic of Viet Nam for the Greater Mekong Subregion Corridor Towns Development Project*. Manila.

⁷ R. Dobbs, J. Remes, and F. Schaer. 2012. *Unlocking the Potential of Emerging-Market Cities*. McKinsey Global Institute. www.mckinseyquarterly.com/Unlocking_the_potential_of_emerging-market_cities_3015

For involuntary resettlement, the subprojects in the Lao PDR are classified as category B. Only two affected households in Dansavanh will require relocation and all other impacts are partial and temporary. These will entail a total cost of \$1.72 million, including base costs, allowances, and contingencies. In Cambodia and Viet Nam, the project fell under category A (high impact) on involuntary resettlement. For Cambodia, the Neak Loeung Flood Protection Subproject will affect 63 households, losing more than 10% of their productive land. The Battambang Flood Protection Subproject will have five households requiring relocation, and another one under the Poipet Flood Control Project. The total resettlement cost for Cambodia under the project is at \$1.65 million. In Viet Nam, a total of 61 households will require relocation in Dong Ha, Lao Bao, and Moc Bai, with a total resettlement cost of \$12.87 million. To mitigate these impacts, resettlement plans have been prepared for each town. These resettlement plans will be reviewed for further improvements during the preparation of the detailed engineering designs of the subprojects. Information about the project and the impacts of the subprojects has been disclosed during the project preparatory technical assistance (PPTA) among the affected households in the respective towns. A project information booklet will be prepared and distributed to the communities during the phase of the preparation of the detailed engineering designs (footnote 7).

Operation and Maintenance of the Urban Infrastructure

During project implementation, the project management units under the executing agency will coordinate with the respective province or district government offices on the O&M requirements for the new infrastructure. The project management consultants will prepare an O&M manual based on these requirements and conduct a series of capacity-building workshops with these province or district government offices prior to the completion of civil works and other construction-related activities. This will be done to prepare the respective province or district government offices for the turnover of the new infrastructure and to take charge of their O&M in coordination with the town governments. Project management consultants will also conduct a series of workshops for the preparation of an O&M plan that will cover (i) the specific roles and responsibilities for continuing O&M of the subproject and (ii) indicative cost and sources of funds for O&M. The project management consultant will also develop a maintenance program that will optimize the subproject costs and maximize the use of equipment or facilities in a cost-effective manner.⁸

⁸ ADB. 2012. GMS Corridor Towns Development Project. Manila (TA 7644 REG, \$2.9 million approved on October 2010, financed by the Technical Assistance Special Fund, the Pilot Program for Climate Resilience, and the Urban Financing Partnership Facility).

Implementation Issues and Risks

There are three common underlying risks and issues identified during project preparation that may impact the implementation of the project in the three countries: (i) the likeliness that governments of the corridor towns would be unable to fully collect all potential revenues and other associated tariffs from revenue-generating infrastructure services (water supply, wastewater, and solid waste management); (ii) preparedness of the governments of the corridor towns to take on the responsibility for O&M of the subprojects; and (iii) possible delays in the settlement of land acquisition and resettlement entitlements. Other issues identified are risks in procurement processes; limited budget for O&M; and limited institutional capacities to address environmental and social safeguards and gender issues, assure quality control, and monitor and evaluate (footnote 7).

Risk management plans for each country have been prepared during the project preparation to address these issues and risks. These measures include proposed mechanisms for revenue or tariff collection; capacity-building activities to strengthen project management and O&M capacities of local governments, including financial management and safeguards; transparency measures for procurement activities; and recommendations for clearer entitlement provisions in the resettlement plans.

Expected Long-Term Impacts and Outcomes

As a long-term impact or goal, the project is expected to make the 10 towns as centers of dynamic economic growth, trade, and investments in the East–West and Southern economic corridors of the GMS (see Figure 3.6. on the location of first corridor towns project along the GMS corridors). With the improved infrastructure as an outcome of the Corridor Towns Development Project, the project is expected to address the problems of inadequate provision of urban infrastructure in the 10 towns. Hence, this would result in the realization of the goal of the project that will support the GMS Strategic Framework's thrust in transforming the GMS transport corridors into full-fledged economic corridors (footnote 7).

The fast-growing GMS corridor towns will contribute to unlocking the potentials of the emerging markets of Cambodia, the Lao PDR, and Viet Nam. As per McKinsey Global Institute, a group of about 440 emerging-market cities are poised to deliver close to half of global gross domestic product (GDP)

Figure 3.6: First Corridor Towns Development Projects, Greater Mekong Subregion Corridor Towns



GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic.

Source: Asian Development Bank.

growth by 2025.⁹ Infrastructure investments in these urban areas to strengthen connectivity with the rural hinterlands—where sources of locally produced raw materials and products and nature-tourism destinations are located—are key elements to maximize the benefits of the locational advantages of these market cities and towns in the GMS and realize these projections. Additional investments in economic infrastructure facilities to support local traders and producers also offer opportunities to tap the informal sector and make them part of the mainstream of local economic development. This can be done through institutional measures and mechanisms to provide access to affordable credit-for-capital through microfinance lending schemes or other similar credit modalities.

Public sector investments will be important as front-end initiatives, but these public investments will be complemented by numerous private sector investments. It can be assumed that for every dollar invested by the public sector, there will be three- to fourfold private sector investments in these towns. And the stimulation of these private investments is a major justification for the public sector engagement. Besides easing the burden of financing public investments from the government, private sector investment and partnerships also offer opportunities for technology and knowledge transfer through research and development, which is one of the key factors for sustaining a city's competitiveness.

Given the interest of GMS countries to participate in the proliferation of the green economy, and the private sector's drive toward establishing green industries, cities will have to become the platforms for clean production. The implications for city environments are quite far-reaching as this means that cities will have to rise to the challenge of environmental sustainability in industries and urban environment. For the GMS as a subregion and for the economic corridors, this turn toward a green economy will also have implications in the way GMS cities or entire corridors will market their capacity and quality as green economic corridors. The initiatives of industries or geographical regions to label or certify their operations as ecologically friendly or sustainable (e.g., "Green Seal Certified"; "EcoLogo" for environmental choices; "green-e" for certified renewable energy; and others) may, in the future, become the trademark of entire corridors or urban cluster regions. Economic growth supported by a sound environmental sustainability agenda will not only help strengthen the

⁹ R. Dobbs, J. Remes, and F. Schaer. 2012. *Unlocking the Potential of Emerging-Market Cities*. McKinsey Global Institute. www.mckinseyquarterly.com/Unlocking_the_potential_of_emerging-market_cities_3015

competitiveness of cities and towns in the GMS but also promote inclusive growth through improved environmental quality (i.e., clean air and water), translating into social and economic benefits.

While metropolitan regions are increasingly driving Asia's economic growth, medium-sized towns are quickly catching up. Like all other urban areas, medium-sized towns are emitters of greenhouse gases and are highly exposed to risks from natural hazards, including impacts of climate change. Medium-sized towns will require location-specific strategies for low-carbon, resilient urban development—as much as larger cities and metropolitan regions do. Among the emerging challenges for medium-sized towns is the integration of intermediate cities into the functional network of larger urban agglomerations, growth corridors, and metropolitan areas. This is part of a process of reconfiguring a country's urban system. Intermediate cities are seen as a good testing ground for proposals of the future city, in terms of urbanity and the sustainability of cities.

The broader hypothesis of the GMS corridor towns development projects is that the improvement of urban infrastructure will enhance the local GDP by 1%–2%. A stronger and reinforced system of cities will emerge, which will represent a new economic geography. This will be made possible with the enhanced connectivity across borders, resulting in the expansion of supply and production chains in and between the different economic sectors of each country.

Appendix: List of Subprojects

Table 3A.1: Subprojects under the Southern Economic Corridor Towns Development Project, Cambodia

Subproject Name and Location	Subproject Justification
1. Battambang Wastewater Treatment	The subproject will provide wastewater treatment services to the large majority of the town's population and help boost tourism and other development initiatives. The facility will be adapted to mitigate the impacts of climate change.
2. Battambang Flood Control	The subproject will help to reduce flooding within this city of trade and tourism and is an important initiative of climate resilience.
3. Battambang Materials Recovery Facility	This waste separation facility will support waste recycling operations and help reduce waste accumulation in the existing dumpsite. This facility will be the first of its kind to receive financial assistance from the Asian Development Bank.
4. Bavet Wastewater Treatment	The subproject will provide wastewater treatment services to the large majority of the town's population and help boost tourism and other development initiatives. The facility will be adapted to the possible impacts of climate change.
5. Bavet Urban Roads	The subproject will help decongest the Southern Economic Corridor near the town center and will stimulate growth of business and commercial investments.
6. Bavet Materials Recovery Facility	This waste separation facility will support waste recycling operations and help reduce waste accumulation in the existing dumpsite.
7. Neak Loeung Flood Protection	This subproject will stimulate land subdivisions and urbanization of this small town. The subproject is an important measure for climate resilience.

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Table 3A.1. *continued*

Subproject Name and Location	Subproject Justification
8. Poipet Wastewater Treatment	The subproject will provide wastewater treatment services to the large majority of the town's population and help boost tourism and other development initiatives. The facility will be adapted to mitigate the impacts of climate change.
9. Poipet Solid Waste Management	The subproject will promote sound environmental practices in solid waste disposal in this emerging industrial town and tourism destination.
10. Poipet Materials Recovery Facility	This waste separation facility will support waste recycling businesses and help reduce waste accumulation in the existing dumpsite.

Source: Asian Development Bank.

Figure 3A.1: Selected Urban Environmental Conditions to Be Addressed by Investment Projects in Cambodia

<p>Battambang Wastewater Treatment Plant—capacity to be expanded and facility to be become flood-proof</p> 	<p>Battambang—drainage and expansion of flood control</p> 
<p>Bavet—widening of Southern Economic Corridor within Bavet Town</p> 	<p>Bavet—wastewater management and establishment of wastewater treatment plant</p> 
<p>Neak Loeung—flood control and development of ring dike</p> 	<p>Poipet—solid waste management through establishment of sanitary landfill</p> 

Source: F. Steinberg.

Table 3A.2: Subprojects under the East–West Economic Corridor Towns Development Project, Lao People’s Democratic Republic

Subproject Name and Location	Subproject Justification
1. Kaysone Phomvihane Wastewater Treatment	This subproject will improve existing storm water drainage and sewage pipelines, and provide wastewater treatment capacity for more than 80% of the local population. The subproject will contribute to make Kaysone Phomvihane less flood-prone. It will improve health conditions of the population and earn revenues for the local authority.
2. Kaysone Phomvihane Urban Roads	This subproject will contribute to the urban expansion and consolidation of Kaysone Phomvihane, making it a more competitive town. It will trigger substantial private investments in residential buildings and commercial spaces and ease through-traffic flows.
3. Kaysone Phomvihane Solid Waste Management	This subproject will promote sound environmental practices in solid waste collection, and improve the citywide collection system. The subproject includes closure of the old dumpsite and building of a new sanitary landfill. It will improve outreach of the collection services, contribute to public health impacts, and earn revenues for the local authority.
4. Kaysone Phomvihane Mekong River Embankment Protection	This subproject will mitigate the erosion of the river slopes and secure space for economic use, tourism promotion, and enhancement of the cultural heritage zone. The subproject will be part of the new face of Kaysone Phomvihane as an attractive and competitive town.
5. Kaysone Phomvihane Materials Recovery Facility	This waste separation facility will support waste recycling operations and will help reduce waste accumulation in the existing dumpsite.
6. Phine Urban Roads	The subproject will contribute to the urban expansion and consolidation of Phine. The road improvement will be combined with drainage structures and will help reduce the adverse effects of perennial flooding.
7. Dansavanh Urban Road	This subproject will help stimulate the growth of the town and market center near National Highway No. 9, and will trigger substantive private sector investments. The road will help decongest the East–West Economic Corridor and guide new developments.

Figure 3A.2: Selected Urban Environmental Conditions to Be Addressed by Investment Projects in the Lao People’s Democratic Republic

<p>Kaysone Phomvihane—wastewater collection and decentralized facilities for treatment</p> 	<p>Kaysone Phomvihane—improvement and expansion of sanitary landfill</p> 
<p>Kaysone Phomvihane—urban road widening</p> 	<p>Kaysone Phomvihane—river embankment</p> 
<p>Pine—urban roads construction</p> 	<p>Dansavanh—urban road widening and bridge construction</p> 

Source: F. Steinberg.

Table 3A.3: Subprojects under the Corridor Towns Development Project, Viet Nam

Subproject Name and Location	Subproject Justification
1. Dong Ha Urban Roads	This subproject will contribute to the urban expansion and consolidation of Dong Ha, and improve access and mobility of residents to social and economic services. The accompanying drainage structure will contribute to flood control.
2. Dong Ha River Embankment	The subproject will protect the river embankment from perennial erosion and mitigate flooding of adjacent areas. Adjacent commercial spaces will become more viable.
3. Dong Ha River Port Rehabilitation	This improved port will boost trading and commercial activities and attract private sector investments. It will help proliferate the competitiveness of Dong Ha.
4. Dong Ha Materials Recovery Facility	This waste separation facility will support waste recycling operations and help reduce waste accumulation in the existing dumpsite.
5. Lao Bao Urban Roads	This subproject will contribute to the urban expansion and consolidation of Lao Bao, and improve access and mobility of residents to social and economic services. The accompanying drainage structure will contribute to flood control. It will attract investments in the Special Economic and Trade Zone.
6. Lao Bao Solid Waste Management	The subproject will improve solid waste collection, transport, and disposal system in the town center and the neighboring Khe San township.
7. Moc Bai Water Supply	The subproject will improve and expand the water supply system to service additional households and commercial users. It will contribute to improved urban environmental conditions and mitigate health risks due to inadequate water supply.







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Table 3A.3. *continued*

Subproject Name and Location	Subproject Justification
8. Moc Bai Urban Roads	The subproject will provide ease of access and mobility of local residents to social and economic services and will contribute in stimulating increased economic activities in the town.
9. Moc Bai Wastewater Treatment	The subproject will improve the collection, disposal, and treatment of wastewater to mitigate the adverse effects of contamination of the local environment, benefiting residents and commercial industries alike.
10. Moc Bai Materials Recovery Facility	This waste separation facility will support waste recycling operations and help to reduce waste accumulation in the existing dumpsite.

Source: Asian Development Bank.

Figure 3A.3: Selected Urban Environmental Conditions to Be Addressed by Investment Projects in Viet Nam

<p>Dong Ha—waste management</p> 	<p>Dong Ha—river embankment</p> 
<p>Dong Ha—road widening</p> 	<p>Dong Ha—river port rehabilitation</p> 
<p>Lao Bao—road widening</p> 	<p>Moc Bai—wastewater treatment plant</p> 

Source: F. Steinberg.

Chapter 4

Bangkok to Ho Chi Minh City: Competitiveness along the Southern Economic Corridor¹

Alain Maulion and Florian Steinberg

Introduction

Cities and towns in the Greater Mekong Subregion (GMS) are becoming engines of economic growth and centers of culture and innovation. They now account for about 70%–80% of the subregion’s economic production.² The subregion’s urbanization forms a pivotal part of the paradigm shift from predominantly agriculture to manufacturing and service- and knowledge-driven economies. These rapid developments raise a whole range of issues such as transport, water supply, infrastructure, waste management, sanitation, environmental sustainability, poverty, shelter, and a new framework for urban development.

Focusing on growth corridor development provides advantages because it permits us to concentrate on the factors that catalyze private sector development such as integrated public policies for business development within a territory. In the Southern Economic Corridor (SEC) of the GMS, the towns and cities of Bangkok, Battambang, Bavet, Ho Chi Minh City (HCMC), Moc Bai, Phnom Penh, and Poipet were chosen because they are considered growth nodes along the SEC with existing cross-border trade activities. These cities and towns are receiving major support from the Asian Development Bank (ADB) as part of its regional cooperation and integration initiatives. ADB support for corridor towns along the GMS transport corridors represents deepening development efforts along these corridors and emphasizes the conversion of transport corridors into economic corridors.

According to the United Nations Economic and Social Commission for Asia and the Pacific, “cities in Asia-Pacific already suffer from severe environmental

¹ This paper was developed as part of the comparative study *Comparative Analysis of Policies for Regional Competitive Cities in Asia and Latin America* by ADB and the Corporación Andina de Fomento.

² See preceding chapters.

problems, while the basic needs of millions of citizens are yet to be met. The rapid urbanization of the region poses an even greater challenge for providing services to all. We need to urgently promote eco-efficiency and social inclusiveness to make our cities competitive, vibrant and liveable.³

Urban and Economic Profile of Cities or Towns

Bangkok, Thailand

Economic activities. Bangkok is Thailand's capital city and its largest urban area. Thailand's economy is primarily agriculture-driven but is now moving toward knowledge-based and high-technology industries such as electronics and automobile manufacturing. A majority of the country's workforce is employed in agriculture-based industries. The country's important produce includes rice, grain, sugar, fish, and rubber. Export of these items in both raw form processed food form is significant to Thailand's economy.⁴ Other export items that are manufactured in Bangkok are appliances, garments, shoes, toys, plastics, jewelry, and furniture.

Urban infrastructure.⁵ Bangkok has seen a dramatic modernization over the last decades. In 2007, Bangkok's registered vehicles reached 5.6 million, prompting the Government of Thailand to build mass transit systems such as the Bangkok Mass Transit System Skytrain. The city has attempted to overcome its traffic clogging by heavily investing in public transport. The Skytrain and new metro now complement the vast bus network, which jointly are the backbone of the passenger transportation system in Bangkok, accounting for more than 50% of all passenger trips and 75% of trips during the peak period. The government, together with the People's Republic of China (PRC), plans to build a high-speed train from the PRC to Bangkok, as part of the proposed Trans-Asian Railway Project linking the PRC and Singapore. Bangkok's airport and seaport facilitate most of the people and trade movement for the city and the whole of Thailand.

³ United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). 2011. *Are We Building Competitive and Liveable Cities? Guidelines for Developing Eco-Efficient and Socially Inclusive Infrastructure*. http://www.unescap.org/esd/environment/infra/documents/Guidelines.pdf?bcsi_scan_97e98328e2b67804=1

⁴ Refer Bangkok. *Business and Industry*. <http://www.referbangkok.com/bangkok/business/index.php>

⁵ World Port Source. *Port of Bangkok*. http://www.worldportsource.com/ports/THA_Port_of_Bangkok_1538.php

However, Bangkok's port facilities are so heavily clogged by a shortage of physical capacity and procedures that most of Thailand's exports are actually avoiding the Bangkok port and are transported via Cambodia and the Lao People's Democratic Republic (Lao PDR) to Viet Nam's coast for overseas shipment. The 2011 floods have demonstrated an unprecedented level of vulnerability of Bangkok City. Though it recovered quickly and displayed resilience from the calamity, a long-term challenge of climate resilience remains.

Poipet, Cambodia

Economic activities. Poipet is located on the Cambodia–Thailand border in Ou Chrov District, Banteay Meanchey Province. In terms of business environment,⁶ the Poipet O'Neang Special Economic Zone (POSEZ) provides a good alternative to prospective investors looking to open a factory in Southeast Asia with its incentives and lower labor, construction, and land prices compared to Thailand. The new Association of Southeast Asian Nations (ASEAN) Highway will pass by the industrial zone, through the future O'Neang border checkpoint, and end in Thailand. This new road will allow manufacturers in the POSEZ industrial zone to easily transport their products to the deep-sea port at Laem Chabang, Cambodia or Vung Tau Port near HCMC, Viet Nam.

Urban infrastructure. The POSEZ infrastructure services include water supply with 31,196 cubic meters per day (m³/day), power supply (required power is estimated at 45 megawatts), and wastewater treatment (capacity of 19,000 m³/day).⁷ There is a plan to develop a solid waste disposal facility for the industrial zone in its area east, adjacent to the wastewater treatment plant. The wastewater treatment plant will also have an incinerator with a capacity of 500 kilograms per hour to facilitate the disposal of certain solid waste. Planned investments on telecommunications systems will include a next-generation network, application server farm with billing system, universal media server, call center, voice virtual private network, voice portal, videoconference, and telephone system including a landline system of about 1,024 lines.

Battambang, Cambodia

Economic activities.⁸ Battambang is the provincial capital of Battambang Province and the second-largest city in Cambodia with a population of over

⁶ Japan International Cooperation Agency. *Business Operating Environment*. http://www.jica.go.jp/cambodia/english/office/topics/pdf/07_chapter3.pdf

⁷ Key informant interview with Chay Chay, Investments Project Manager, POSEZ, December 2012, Poipet.

⁸ Tourism Cambodia. *Introduction–Battambang*. <http://www.tourismcambodia.com/travelguides/provinces/battambang.htm>

150,000. The city serves as a business capital of the northwestern part of the country and is located in a highly fertile region situated on the Tonle Sap Lake. Battambang accounts for over 10% of Cambodia's wet season rice crop production (around 670,000 tons) and is the country's largest commercial miller of rice (362,000 tons). The city is famous for its oranges and is the country's largest producer of corn. The region near Battambang also grows significant quantities of soybean; green bean; cassava; peanut; and fruits such as mango, jackfruit, banana, and pineapple.

Urban infrastructure.⁹ Battambang is served by three national roads including National Road No. 5 from Phnom Penh to Battambang. Road conditions throughout the province have significantly improved in recent years with local businesses reporting reductions in transport times and costs of up to 50%. The Government of Cambodia has started to upgrade the railway line from Phnom Penh, via Battambang and Sisophon, to Poipet. This is expected to improve transportation and trade between Battambang and Thailand, as well as Phnom Penh. The Sangke River, which flows from the Cardamom Mountains to the Tonle Sap Lake, is a key element of the city's identity and transportation system with a 150-kilometer (km) scenic boat travel between Siem Reap and Battambang. Three major dams and other water sources ensure that 20% of the province's land area is served by irrigation systems.

Phnom Penh, Cambodia

Economic activities. Phnom Penh is the capital and largest city of Cambodia, with a population of about 2 million people. Its location between Bangkok and HCMC makes it the center of the "Second East–West Corridor." The city's main economy is based on commerce and trade such as garments, trading, and small and medium-sized enterprises. In the past years, the real estate sector has been growing, with tourism also becoming a major contributor in the country's economy as more investments on hotels and shopping and commercial centers have emerged in the city. According to the World Travel and Tourism Council, tourism in Cambodia made up 17.5% of Cambodia's gross domestic product (GDP) in 2009 and accounted for 13.7% of the city's total employment.

⁹ Battambang Provincial Investment Profile. January 2010.

Urban infrastructure.¹⁰ The city is connected to other areas of the country through several national highways and is strategically linked with two GMS economic networks: the East–West and Southern corridors. Phnom Penh has a rail service, on-site dry port facilities, and an international airport located just 7 km west of the city center. The Phnom Penh Special Economic Zone (SEZ) has its own water supply system, with rain- and groundwater collection systems, wastewater treatment, and an on-site power plant to back up the main power supply. Dikes equipped with a modern drainage system protect the whole SEZ. All basic telecommunications networks service providers are now available to meet city needs.

Bavet, Cambodia

Economic activities. Bavet in Svay Rieng Province is one of Cambodia’s border towns with Viet Nam. It is located in the Chantrea District, comprising 10 communes and 49 villages, with 7,390 households (in 2008).¹¹ According to the 2006 International Finance Corporation–Asia Foundation Provincial Business Environment Scorecard,¹² Svay Rieng Province’s probusiness environment is one of Cambodia’s best. The province has established an investment sub-committee and secretariat to facilitate private sector investment. Bavet’s advantage is its location along National Road No. 1—the gateway between HCMC and Phnom Penh. Bavet hosts one of the “one-stop” SEZs in Cambodia, offering a package of incentives for investors. Textile industries, bicycle factories, and casinos are the most evident economic activities of Bavet. Much of the trade through its border gate are from Thailand and Viet Nam. The main items traded through Bavet are plastics, steel, fabric, chemicals for water purification, animal feed, fresh vegetables, candles, footwear, and books. Imports are usually categorized in terms of volume, with small imports being tax-free. The other economic activities in Bavet are agriculture; food processing; light manufacturing, including garments and footwear; and tourism. There are about 10–12 casinos operating in Bavet that attract thousands of Vietnamese tourists.

¹⁰ Phnom Penh Special Economic Zone. Infrastructure at Phnom Penh SEZ. <http://www.ppsez.com/the-zone/infrastructure.html#>; Council for the Development of Cambodia Roads. <http://www.cambodiainvestment.gov.kh/investors-information/infrastructure/roads.html>; <http://www.oecd.org/countries/cambodia/47149041.pdf>

¹¹ Mekong Institute. 2009. Bavet, Svay Rieng, Cambodia. *Research Working Paper Series*. No. 07.

¹² The scorecard measures economic governance and regulatory policy as it relates to supporting an active and vibrant business environment.

Urban infrastructure.¹³ Bavet is traversed by National Road No. 1, which runs from Phnom Penh to HCMC. This road is part of the ASEAN highway road network, making it strategic in the subregion's economic integration. Bavet's electricity comes from a number of sources, including 14 independent power producers. Interestingly, the province of Svay Rieng is connected to the power grid in Viet Nam. Provision of water supply still needs to be addressed, including water for irrigation.

Moc Bai, Viet Nam

Economic activities. Moc Bai is a border town in Tay Ninh Province, opposite Svay Rieng Province in Cambodia. The Moc Bai Border Economic Zone is a mixed-use development with the core having a commercial center, a bonded warehouse, and border market of 10 hectares (ha) to be built in the vicinity of the frontier checkpoint. The other areas will be developed into an industrial park with warehouses midway between Ben Cau Town and National Road No. 22, covering an area of 25 ha. Economic zone policies in Moc Bai provide investors a number of tax incentives and preferential conditions for land acquisition. The issuance of Decision No. 210/1998/QD-TTg, dated 27 October 1998, allowed the application—on a pilot basis—of some development policies for the Moc Bai Border Economic Zone, with priorities given to trade service and tourism, agroforestry and aquaprodukt processing industries, consumer goods production, and processing for export.

Urban infrastructure.¹⁴ In Moc Bai, the economic infrastructure and service is well organized, with the market, transport terminal, logistics facilities, and dry port operating in the town center. Water supply coverage is about 95% and is supplied through four water stations: Ap Chanh, Ben Cau, Cau Pao, and Thuan Tam. Tay Ninh Urban Environment Company manages solid waste with an existing disposal site 6 km from Ben Cau District. The town has no storm water drainage, except for about 11 km of drainage network installed along the newly constructed inner-urban roads. The town's newly built roads include (i) Trans-Asia Road from HCMC to Cambodia crossing the Moc Bai International Border Gate with a length of 10 km, and (ii) Road No. 786 from Moc Bai Town to Long

¹³ United States Agency for International Development (USAID). 2008. *Svay Rieng Province Investment Profile*. http://pdf.usaid.gov/pdf_docs/PNADN802.pdf

¹⁴ Japan International Cooperation Agency. The Research on the Cross-Border Transportation Infrastructure: Phase II. http://www.jica.go.jp/activities/issues/transport/pdf/SDcbit_eng05.pdf; <http://www.docstoc.com/docs/72786232/Integrated-Economic-Border-Zone-THE-RESEARCH-ON-THE-CROSS-BORDER-TRANSPORTATION-INFRASTRUCTURE-PHASE>

An crossing the new town of Moc Bai with a length of 20.23 km. The town still faces problems with power supply interruptions and provision of wastewater treatment facilities and services. It requires an expansion of the road and water supply networks.

Ho Chi Minh City, Viet Nam

Economic activities.¹⁵ HCMC—formerly known as Sai Gon (Saigon)—is Viet Nam’s international gateway with large sea- and airport facilities. HCMC’s economic activities include mining, seafood processing, agriculture, construction, tourism, finance, industry, and trade. The state-owned sector makes up 33.3% of the economy, the private sector 4.6%, and the remainder foreign investment. Concerning its economic structure, the services sector accounts for 51.1%; industry and construction account for 47.7%; and forestry, agriculture, and others make up just 1.2%. HCMC is the hub of Viet Nam’s burgeoning economy and host to the country’s Southern Key Economic Zone. The city plays a strategic role in the country’s inclusive development, accounting for 20% of country’s GDP, 30% of the industrial output, 29% of the total retail sales and services, 40% of the export turnover, and 33% of the state budget. However, the industries are still faced with the lack of skilled and qualified human resources, including upper management professionals.

Urban infrastructure.¹⁶ The Bac Nha Be–Nam Binh Chanh Highway, also called Binh Thuan Highway, stretches 17.8 km from Tan Thuan Export Processing Zone to Binh Chanh District and links with National Road No. 1. The 10-lane road is essential for the transport of export goods to Saigon Port. The city’s location on the Saigon River makes it a bustling commercial and passenger port. Besides a constant stream of cargo ships, passenger boats regularly operate between HCMC and various destinations in Southern Viet Nam and Cambodia. The Doi and Te canals, the main routes to the Mekong Delta, receive 100,000 ships every year. The city provides quality and high-speed telecommunications and internet services with over 2.2 million subscribers and around 5.5 million frequent users. Internet access is regulated; websites containing sensitive

¹⁵ Viet Nam Industrial Parks Investment Promotion. <http://viip.com/provinceen/?proid=3&module=htmldetail&htmlcode=1>

¹⁶ People’s Committee of Ho Chi Minh City. 2012. Viet Nam: Ho Chi Minh City Urban Mass Rapid Transit Line 2 - PFR 2 (Tham Luong Depot to Ben Thanh Station). Draft Environmental Impact Assessment. Manila: Asian Development Bank. <http://www2.adb.org/Documents/Environment/BAN/39500/39500-033-vie-eia-draft.pdf>; Central Institute for Economic Management. Addressing the Bottlenecks: Towards an Effective Mechanism for Financing Infrastructure. <http://vnep.org.vn/Upload/Paper3-English-final.pdf>

political or religious content are routinely blocked. The port has become the major transport hub for the GMS SEC and for exports and imports from and to central and northern Thailand.

Still, HCMC is faced with environmental challenges requiring climate-resilient infrastructure, including the upgrading of its sewerage and drainage system and provision of a mass transit system for its growing population, with an ADB-supported underground metro system in construction.

Highlights of the City Competitiveness Study

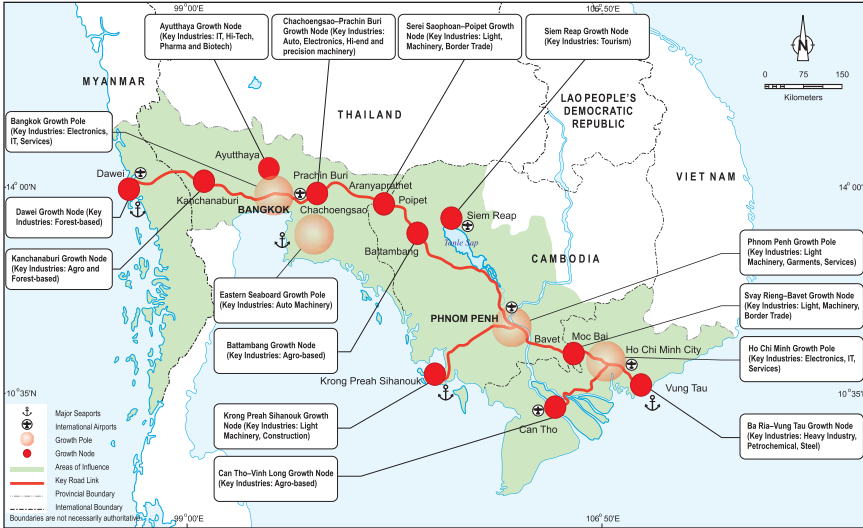
The SEC¹⁷ is the focus of the competitiveness study, which covers the Central Subcorridor traversing Bangkok, Poipet, Battambang, Phnom Penh, Bavet, Moc Bai, and HCMC (Figure 4.1). Figure 4.1 distinguishes between growth poles and growth nodes.

To highlight the importance of the cities and urbanizing towns concerned, it is vital to track the direction and flow of trade to determine the impact of the transport corridor, especially on the key industries and its value chain. In this regard, six drivers with various sub-indicators were used to quantitatively and qualitatively measure the competitiveness of the cities and urban towns. Major trade happens primarily in the Bangkok Metropolitan Region, where infrastructure and logistics are already well developed and industries are starting to be more skill-intensive. It also happens, to some extent, in emerging HCMC, where SEZs boosted its attractiveness for foreign direct investment (FDI).

A description of the flow of cross-border trade will show that the transport of goods in the SEC starts from Bangkok, crosses Aranyaprathet border checkpoint, then to Poipet, Phnom Penh, crosses to Viet Nam via the Bavet–Moc Bai border, then to HCMC and its port at Vung Tau. It was also deemed important

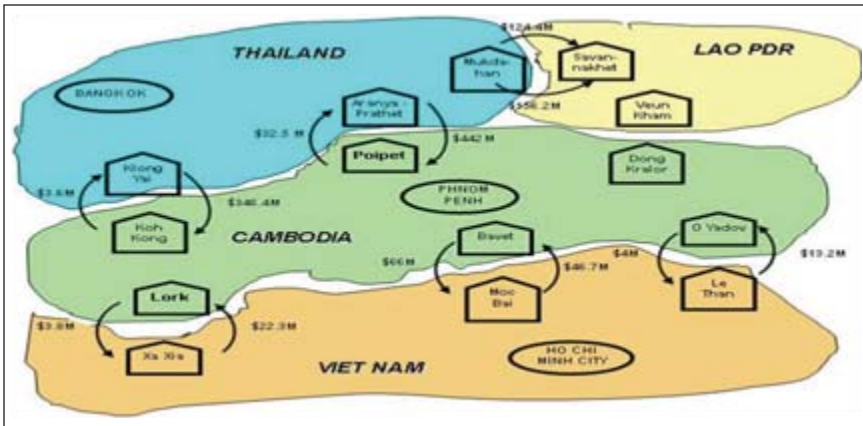
¹⁷ The SEC covers six provinces in the eastern region of Thailand—Bangkok, Chonburi, Chantaburi, Rayong, Sakaew, and Trat; four zones in Cambodia—Phnom Penh Zone (Phnom Penh), Tonle Sap Zone (Banteay Meanchey, Siem Reap), Mountain Zone (Stung Treng, Ratanakiri), and Coastal Zone (Koh Kong and Kampot), involving 21 provinces and municipalities; four regions in Viet Nam—Southeast (HCMC and Ba Ria–Vung Tau Province), Central Highland (Gia Lai Province), South Central Coast (Binh Dinh Province), and the Mekong River Delta (Kien Gian Province and Ca Mau Province) regions; and six provinces in southern Lao PDR—Attapeu, Champasack, Khammouane, Saravan, Kaysone Phomvihane, and Sekong.

Figure 4.1: Map of the Greater Mekong Subregion, Southern Economic Corridor



IT = information technology.
 Source: Asian Development Bank.

Figure 4.2: Flow of Cross-Border Trade in the Southern Economic Corridor



Lao PDR = Lao People's Democratic Republic, M = million.
 Source: Asian Development Bank. 2010. *Strategy and Action Plan for the Greater Mekong Subregion Southern Economic Corridor*. Manila.

to describe the supply chains of key industries in other GMS corridors like the Eastern Corridor along the Viet Nam coastline and the Southern Coastal Corridor in Cambodia. The other drivers that determine the competitiveness of the study areas are shown in the Appendix. These parameters cover the (i) dynamism of the local economy, (ii) cost of doing business, (iii) infrastructure, (iv) responsiveness of city governments to business needs, (v) quality of life, and (vi) human resource development. These parameters are being used for the more detailed assessment of the towns along the SEC.

Bangkok

Cross-border trade. Thailand is now considered the regional center of the East Asian automotive industry, with engines, automobile components, and spare parts among its major export items. Other export commodities are motorcycles and their spare parts, cement, livestock, feeds, petroleum, woven fabrics, and chemical fertilizers. One of the major steps the Government of Thailand took to promote industrial development and the specialization of domestic manufacturing was to allow foreign capital to dominate investments for car assembly plants while letting local players focus on the development of supply and production chains for related components. In terms of imports, goods from Cambodia also rose from B2.66 billion in 2009 to B6.86 billion in 2010, an increase of 158%.¹⁸

Dynamism of local economy. Among the seven study cities, Bangkok has the biggest domestic market base with a population of about 14.5 million, biggest land area (7,761.50 square kilometers [km²]), highest per capita income of \$20,000, lowest inflation rate (3.81%), highest number of banks (27), highest number of small and medium-sized enterprises (SMEs; 296,552), and highest number of shipping lines (73) and airlines (88) servicing the city. Although having a large market base is considered an advantage, Bangkok's high population density led to a high level of car use and caused extensive traffic congestion and poor air quality, impacting the livability of Bangkok.¹⁹ The city also has a few number of fixed line providers, limiting the choices for business enterprises.

¹⁸ National Statistical Office, Ministry of Information and Communication Technology, Government of Thailand. 2011. Key Statistics of Thailand, 2011. Bangkok.

¹⁹ Population density has been long identified as a factor that has a significant impact on vehicle ownership and uses.

Cost of doing business. Bangkok's cost of rent of commercial space per square kilometer (\$26) and cost of water per cubic meter (\$0.40) is fairly comparable with the other cities and towns in the SEC. It also has a lower than average cost of fixed line international calls at \$0.16 per minute. In raw materials for its industries, Thailand has access to both agricultural products and high-technology components needed to produce goods, thereby entailing lower production costs. However, Bangkok's minimum labor wage rate at \$145 per month or \$4.84 per day is high compared with the other towns and cities along the SEC.²⁰

Infrastructure. Bangkok has air and seaport facilities capable of handling large passenger and cargo traffic. It has a large number of internet service providers and sufficient road network to cover the city with main roads such as Bangkok–Chonburi (81.75 km), the Eastern Outer Ring Road (64 km), and an expressway network of 150 km. Bangkok is prone to flooding, which will urgently require flood control measures and adaptation to climate change impacts. The development in the city's road network has been limited to capacity expansion and road safety. Due to unclear regulations and weak enforcement load limits for trucks, road quality has been deteriorating in recent years.

Responsiveness of local government to business needs. Bangkok has well-defined investment policies focusing on liberalization and encouragement of free trade. The government actively promotes foreign investment that contribute to the development of skills, technology, and innovation. In terms of incentives, Thailand's Board of Investment (BOI) offers a range of tax incentives, support services, and import duty exemptions or reductions to an extensive list of promoted activities. The board also established a One-Stop Service Center, which enables foreign staff of BOI-promoted companies to obtain work permits and long-term visas within 3 hours or less, on top of a streamlined investment procedure by housing satellite offices of more than 20 government agencies under one roof.²¹ With issues that may affect Bangkok's business climate such as the recent 2011 flooding, policy reforms in mainstreaming climate change adaptation into its development initiatives are seen as necessary.²²

²⁰ Starting 1 April 2012, the government implemented a minimum wage of B300 and a starting salary of B15,000 for bachelor degree holders.

²¹ Board of Investment of Thailand. Incentives. <http://www.boi.go.th/index.php?page=incentive>

²² L. Lebel, L. Li, C. Krittasudthacheewa, M. Juntopas, T. Vijitpan, T. Uchiyama, and D. Krawanchid. 2012. *Mainstreaming Climate Change Adaptation into Development Planning*. Bangkok: Adaptation Knowledge Platform and Stockholm Environment Institute. p. 32. http://www.climateadapt.asia/upload/publications/files/4f66f3868a813Mainstreaming_climate_change-v6_for_Web.pdf

Quality of life. Bangkok has 138 private and public hospitals, the most among the cities and towns along the SEC. Though Bangkok has a good number of hospitals, its population–hospital bed ratio was 478:1, depicting the need for more health institutions.

The improvements in the transport system like the Skytrain and the underground metro have made movement within the city more efficient. But traveling by road with the worsening traffic condition still affects the city's productivity.

Human resource development. Bangkok has a high number of educational and vocational or technical institutions, and a large labor pool with an unemployment rate of only 0.95% (2010 survey). The Office of Vocational Education Commission of the Ministry of Education administers 415 public colleges and 427 private vocational schools and colleges around the country.²³ In a labor market efficiency survey conducted by the World Economic Forum for the Global Competitiveness Report in 2011–2012, Bangkok ranked 30 out of 142 cities.²⁴ But the recent increase in minimum wage will affect the competitiveness of the city. From the standpoint of employers, if starting salaries are regulated, businesses would have to adjust their salary scales across the board, resulting in higher production costs.

Poipet

This study finds greater levels of economic activity along the Poipet–Aranyaprathet borders. In 2010, official figures show that Cambodia exported about \$219,648,000 worth of goods, registering an increase of 158% from 2009 exports. The most important imported commodities included cement, construction materials and equipment, fresh and processed foods, cosmetics, consumer goods, cars and spare parts, and fertilizers. The garments industry, which started about 2 decades ago, is the key industry that has impact on the local supply chain. The cross-border garment business involves both manufacturing and trading.

²³ United Nations Educational, Scientific and Cultural Organization Bangkok. Education System Profiles, Higher Education, Technical and Vocational Education and Training. <http://www.unescobkk.org/education/resources/resources/education-system-profiles/thailand/higher-tvet/>

²⁴ World Economic Forum. 2011. The Global Competitiveness Report 2011–2012. http://www3.weforum.org/docs/WEF_GCR_Report_2011-12.pdf

Dynamism of economy. The POSEZ is Poipet's main economic hub in addition to supercasinos, providing about 10,000 jobs. Its proximity to the Thai border boosts the business and trade climate in Poipet. The town has a small market base of only about 95,000 people, with most attaining only a low level of education. The town's financial infrastructure is limited to three banks while the town's road network is insufficient, has no drainage and sewerage system, and no local intermodal transport system is available (i.e., port facilities).

Cost of doing business. Poipet has low rates for electricity, which is imported from Thailand, and low leases or rents for commercial space. Its low minimum wages make it attractive to labor-intensive industries like garments and jewelry-making—two of the major locators in the SEZ. Potential investors find the current market situation in Poipet unattractive due to high communication costs, limited capacity of telephone line providers, and its lack of an enabling regulatory environment.

Infrastructure. The SEZ, through a public-private partnership (PPP), has provided the physical, marketing, and financial infrastructure needed to attract investments in the area. Electricity in the town is supplied from Thailand through a power purchase agreement with the Electricity Authority of Cambodia. The town has no operational airport, and Poipet essentially relies on the SEC for its transport needs, connecting it with Vung Tau in HCMC, Viet Nam.

Responsiveness of city government to business needs. The city government has a set of transparent administrative procedures and incentives for potential investors that aim to minimize distortions in business decisions, resulting in no long-term net loss of revenue. However, there are constraints in the number of steps (14) and time (85 days) required in business registration, making it difficult to do business.

Quality of life. With a laid-back environment, traffic congestion is not an issue in the town with the ease of transport of labor and goods. Most workers at the SEZ come from nearby provinces about 1–2 hours away. Being a border town, the long-time concern of human trafficking and child abduction is still rampant. Regarding international standards of compliance, none of the SMEs have earned International Organization for Standardization (ISO) certification to date.

Human resource development. The PPP in vocational and technical training in Poipet provided by companies (in-house) enhances the pool of human resources available to industries. Still the lack of tertiary and vocational and/or technical institutions in the city makes sourcing of skilled personnel difficult.

Battambang

Cross-border trade. The key industry of Battambang is agriculture. In 2011, Battambang exported to Thailand \$5,318,621 worth of goods consisting of corn, cassava, soybeans, coffee, and yam. On the other hand, Battambang imported from Thailand \$4,525,958 worth of goods comprising cassava, rice, and coffee. Other imports include fruit drinks, livestock, construction materials, pesticides, agricultural inputs, and automobile and motorcycle spare parts.

Dynamism of local economy. Battambang has a relatively high population and market base for a medium-sized town. It also has vast tracts of rice paddies and the most number of milling facilities in the country. The town also has a considerable amount of mineral reserves like phosphate rock, limestone, semiprecious stones, and salt. The constraints to the city's economic dynamism are the absence of SEZs and the lack of an operational airport. Additionally, it is also far from seaport facilities and has only a small internal market, a small number of SMEs, and limited number of banks.

Cost of doing business. The city has low commercial space rent prices, and the availability of raw materials (agriculture and minerals) in the province makes it an ideal place for industries to locate. Its low minimum wage is also a comparative advantage for labor-intensive industries. A concern for investors is that the cost of telecommunications, including mobile and internet services in the town, are prohibitive due to lack of market-friendly regulations.

Infrastructure. Electricity and water supply services are available to nearly all of the urban and suburban areas of the city. Intermodal transport to other towns and cities is by train (via the Phnom Penh–Sisophon route) and a small airport. Environmental infrastructure such as the town's sewerage network is insufficient, and the wastewater treatment plant has provided on-and-off service since 2005. Though the other parts of the city have open drainage canals, these are sometimes filled and blocked by debris and solid waste. During the rainy season, parts of the city get flooded, and Battambang is in urgent need of enhanced climate resilience measures. It is fully reliant on the SEC for its connectivity.

Responsiveness of city government to business needs. The city's new Land Use Plan and the Battambang Urban Improvements to Mitigate Climate Change are designed to address the city's institutional and development weaknesses and infrastructure bottlenecks. The city has also established a one-stop shop facility for the registration of SMEs, and has laid out plans to set up its own SEZ specializing in agro-industries. Despite the city's efforts to respond to emerging development issues, the town has limited capacity to produce climate change resilient agricultural breeds and adapt to environmental challenges.

Quality of life. The presence of a sanitation code and solid waste management programs, which will be supported by the GMS Corridor Towns Development Project of ADB, is a move toward the right direction to address environmental issues. Currently, Battambang faces serious environmental problems due to improper solid waste and wastewater management; air, water, and noise pollution; and perennial flooding.

Human resource development. Literacy and secondary school enrollment rates in Battambang are among the highest in Cambodia. Over 265,000 students are enrolled in 551 primary schools and 104 secondary and post-secondary schools. Home to the famous Phare Ponleu Selpak Performing Arts School, Battambang has 38 private schools, 9 universities, and 3 vocational training institutes. This puts the city in seventh place in Cambodia in terms of the number of educational institutions. Despite the presence of these institutions, the town still lacks institutional capacity on urban management and development, including experts such as architects, urban planners, and environmental engineers. There is also a lack of a coherent mechanism to develop the capacities of communities (e.g., through focused capacity building teams or persons) to manage and monitor development projects and programs in the long run.

Phnom Penh

Cross-border trade. The handicraft sector is one of Phnom Penh's fastest-growing industries due to a large and relatively stable market with high demand for export; demand and direct purchase from tourists, especially in Siem Reap; high level of donor involvement at all levels of the value chain; and opportunities for outsourced production, providing household and community-based employment and income for the marginalized sector groups. The export demand for Cambodian handicrafts currently exceeds the amount that local producers are able to supply. It is estimated that there are about 100–150 organizations involved in handicraft production in Cambodia. In Phnom Penh,

most of the handicraft production organizations produce for export. Only a small percentage of products are locally sold to tourists. These products include silk production; silk weavings; silk products; mat weaving; wood, stone, and marble carvings; metal products, including gold, silver, and bronze; lacquering and gilding; pottery; brick making; basketry; ceramic products; and manufactured furniture.

Dynamism of local economy. Being Cambodia's major urban center, Phnom Penh's population provides a large market base for investors. It also has a high number of fixed telephone and internet service providers. It is next to Bangkok when it comes to the most number of commercial air- and shipping lines and SMEs. However, the city has a low per capita income. There are few banking institutions and available credit access, but these are not affordable, especially for SMEs. Financial literacy among the SMEs is also low.

Cost of doing business.²⁵ Phnom Penh's low cost of roaming call services and minimum labor wages make the city attractive for labor-intensive industries. A constraint to the city's investor attractiveness is the high cost of electricity and international calls on a per minute basis.

Infrastructure. Phnom Penh's SEZ is equipped with modern infrastructure. The city has its own international airport—its dry port facility provides fast and reliable loading and storage services. It also has its own power and water supply system. Phnom Penh has a thriving tourism industry, which hosts more than 50% of the country's hotel rooms, 30% of guesthouses, and 60% of the travel agencies. The city's major roads (National Roads Nos. 1, 5, and 6) connect the city to Viet Nam and Thailand, but the overall road condition is rather poor and many sections—especially around the border—are unpaved. Trucks cannot enter Phnom Penh during the day and there are no cargo transfer facilities between large and small to medium-sized trucks. In addition, the performance of the existing solid waste management system is still poor, with unreliable and irregular waste collection.

Responsiveness of city government to business needs. Phnom Penh's Master Development Plan and City Development Strategy, 2005–2015 provides a road map for its future direction. These plans will help address the infrastructure inadequacies of the city, including electricity and water supply. The promulgation of new regulatory frameworks and ADB–GMS initiatives have boosted the

²⁵ United States Commercial Service, Department of Commerce. 2010. Doing Business in Cambodia. http://photos.state.gov/libraries/cambodia/231771/PDFs/2011_ccg.pdf

integration of foreign direct investment (FDI) into the regional supply chains and the involvement of knowledge-based transnational firms, research institutions, and other knowledge networks in the city's development. But to make the city more attractive to investors, there is a need to further streamline business registration and lower transaction costs, both formal and informal.

Quality of life. Travel time to and from work within the city is still short. The Phnom Penh SEZ has achieved both ISO 9001 and ISO 14001 certifications in early 2010, and follows professional and transparent international corporate standards while adopting corporate social responsibility. However, the standard of services on the part of the government should also be raised by institutionalizing international conformance standards (e.g., ISO and Hazard Analysis and Critical Control Points).²⁶ In terms of services, the city needs to mainly improve health care. The city's sewerage and drainage systems also need to be improved to address climate change impacts such as regular flooding in some parts of the city.

Human resource development. The city has about 600,000 individuals comprising the working age group, providing industries with ample human resources supply. The constraints to the development of the city's human resources are its low employment rate due to skills mismatch, untrained or undertrained labor force, and the existence of few tertiary and vocational and/or technical educational institutions.

Bavet

Cross-border trade. Bavet–Moc Bai is the largest international border gate between Cambodia and Viet Nam. Much of the commerce through the Bavet²⁷ border gate are imports from Viet Nam, with exports generally carried out on a small scale. Cross-border trade with Viet Nam through Bavet more than doubled from \$79.2 million in 2005 to \$163.3 million in 2007, representing an annual average growth rate of 45.1%.²⁸ Imported items for trade include building

²⁶ Food and Agriculture Organization of the United Nations. 2010. *An Action Plan to Improve Sanitary and Phytosanitary Capacity in Cambodia*. Phnom Penh.

²⁷ S. Sisovanna. 2010. Investment Climate in Cambodian Cities and Towns. In M. Ishida, ed. *Investment Climate of Major Cities in CLMV Countries*. BRC Report No. 4. Bangkok: Bangkok Research Center, IDE-JETRO; Mekong Institute Research. 2009. *An Assessment of SME Development in the Border Twin Cities of the GMS: A Case Study of Bavet, Svay Rieng, Cambodia*. *Working Paper Series*. No. 07.

²⁸ Based on the reports of the border authorities in Moc Bai, Le Thanh, and Ha Tien border gates in Viet Nam. Total trade figures are from the International Monetary Fund Direction of Trade Statistics Yearbook, 2007.

materials, liquid gases, vegetables, office supplies, and paper products, while exports to Viet Nam include cashew nuts, rice, and tobacco. Most, if not all, of the locators in the SEZs source their production materials outside of Cambodia.

Dynamism of local economy. Bavet is host to four SEZs. The Manhattan SEZ—the first SEZ and one of the most active—has 22 locators, with one shoe factory alone employing about 10,000 Cambodians. Casino tourism adds vibrancy to the dynamism of Bavet’s economy. These hotel–casinos, which are frequented mostly by Vietnamese tourists, employ about 10,000 Cambodians. Hindering the dynamic growth of the local economy is the town’s small population, which provides a meager market base. The town also has a few registered SMEs. In terms of services, the town only has one internet service provider, three commercial banks, and does not have its own airport and water port or pier.

Cost of doing business. Bavet has one of the most affordable electricity and water supply service rates and one of the lowest costs of industrial land lease. The town also has one of the most efficient business registration systems in Cambodia, with low license fees. The constraint to industries is that production of raw materials is not locally available (mostly imported from Viet Nam). The town’s working age population also lacks the skills and knowledge needed by the industries. Many of the industries’ skilled, technical, and even management personnel are hired from Viet Nam.

Infrastructure. The town’s location is in proximity to land, air, and sea transportation, but the lack of local logistics and a local intermodal transport system is still seen as a constraint by some investors. Electric power is supplied from Viet Nam and the town has abundant water supply. However, the town has an insufficient road system and lacks alternate roads. It also has inadequate drainage and sewerage systems. The GMS Corridor Towns Development Project of ADB will address much of these infrastructure deficiencies.

Responsiveness of city government to business needs.²⁹ The SEZ locators enjoy 3–9-year tax holidays and tax-exempt importation of equipment, machines, and raw materials, among others. Bavet has an onsite one-stop service office to process business registration and licensing, and import–export permits, among others. In responding to pressing urban development

²⁹ National Committee for Sub-National Democratic Development. 2009. Bavet Krong Data Book. Krong Code Nr: 2008, Svay Rieng Province. http://scocambodia.org/wp-content/uploads/2013/07/2008_Bavet-Krong-Data-Book-2009_English.pdf

challenges, the Bavet government needs to adopt policies and programs that would integrate issues such as climate change mitigation and adaptation and green practices in its development framework.

Quality of life. With low population density, traffic flow in the towns is still smooth. There exist open spaces, however, which need to be made more usable to maximize benefits to the population. To date, the town lacks land for affordable housing and recreational facilities for the general population, as recreation is limited only to the casinos. In services, Bavet has only one hospital with 100 beds. The town also lacks a well-functioning sewerage and drainage system and an efficient transport system for the movement of people and goods. Bavet fully depends on the SEC as the main transport route, which transverses the town.

Human resource development. Svay Rieng Province has about 500,000 people in its working age group with a high literacy rate, which is better educated compared with the working age groups of other provinces in Cambodia. It is also one of the few provinces in Cambodia with positive net inward interprovincial migration. There is a lack of tertiary and vocational and technical training institutions in towns that could partner with the industries and government to provide appropriate training. There are concerns regarding low management and technical skills of its human resource base; this can become a major constraint to the town's comparative advantage.

Moc Bai

Cross-border trade.³⁰ The balance of trade along the Cambodia–Viet Nam border is by far in favor of Viet Nam. The major exports items are cereals, steel and iron, soap and organic active agents, plastics and plastic articles, mineral fuels, oils and derivatives, and vegetables. Imports from Cambodia include rubber and agricultural produce (e.g., rice and tobacco), fish products, and live animals. Goods traded through the Moc Bai checkpoint are produced by local enterprises based in HCMC and Go Dau. Shoe production is one of the key industries in Moc Bai. In particular, a contracted factory for Nike has played a leadership role in green industrial development, along with other businesses, in supporting infrastructure development in Viet Nam. This model of cooperation

³⁰ In this section, T.K.T. Nguyen. 2009. *An Assessment of SME Development in the Border Twin Cities of the GMS: A Case Study of Moc Bai, TayNinh, Vietnam*; United Nations Industrial Development Organization (UNIDO). 2009. *Value Chain Diagnostics for Industrial Development: Building Blocks for a Holistic and Rapid Analytical Tool. UNIDO Working Paper*. Vienna.

is an example of how the private sector can work with the government and other key stakeholders on important development issues and opportunities.

Dynamism of local economy. The Moc Bai Border Economic Zone is the key economic player of the town. It has 13 industrial sites with a mixed land use, including industrial zones, residential, and commercial areas. However, the town lacks the market base due to its very small population of 25,000. The supply of skilled labor to these industries is a bottleneck, and most industry locators need to find skilled staff from other locations closer to HCMC. Aside from this, the town has no commercial bank establishments. Other potential investors might also be discouraged from investing in the town due to its lack of available infrastructure, land development issues, and ineffective incentive policies.

Cost of doing business.³¹ Moc Bai has several incentive mechanisms for investors, which include free land lease for 11 years, exemption from corporate income tax for 4 years, and 50% reduction from tax payment for the next 9 years. Cost of electricity and water supply are still low. Despite these incentives, setbacks on attracting investments could be experienced, as processing of Moc Bai and Bavet border crossing takes a long time because of service charges, passing through and vehicle fees, inconsistent customs rules, and restrictive policies.

Infrastructure. Moc Bai produces its own electricity and also distributes power to Bavet. Producing electricity mainly from hydropower sources, Moc Bai experiences fluctuations and power interruptions, particularly during the summer season. Its proximity to the airport and seaport in HCMC and a good road network gives SEZ locators proximate access to intermodal transport links and markets. The GMS Corridor Towns Development Project is expected to address these infrastructure deficiencies.

Responsiveness of city government to business needs. On ease of doing business, it only takes 7 days to register an investment in Moc Bai. However, Moc Bai sets quite a number of documentation requirements to start a business, which may offset the potential time saved from the streamlined process. The SEZ also provides a package of incentives to locators, highlighted by free land lease for the first 11 years. The town is working on improvements to its infrastructure services, including logistics and other trade-related services.

³¹ Moc Bai Investment Kit and key informant interviews with Moc Bai Border Economic Zone locators, December 2012.

Quality of life. The town has large open spaces and traffic flow is not yet obstructed by traffic. However, the road network is still incomplete and awaiting expansion. The river systems passing through the town also offer a number of economic and social benefits to the local population. With respect to services, Moc Bai does not have educational, health, and recreational facilities and services to serve the general population.

Human resource development. Moc Bai has access to Tay Ninh's 732,840 working age population, of which 38% have received proper education and training from the province's college, 2 professional schools, or 176 skill training centers. The absence of educational, training, and health institutions in towns affects the town's attractiveness for business because the demand for qualified workers from investors cannot be supplied locally.

Ho Chi Minh City

Cross-border trade. HCMC³² registered \$24.45 billion from exports in the January–November 2011 period, up 18.9% year-on-year, and spent \$24.57 billion on imports, making a 26.2% year-on-year increase. Based on the study of the Cambodia Development Resource Institute, vegetables exported to Cambodia via Moc Bai cover almost 70% of the vegetable requirement in Cambodia. The last few years witnessed an increasing share of Vietnamese vegetables in the trade, displacing Thailand as the major supplier. Vietnamese vegetables are highly traded during the months April–November, with volume of daily imports ranging between 40 tons and 160 tons, depending on the season.

Dynamism of local economy. HCMC has a high population density and a large number of commercial banks servicing the city's business needs. It also hosts 15 economic zones with 92,000 registered SMEs. However, the banking sector is haunted by numerous problems, which can be traced to an outdated governance system. A deciding factor though for potential investors is the city's high inflation rate, which was almost 19% at the end of 2011. In telecommunications, the city offers limited services in fixed line, mobile, and internet access.

³² Trading Economics. ISO Certification Ownership (% of Firms) in Viet Nam. <http://www.tradingeconomics.com/vietnam/iso-certification-ownership-percent-of-firms-wb-data.html>; UNESCAP. *Macroeconomic Policy and Development*. http://www.unescap.org/pdd/calendar/Cambodia_Jun10/papers/Sess_2_DoHongHanh_presentation_rev_final.pdf

Cost of doing business. The city has low electricity and water supply rates due to government price controls. In addition, industries—especially the shoemakers—source 60% of their raw materials locally. The availability of air and sea access also decreases their transport costs. HCMC has high rental and lease costs for commercial space and industrial land and a high monthly minimum wage, which are worthwhile considerations for potential investors.

Infrastructure. The presence of intermodal transport (i.e., airport and seaport) provides the logistics that facilitate movement of goods and people. HCMC has the biggest port system in the country. Among the international airports in Viet Nam, Tan Son Nhat Airport is considered one of the international airport hubs in Southeast Asia. HCMC has a lower number of internet and mobile service providers compared to other major cities along the SEC. This may be attributed to the government's regulatory framework. The city needs to upgrade its drainage and sewage systems and road and transportation network.

Responsiveness of the city government to business needs. The city offers a set of incentives for investors and has a one-stop service center to facilitate business registration that streamlines business processes. Yet, like Moc Bai, HCMC has the most documentation requirements for starting a business or investing in the city. In addition, as a city at risk from climate change impacts,³³ the government also needs to integrate climate change mitigation and adaptation policies into its urban development plans.

Quality of life. HCMC has 100 hospitals to service the health care needs of the city. It is worthy to note that green open spaces such as parks are found in and around the city with recreational and wellness facilities. In standards and certification, the ISO certification in Viet Nam was still low with only 16.72% of all firms in 2009.³⁴

Human resource development. The city has a high employment rate with an educated and skilled working age population. The tourism sector has cascaded downstream, resulting in micro to small businesses such as vending and transport. Overall, HCMC still needs to upgrade its human resource development and training, as the city does not have enough quality technical and tertiary schools that would match the industries' dynamic and changing requirements.

³³ ADB. 2010. *Summary Report: Ho Chi Minh City—Adaptation to Climate Change*. Manila.

³⁴ World Bank. Internationally-Recognized Quality Certification (% of Firms). <http://data.worldbank.org/indicator/IC.FRM.ISOC.ZS?display=graph%25%2525252525252525252525252020>

Institutional Capabilities for Entrepreneurial Services

The emergence of SMEs in developing countries is a result of structural adjustment policies wherein a favorable environment was created for the private sector after adopting a market economy orientation. In the GMS, SMEs have become a crucial part of local economies as they help create jobs, generate income for low-income people and vulnerable populations, foster economic growth and social stability, and contribute to the growth of a dynamic private sector. However, SMEs in developing countries like Cambodia, Thailand, and Viet Nam are still finding it difficult to penetrate the global production value chain due to policy and institutional bottlenecks.

Cambodia

Political and economic governance. Cambodia's economic policy framework supports the expansion of SMEs by providing medium- and long-term financial conduits, including microfinance, improving state-owned enterprises through corporatization and privatization, stemming the flow of illegal imports, reducing barriers to export, reducing barriers to importation of business inputs, and providing the infant industry with incentives.

In addition, the structural change of Cambodia's economy—given its relative decline in agriculture and growth of industries—was partly a result of the favorable access of Cambodian exports to the international market. Realizing the crucial role of international trade, especially for its SMEs, the Government of Cambodia has taken part in global and regional economic cooperation initiatives such as the GMS development initiatives, the enhanced integration of ASEAN, and the World Trade Organization (WTO). International and regional cooperation has provided Cambodia with the venue to gain greater trade preferences and access to the world's emerging markets. However, Cambodia is still dependent on foreign aid in the form of bilateral and multilateral official development assistance.³⁵

A majority of the SMEs lack the resources to be competitive due to challenges and issues, including lack of human resources and low skills of management, poor technological systems, poor road and transportation network conditions,

³⁵ S. Sisovanna. 2010. Investment Climate in Cambodian City and Towns. In M. Ishida, ed. *Investment Climate of Major Cities in CLMV Countries*. BRC Report. No. 4. Bangkok: Bangkok Research Center, IDE-JETRO.

and limited access to capital and raw materials.³⁶ In addition, many rural SME owners lack the know-how and dynamics to start a business.

Policy instruments. To improve the business and investment climate and compliance with WTO regulations, the government has updated its laws and regulations while introducing new ones in the field of investment and trade. The following major laws and regulations have been introduced or enacted since August 2006: (i) Law Bearing upon Commercial Regulations and the Commercial Register (enacted in May 1995 and modified in November 1999); (ii) Law on Commercial Enterprise (adopted by the National Assembly on 26 April 2005 and promulgated on 19 May 2005);³⁷ and (iii) Prakas (Ministerial Order) on Trading Activities of Commercial Companies (issued by the Ministry of Commerce in January 2000), which provided the right for both registered local and foreign companies to freely engage in trading activities.

Thailand

Political and economic governance. Thailand pursued a policy of import-substituting industrialization in the 1960s under the Promotion of Industrial Investment Act, which was updated to promote exports in 1972. For more than 3 decades, Thailand was an agricultural country, but rapid economic growth has transformed Thailand over the past few decades, with the manufacturing industry's share of GDP increasing steadily. Along with changes in the structure of the Thai economy, the government has deregulated the industry sectors to increase competitiveness in the local industry and gain access to foreign markets. The automobile industry, for example, was liberalized, which decreased domestic car prices and improved competitiveness. Thailand's experience shows that besides macroeconomic management and infrastructure investments, conservative fiscal and monetary policies make it possible for the private sector to grow. As a result, SMEs started to play a significant role in the Thai economy, with the annual GDP growth rate of SMEs averaging around 5%.³⁸

³⁶ C. Ratha. 2009. An Assessment of SME Development in the Border Twin Cities of the GMS: A Case Study of Bavet, Svay Rieng, Cambodia. *Research Working Paper Series*. Mekong Institute. Phnom Penh.

³⁷ This law applies to "partnership," which falls into the category of a general partnership or a limited partnership; "limited company," which is either a private limited company or a public limited company; and "foreign business" as well.

³⁸ Kasikornbank PLC. 2009. *Improving Trade Finance Environment for SMEs: Situation, Solution and Recommendation*. Bangkok.

Policy instruments. Thailand implements a number of fiscal policies and measures to support SME development: (i) extension of loans through financial institutions and commercial banks, which have not fully met the financial needs of SMEs; (ii) mobilization of funds through the securities market, which includes establishment of mutual funds for SMEs and investment in the Market for Alternative Investment; (iii) cancellation of the 1.5% value-added tax for SMEs with an annual income between B600,000 and B1.2 million; and (iv) reduction of corporate income tax for SMEs that have a registered capital of less than B5 million. SMEs also face problems with locating markets and product promotion. To address these concerns, the government implemented measures to (i) promote the establishment of product distribution centers, (ii) promote agriculture-based products produced in communities, (iii) improve packaging standards of locally produced goods and products, and (iv) develop a trade information system and use of e-commerce.

Thailand has also implemented policies that help promote technology and innovation for investors. These include (i) corporate tax exemption on income equivalent to a firm's expenditure on research and development, (ii) depreciation deduction on the sale of machines and equipment used for research and development, (iii) technological data services for improvement of product and research services for manufacturing problem solving and quality improvement, and (iv) setting up of conditionalities on technology transfer by transnational companies to Thai supporting industries and personnel.

Policies on management and human resources require—through responsible government agencies—counseling services on management and training for SME workers and entrepreneurs. SMEs Financial Advisory Center provides advisory services. In addition, regulations that hindered SME management have been amended (e.g., the exemption of the requirement of accounting standards for companies that are not public companies).

Viet Nam

Political and economic governance. Viet Nam's political institutions are generally solid, and the political system is perceived as stable. Basic education and health care are available across the country, providing an important basic prerequisite for economic growth. The SME support system in Viet Nam functions under the leadership of the Prime Minister and has been established according to Government Decree No. 90/2001/ND-CP, dated 23 November 2001. An SME Development Council chaired by the Minister of Planning and

Investment was created to advise the Prime Minister on SME development. In provinces, while the Department of Planning and Investment under the provincial or municipal people's committee serves as the SME policy coordination agency, the Agency for SME Development (ASMED) was created as the focal point for SME support. Government agencies at the central and provincial levels collaborate closely with the private sector to assist SMEs in improving their competitiveness.

Policy instruments. The following are guiding policies and principles for the development of SMEs in Viet Nam: (i) Prime Minister's Decision No.236/2006/QĐ-TTg (23 October 2006) on the approval of the SME Development Plan 2006–2010, which highlighted the importance of a multisector economy characterized by cooperation, healthy competition, and sustainable development, and stressed the need to mobilize internal and external resources for SME development to achieve economic efficiency, inclusive growth, and environmental sustainability; (ii) Decree No. 88 (2003), providing the legal basis for the establishment and operation of business associations, and further strengthening the representation of the private sector; and (iii) Decree No. 90 (2011) establishing the ASMED under the Ministry of Planning and Investment as the focal body for SME development policies and programs.

Inter-Institutional Relationships for Business Support

Cambodia

In 2004, the Government of Cambodia³⁹ crafted the Rectangular Strategy, aimed at promoting economic growth through competition and development of SMEs in the country. This facilitated the establishment of institutional support mechanisms for business support to SMEs. Aside from this strategy, a trade facilitation program is being implemented to simplify and improve the process of moving goods across Cambodian border gates. The primary instrument of the program is the Single Administration Document of the Customs Department, which eliminates the required filling out of duplicate forms at different departments for exporting and importing firms.

³⁹ Cambodia Development Research Institute. 2012. *Cambodia Outlook Brief*. No. 1.

Strengthening the legal system can reduce the need for land as collateral. In this regard, the Ministry of Land Management, Urban Planning, and Construction—in cooperation with donor partners—is systematically issuing formal titles on all lands within Cambodia. Once SMEs have formal titles recognized by the courts, the transaction costs associated with using land as collateral should decrease. By the same token, the ability and willingness of SMEs to access formal long-term credit should increase as the risks and costs of lending decrease.

In terms of creditworthiness of SMEs, the National Bank of Cambodia and the Association of Banks in Cambodia have designed a system for sharing credit information among banks. However, the system relies on prospective borrowers providing evidence of previous borrowing, which can be collaborated by other financial institutions. This may benefit those with a good credit history but does not extend the same for individuals who have never borrowed from banks.

On SME accounting standards, the National Accounting Council recognizes the need for simplified and standardized reporting and guidelines for SMEs to increase their compliance. Also, the Ministry of Economy and Finance started implementing a training program for SME business managers, which includes basic accounting and management skills. The training programs have been implemented through government-sponsored training centers or business associations like the Phnom Penh Small and Medium Industry Association.

Public-private partnerships. Inter-institutional linkages between SMEs and the government tend to be weak in Cambodia. There are very few formal contracts between businesses and along supply chains. However, there are an increasing number of organizations involved in developing linkages between Cambodian SMEs such as the Phnom Penh Chamber of Commerce, Cambodia Development Resource Institute, and Mekong Private Sector Development Facility.

Thailand

The Government of Thailand⁴⁰ has established numerous initiatives to assist in SME development, particularly SME financing. Under such initiatives, the SME Bank, Small Industry Credit Guarantee Corporation, and the Venture Capital Fund Management were set up under the Office of SME Promotion.

⁴⁰ Organisation for Economic Co-operation and Development. 2011. *SME and Entrepreneurship Framework Conditions and Business Environment in Thailand*. Bangkok. http://www.oecd-ilibrary.org/industry-and-services/thailand-key-issues-and-policies/sme-and-entrepreneurship-framework-conditions-and-business-environment-in-thailand_9789264121775-6-en

The Market for Alternative Investment was set up to give SMEs access to capital, while the Central Credit Information Services Company Limited and the Thai Credit Bureau Company Limited were created to collect and facilitate information sharing for SMEs.

The government has also embarked on an initiative to conduct research on SME development and provide SMEs with training through the Institute for SME Development via Thammasat University. In addition, Thailand's BOI set up its BOI Unit for Industrial Linkage Development to assist SMEs in various ways such as through programs linking Thai SME investors to foreign investors, training sessions for SMEs, and other programs aimed mainly at SMEs in the manufacturing sector. The BOI also supports economic development in isolated locales by offering its most attractive incentives to businesses that operate in the most remote areas.

The Office of Tourism Development also helps with the development and promotion of community-based tourism or pro-poor tourism through the promotion of the one-town-one-product model, promoted by various governments, and the government of Japan as a donor.

Public-private partnerships. The government conducts research and training courses through Thammasat University, a model that is worth emulating by other countries. The Institute for SME Research has research and training programs that specifically target the tourism sector, among others. In addition to the one-town-one-product model, the government has introduced new partnership modalities such as PPPs and venture capital aimed at developing SMEs.

Viet Nam

The Enterprise Development Agency of the Ministry of Planning and Investment coordinates Viet Nam's overall institutional arrangement for effective assistance to SME development. The agency maps development partner activities nationally and ensures their complementation, sector coverage, and geographic balance. Its Department of Planning and Investment coordinates and monitors aid activities locally in the respective province. Various institutions also provide specialized support based on sectors such as provincial industries agencies under the Ministry of Industry, the Agricultural Encouragement Center under the Ministry of Agriculture and Rural Development, and the Trade Promotion Agency under the Ministry of Trade.

Viet Nam's SME development program adopts the program approach—converging international aid assistance to improve policies and legal and institutional frameworks that support efficient and effective business operations—to create an enabling business environment for sector development. It takes into account assistance provided by other multinational and bilateral aid agencies to develop aid synergies for the highest possible program effectiveness.

Public–private partnerships. On the private sector side, the Viet Nam Chamber of Commerce and Industry promotes the development of—and cooperation among—business enterprises in Viet Nam and with international partners. The Viet Nam Association of Small and Medium Enterprises (VINASME) represents the interests of enterprises, advocates policies supporting SME development and international cooperation, and coordinates activities among enterprises. The VINASME operates at the central level and has member associations in provinces. The government also taps academic institutions for research in pursuit of SME development.

Evolution of Capabilities and Policies

Cambodia

After the civil war, the Government of Cambodia set up a multipronged strategy in which SME development became one of its prominent policies. The new policy encouraged local production and international trade by opening up its economy to foreign investors without discrimination and restrictions. The government established the SME Subcommittee in 2004 to support SME development in policy and program implementation. This subcommittee consists of relevant ministries including the Ministry of Mines and Energy; Ministry of Commerce; Ministry of Agriculture, Forestry and Fisheries; Ministry of Economy and Finance; Ministry of Tourism; Ministry of Women's Affairs; Ministry of Labour; Ministry of Rural Development; Council for the Development of Cambodia; and the Cambodia Chamber of Commerce.

Thailand

The Government of Thailand has identified human resource development and industry promotion support—with emphasis on SMEs—as main pillars of its industrial development strategy aimed at promoting industries that have high

domestic value addition (i.e., creating more jobs) and can find niches in the world economy (i.e., by not competing directly with the PRC and others).⁴¹

To facilitate coordination between government, business, and industrial experts in the design and implementation of industrial development strategies, the government created nine industry-specific nonprofit institutes under its Board of Investment that cover steel, food, automobile, electronics, and textiles.

Another feature of the Thai industrial policy design is the depth of involvement of the private sector. Policy design, implementation, and adjustment are conducted through close and continuous cooperation between the government and the business community, with the private sector taking the lead. The government established industry-specific government committees for individual key industries. Officials and managing directors of major producers serve as committee representatives evaluating current situations and new issues, while special subcommittees are set up to draft required solutions.

Viet Nam

The 1986 Doi Moi policy paved the way for the development of SMEs. The amendment of Viet Nam's constitution in 1992 led the National Assembly to approve the Enterprise Law and the introduction of state-owned enterprise privatization in 1999. In 2002, the Communist Party Standing Committee approved Resolution No. 14-NQ/TW aimed at creating a favorable and simpler institutional environment for starting and conducting business, and implementing support policies related to land, finance, labor, social insurance, training, and trade and investment promotion. In the same year, the Comprehensive Poverty Reduction and Growth Strategy stressed the pivotal role of SMEs in contributing to the growth of the national economy, job creation, poverty alleviation, and hunger eradication.

The SME Development Plan 2006–2010, which went through a participatory formulation process involving 64 provinces, 21 SME task groups, and 34 business and civil society organizations, was adopted to eliminate or at least reduce the constraints faced by SMEs. It also introduced regulatory reforms to minimize the cost of doing business.

⁴¹ Ministry of Industry (MOI) and Vietnam Development Forum (VDF). 2005. MOI-VDF Joint Mission on Industrial Policy Formulation of Thailand. Ha Noi. <http://www.grips.ac.jp/teacher/oono/hp/docu01/Thai07.doc>

Assessment of Regulatory Instruments

Cambodia

Financial instruments. Cambodia's primary financial policies include the Law on Banking and Financial Institutions (1999), which was enacted to improve the financial facilities and credit access. It strengthened the base of the financial institutions and the Amended Law on Investment Guarantees (2003), which provides for investors to freely remit foreign currencies abroad through authorized banks for the discharge of financial obligations. Cambodia is eligible for the Quick Cover Program, which offers conduits for financing and political risk insurance coverage for projects on an expedited basis.⁴² Further, the Export–Import Bank of the United States (US), provides financing for purchases of US exports by private sector buyers in Cambodia on repayment terms of up to 7 years.

Sector policies. Since 2006, the Government of Cambodia has started putting in place a policy environment to facilitate investments in its cities and towns, including its SEZs, through laws and regulations enacted in various sectors. Cambodia's economy is starting to diversify from its narrow range of core sectors into new manufacturing, services, and agricultural products as its sector policies are now plugged into global networks—particularly in international trade and investment. The promulgation of globally and regionally compatible regulatory frameworks such as the 2001 Land Law and ADB-supported GMS initiatives have done much to enable urban areas to benefit from the foreign direct investment, integration into regional supply chains, as well as knowledge transactions with transnational corporations, research institutions, and other knowledge networks.

Cluster and value chain development.⁴³ Despite the emergence of industries, agriculture is still the dominant economic activity in Cambodia, including the production of processed agricultural products. Much of the small-scale processing takes place in households or villages, with only a few firms operating on a large scale. Many farmers are also employed on a part-time basis, and about 1.6 million people are involved in informal and microenterprise activities. The major trade flow of fruits and vegetables comes from provinces with

⁴² Cambodia is eligible for the Quick Cover Program, which the US Overseas Private Investment Corporation supports.

⁴³ C. Chaminade and V. Jang. 2008. Upgrading in Asian Clusters: Rethinking the Importance of Interactive Learning. Paper no. 21. *Science, Technology and Society*. 13 (1). pp. 61–94.

surplus production relative to subsistence needs (e.g., Battambang). The flow moves from provincial areas to Phnom Penh, and informally exports to Thailand and Viet Nam. However, this flow can be reversed according to season and depending on the size of the harvest.

Promotion of exports. The Ministry of Commerce set up the Cambodian Export Promotion Agency in 1996, which was later changed to the Export Promotion Department in 1997. This department takes charge of export promotion of Cambodian products such as garments, footwear, wood products, and rubber. Garments are exported mainly to the US and Europe. To enhance trading, all quantitative restrictions limiting the ability of firms and individuals to engage in international trade have been largely removed.

Promotion of investment. Under the Law on Investment, FDI is treated in a nondiscriminatory manner and is entitled to various incentives once the business is legally registered. According to the Cambodia Development Resource Institute, regulations on property ownership such as provisions under the 2001 Land Law for foreign investors to secure control over land through concessions, long-term leases or renewable short-term leases, and policies on building ownership for qualified investors have encouraged inflows of foreign capital investment. To facilitate business registration processes, SEZ authorities are also mandated to provide one-stop services to SEZ locators or investors. An inexpensive alternative dispute mechanism for investors is also provided with the enactment of Commercial Arbitration Law in 2006 and establishment of the National Arbitration Center in 2010. A pending law on competition, part of Cambodia's WTO accession obligations, is yet to be passed.

Business support for quality control and/or certification. As far as exports are concerned, there is a need for credible certification of compliance with mandatory standards. In the absence of inspection and certification standards of Cambodian products for export, intermediate solutions were proposed:⁴⁴ (i) outsourced production and certification, and (ii) application of internal quality and documentation standards for industries to meet their own certification requirements.

Integration between sector, infrastructure, and trade policies. There have been a number of programs linking sector policies with trade and enhancing

⁴⁴ Food and Agriculture Organization of the United Nations. 2010. *An Action Plan to Improve Sanitary and Phytosanitary Capacity in Cambodia*. Phnom Penh.

regional connectivity, especially under GMS infrastructure development projects supported by ADB. One such scheme is the rehabilitation of Phnom Penh's central train station and railway that links the capital to other cities in the GMS (Bangkok and HCMC). Aside from this, improvements are needed in the city's logistics and communications capacity, sewerage system, road network, and power supply. The preparation of a master plan incorporating appropriate land use schemes is critical to coordinating these infrastructure improvements and national and regional trade linkages.

Thailand

Thailand has a strong policy for assisting the development of SMEs. A key concept of the SME support policy in Thailand is its harmonious development, while promoting industry competitiveness and high productivity in exports.

Financial instruments. The financial policies and measures to promote and support SMEs cover almost all aspects of SME development, including finance, marketing, technology, innovation, management, human resources, and adjustment of laws and taxes. Among these are (i) soft loans to SMEs at an annual rate of 1% from the Bank of Thailand (after which the banks lend to the private sector at a rate not higher than the minimum lending rate less 2.75%) and (ii) extension of loans through financial institutions and commercial banks through schemes such as portfolio guarantees and mutual funds. However, these instruments have not fully met the financial needs of SMEs, as these measures are not satisfactory in spite of tax incentives and other initiatives such as financial advisory services.

Sector policies. The 10th National Economic and Social Development Plan, 2007–2011 should be seen as a response to the economic and social challenges identified during the implementation of the ninth plan. Thailand's policy focuses on financial and corporate sector restructuring, legal reforms in corporate governance and bankruptcy, and privatization. The creation of an enabling business environment will be crucial in attracting significant FDI, creating employment, enhancing productivity growth, and improving working conditions.

Cluster and value chain development. Clustering is increasingly becoming more closely linked to the value chain approach. In a cluster, producers are expected to profit from parallel links to suppliers and buyers. As such, the cluster can be seen as an integral part of a value chain. Cluster development focuses

both on the improvement of operations at a specific segment of the value chain as well as the integration of these operations in the overall value chain.⁴⁵

Promotion of exports. The system to promote exports was through the refinancing facilities of the central bank in Thailand. Exporters wishing to obtain cheap loans could issue their promissory notes to be discounted by commercial banks at below-market interest rates. In addition to this packing credit, short-term preshipment loans were also provided by the Government of Thailand based on foreign letters of credit, orders, and contracts.

Promotion of investment. Thailand's investment promotion policy in 2011 focused on two major areas: (i) to encourage foreign investors to invest more in Thailand and (ii) to facilitate more Thai investments overseas. In the same year, Thailand promoted investments in such sectors as alternative energy, automotive manufacturing, green production, creative industries, and research and development. The country's international investment potentials include sectors such as construction, petrochemicals, tourism, fisheries, and textiles.

Integration between sector, infrastructure, and trade policies. Infrastructure and related services play a crucial role in the flow of international trade. In 1998, Thailand joined its GMS neighbors to connect their respective road networks to expand trade. Authorities reached a GMS Cross-Border Transport Agreement that was introduced in 2011 to support transport and facilitate trade. The agreement covers nearly all aspects of goods and services flows, including customs inspections, transit traffic, and road and bridge design.

Viet Nam

Financial instruments. For the past few years, Viet Nam's financial policy has improved through a number of changes in regulations on the provision of credit to the private sector. Informal financial credit sources have been playing an important role to meet the needs of SMEs for capital investment and business development. Financial support in the form of industrial loans and subsidies could be seen as a key driving force to promote the development of SMEs. The government has used Viet Nam's tax policy as an important tool to encourage investment. This has created a new environment for entrepreneurial business development.

⁴⁵ United Nations Industrial Development Organization (UNIDO). 2009. Value Chain Diagnostics for Industrial Development: Building Blocks for a Holistic and Rapid Analytical Tool. *UNIDO Working Paper*. Vienna.

Sector policies. After 2000, the Government of Viet Nam adopted more reform policies to accelerate the development of private enterprise. The government formulated a comprehensive and synchronized legal framework in parallel with perfecting existing legal documents that regulate enterprise activities. One of the milestones of the reform was the enforcement of the Law on Enterprises in 2000 and Decree 90/2001/ND-CP, dated 23 November 2001, which stipulates supporting measures for SME development.

Other trade sectors and their related regulatory frameworks are as follows: (i) banks—Law on State Enterprises and Enterprise Law; (ii) businesses operating in securities markets—Law on Securities Business and sub-law decrees and circulars; (iii) educational service institutions—Enterprise Law, Law on Education, and Decree 98/CP1993; (iv) maritime transportation—Enterprise Law, Law on State-Owned Enterprises, Decree 10/2001/ND-CP on the regulation of requirements for maritime services business registration, and Decree 57/2001/ND-CP on the regulation of requirements for maritime transportation businesses; (v) telecommunication—Telecommunication Law; and (vi) tourism service businesses—Enterprise Law.

Cluster and value chain development.⁴⁶ Development of industrial clusters can boost the competitiveness of Vietnamese industries and support effective production networks and value chains. The supply chain for leather footwear production is a good case to illustrate such development. The country is the fourth-largest footwear producer and exporter in the world. The leather footwear and leather products sector in Viet Nam accounts for approximately 40% of the value of industrial production and nearly 10% of the country's export turnover. On an annual basis, Viet Nam produces over 800 million pairs of shoes of various kinds, of which over 90% is exported. Viet Nam offers incentives (i.e., subsidies) to encourage productive activities. With regard to tariffs, Viet Nam enjoys multiple preferential arrangements for various inputs associated with the production of leather shoes. Currently, the European market is Viet Nam's biggest export market for leather footwear.

Promotion of exports. A strategy adopted by the Government of Viet Nam to promote exports was to develop border economic zones (BEZs). The BEZs are granted special administrative and regulatory status suited to the local conditions to ensure rapid socioeconomic development, which has strong

⁴⁶ World Bank. n.d. Comparative Value Chain and Economic Analysis of the Leather Shoe Sector (Sheepskin Loafers) in Ethiopia, Tanzania, Zambia, China and Vietnam. <http://siteresources.worldbank.org/DEC/Resources/VolumellCh4.pdf>

spillover effects in the peripheral areas. There are about 26 BEZs in the country. The northern BEZs link Viet Nam with the PRC, the central BEZs serve as a bridge between Viet Nam and the Lao PDR, while the southern BEZs facilitate cross-border trade between Viet Nam and Cambodia.

Promotion of investment. The Investment and Trade Promotion Center (ITPC) of the HCMC People's Committee organizes seminars and programs for visiting missions and individuals seeking business opportunities in Viet Nam. It also has the principal responsibility for organizing investment and trade promotion activities in international markets. With its main functions of promoting export and attracting FDI into HCMC, the ITPC provides local and foreign businesses with updated trade and investment information as well as matchmaking and consulting services, and acts as an efficient bridge between local enterprises and foreign counterparts. The ITPC supports local enterprises by providing information on prices and markets, the export–import situation, government regulations, and other information concerning the trading and manufacturing activities of enterprises. The ITPC also organizes tours abroad to exhibitions and seminars for finding business partners, discovering business opportunities, and expanding markets.

Business support for quality control and/or certification. The Law on Product and Goods Quality came into effect on 1 July 2008, replacing the Ordinance on the Quality of Goods. The law provides that manufacturers and traders must take responsibility for the quality of the goods or products that they manufacture or trade in order to ensure safety for humans, animals, plants, property, and the environment, as well as to enhance the productivity, quality, and competitiveness of Vietnamese goods and products. The key legislation regarding labeling is Decree 89/2006/ND-CP dated 30 August 2006 on the Labeling of Goods, which applies to all goods produced in Viet Nam for distribution within the country or for export, and applies equally to foreign-made goods that are imported for sale in Viet Nam.

Integration between sector, infrastructure, and trade policies. The current approach is focused on providing cheap credit to individual companies and infrastructure such as industrial parks. There are few linkages with other related policies (i.e., FDI, labor, infrastructure, etc.).

Conclusion

Based on the preceding chapters, the following conclusions can be drawn as to the competitiveness and potentials of cities and towns along the SEC:

Two central economic models have emerged from the GMS economies: tourism and industries. Tourism activities capitalize on the combination of natural resources and services, offering an economic activity that is environmentally sustainable and socially inclusive. In the case of industries, cities and towns along the GMS corridor have drivers that attract investments. These drivers include (i) SEZs; (ii) favorable investment climate (i.e., the establishment of one-stop business processing centers); (iii) stable political climate such as good governance; (iv) favorable macroeconomic conditions; (v) predictable legal system; (vi) inclusive social development; (vii) good infrastructure linking supply and production chains; (viii) availability of incentive policies such as fiscal incentives (i.e., tax holidays and exemptions), expansion of business (asset depreciation), and other nonfiscal incentives (financial policy support and investment facilitation); (ix) start-up grants or free land lease; (x) locational advantages (i.e., proximity to SEZs and airports or seaports, lower cost of living, and wage rates); and (xi) availability of resources, market, and other product and trade linkages.

There are several crosscutting issues for the examined SEZs that speak to their ability to attract investments, drive local development, and enhance regional integration:

- i. Most locators in the GMS corridors, especially in the SEZs, are involved in foreign trade (export) but have weak internal linkages with some locators—particularly in Cambodia, where 60% of their raw materials are sourced from Viet Nam.
- ii. There is a need for a holistic approach that is inclusive and sustainable to ensure that the emerging corridor cities can cope with current threats to their long-term future such as climate change.
- iii. There is a need for continuous innovation in institutions and a change in attitudes on the part of the governments to promote participation and partnerships with both civil society and private companies.
- iv. SEZs are highly dependent on foreign expertise, capital, demand, and technology.
- v. For regional integration, the SEZs reflect important outcomes of ADB-funded infrastructure projects linking the GMS countries. While

connectivity is established in a basic sense through roads and the Cross-Border Trade Agreement, it should be strengthened and deepened to provide genuine incentives for investment, trade, and development along the corridors, as well as for competition and cooperation to be achieved.

- vi. There is a lack of available public infrastructure.
- vii. The lack of available public infrastructure has prompted SEZs to build their own infrastructure.

The ongoing initiatives of ADB under the GMS Corridor Towns Development Projects in Cambodia and Viet Nam are directed at enhancing the environmental performance of the towns on the SEC to become more competitive, cleaner, and greener locations for the newly evolving industries and tourism within the GMS.

Appendix: Competitiveness Drivers in Southern Economic Corridor Towns and Cities

Competitiveness Drivers Survey	Bangkok	Poipet	Battambang	Phnom Penh	Bavet	Moc Bai	Ho Chi Minh City
Dynamism of Local Economy							
Market size (population)	14,565,520	95,150	150,000	2,234,566	11,201	25,258	7,396,500
Land area (km ²)	7,761.50	273.14	115.44	678	206	210	5894
Population density/km ²	1,876	348	1,299	3,293	54	120	1,254
Per capita income (\$)	20,000	...	...	769	...	...	3,138
Inflation rate (%)	3.81	...	...	5.60	...	...	18.58
Number of commercial/universal banks	27	3	8	10	3	0	16
Presence of business organizations	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hosting/participation in trade fairs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Access to credit	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of mobile phone providers	...	...	...	8	...	...	...
Number of fixed line providers	3	...	4	27	...	...	7
Number of internet providers/DSL	2	...	6	87	1	1	...
Number of SEZs	14	1	0	1	4	13	15
Number of commercial shipping lines/freight agencies	73	0	0	13	2	0	...
Number of commercial airlines	88	0	0	20	0	0	8
Frequency of commercial flights	Daily	None	None	Daily	None	None	Daily
Number of business establishments (SMEs)	296,552	...	292	95,848	861	...	92,000

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Appendix continued

Competitiveness Drivers Survey	Bangkok	Poipet	Battambang	Phnom Penh	Bavet	Moc Bai	Ho Chi Minh City
Cost of Doing Business							
Average rental cost of commercial space/m ² (\$)	26	25	9	20	...	25	55
Average lease of industrial land/m ² (\$)	...	30	30	55	30	Free	60
Average electricity rate/kWh, commercial (\$)	1.00	0.12	0.25	0.19	0.1265	0.075	0.075
Average water rate/m ³ (\$)	0.40	0.35	0.37	0.30	0.15	0.08	0.08
Minimum wage/month (\$)	145	50	50	55	61	52	73
Average cost of telephone installation (\$)	107.45	15	15	15	15	...	...
Average cost of international call/minute (\$)	0.16	2.50	2.50	2.30	2.50	...	...
Average cost of internet access/hour (\$)	1.28	1.00	1.00	1.00	1.00	1.00	1.00
Average cost of roaming call/minute (\$)	5.00	5.00	5.00	4.00	5.00	5.00	5.00
Supply chain	Labor/Raw Material	Labor	Labor/Raw Material	Labor	Labor	Labor/Raw Material	Labor/Raw Material
Infrastructure							
Number of airports	2	1	1	1	0	0	1
Travel time from CBD to international airport	1 h	2 h	2 h	45 min	1 h	2 h	1 h
Number of seaports	1	0	1	1	0	0	8
Capacity of container port (teu)	4,705,000	None	None	120,000	None	None	23,051,000
Number of fixed line providers	2	28

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Appendix, continued

Competitiveness Drivers Survey	Bangkok	Poipet	Battambang	Phnom Penh	Bavet	Moc Bai	Ho Chi Minh City
Number of subscribed telephone lines	...	...	...	50,000	...	...	2,000,000
Number of mobile providers	3	...	...	8	...	...	4
Total power capacity (MW)	...	...	...	150	...	...	...
Source of electricity	Thermal	Hydro	Hydro	Hydro	Hydro	Hydro	Hydro
Source of water service	1	1	1	1	1	1	1
Number of internet service providers	14	...	...	17	...	...	6
Length of concrete/paved roads (km)	...	...	299.6	413,829	24	...	...
Number of registered vehicles	771,199	...	...	670,091	...	...	...
Road density (vehicles/hour)	...	...	...	1.62	...	...	...
Presence of green infrastructure	Yes	No	Yes	Yes	Yes	Yes	Yes
Presence of intermodal transport network	Yes	No	None	Yes	None	Yes	Yes
Presence of SEZ/industrial parks	Yes	Yes	None	Yes	Yes	Yes	Yes
Need to improve road network	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sufficient drainage system	No	No	No	No	No	No	No
Responsiveness of City Government to Business Needs							
Length of time to process investment registration (days)	29	31	31	31	31	7	7
Number of steps involved in investment registration	6	4	4	4	4	9	9

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Appendix continued

Competitiveness Drivers Survey	Bangkok	Poipet	Battambang	Phnom Penh	Bavet	Moc Bai	Ho Chi Minh City
Number of documents required	6	14	14	14	14	55	55
Length of time to process business permits and licenses for SMEs (days)	29	85	85	85	85	44	44
Number of steps involved to register a business	5	9	9	9	9	9	9
Provision of incentives	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hosting of trade and investment promotions	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Conducting of job fairs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Climate change mitigation/adaptation policies	Weak	Weak	Weak	Weak	Weak	Weak	Weak
Presence of urban development plan	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quality of Life							
Solid waste management programs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Presence of health and sanitation code	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of hospitals	138	1	4	9	1	0	100
Inspection and ISO conformance	Yes	No	No	Yes	No	Yes	Yes
Travel time to workplace (SEZ) from CBD	1 h	1–2 h	30 min	30 min	1 h	1 h	1 h
Presence of clean open green spaces	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Presence of clean bodies of water	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Need to improve sanitation, sewage facilities	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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Appendix: *continued*

Competitiveness Drivers Survey	Bangkok	Poipet	Battambang	Phnom Penh	Bavet	Moc Bai	Ho Chi Minh City
Human Resource Development							
Number of higher educational institutions	112	0	9	34	0	0	75
Number of vocational/technical institutions	427	0	5		0	0	21
Existence of public-private partnership in conducting training programs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of people in the workforce	3,895.59	84,000	430,000	693,000	500,000	732,840	...
Employment rate (%)	99	...	...	70.7	...	...	95

CBD = central business district, DSL = digital subscriber line, h = hour, ISO = International Organization for Standardization, km = kilometer, km² = square kilometer, kWh = kilowatt-hour, m² = square meter, m³ = cubic meter, min = minutes, MW = megawatt, SEZ = special economic zone, SMEs = small and medium-sized enterprises, teu = twenty-foot equivalent unit.

Source: Authors' computation based on field survey.

Chapter 5

Promoting and Scaling Up Cooperative Urban Development: A Perspective from the People’s Republic of China via Yunnan Province

Xiangming Chen

Introduction

The Greater Mekong Subregion (GMS) has recently turned 20. As a collective unit, the GMS has become more linked and increasingly integrated as its member economies have grown rapidly through more trade, investment, and other ties with one another. According to the recent report *The Greater Mekong Subregion at 20: Progress and Prospects* by the Asian Development Bank (ADB), economic growth in the region has averaged close to 8% per year throughout the 2 decades, with most countries growing more rapidly in the second decade than in the first. Given the overall growth record of the People’s Republic of China (PRC), its two subnational units in the GMS—Guangxi Zhuang Autonomous Region (Guangxi) and Yunnan Province (Yunnan)—have a close to double-digit growth rate, while most of the other countries have consistently averaged between 6% and 8% per year, with the exception of Thailand’s more mature economy. Fast growth has also reduced poverty rates by more than half in Cambodia and the Lao People’s Democratic Republic (Lao PDR), both the poorest countries in Asia and the world.¹ This is a significant achievement in a relatively short time span considering Cambodia, the Lao PDR, and Myanmar were ranked at the bottom, even among least developed countries. Their lagged development at the outset of the GMS Program was in different ways and to differing degrees linked to their geographic locations, colonial histories, ethnic and military conflicts, and socialist legacies. Without the GMS as the initial trigger and continued stimulus, its member countries would not have done nearly as well as they have.

¹ ADB. 2012. *The Greater Mekong Subregion at 20: Progress and Prospects*. Manila.

The collective progress of the GMS countries benefited most from the growing openness and linkages to one another under a cooperative framework. According to ADB, the openness ratio—or the ratio of total trade to gross domestic product (GDP) for all GMS countries—increased greatly, albeit unevenly, over time. Their incoming foreign direct investment also rose more than tenfold, and in some cases even higher. Intra-GMS trade grew 22% per year between 2000 and 2009, even though it still accounts for only 6% of total GMS trade. This pace and scale of cross-border economic flows fostered tendencies and movements in regional integration with the growing spread of agglomeration benefits. By this aggregate economic measure, the GMS is a major success story that has been well documented by ADB.

Beyond and beneath the national and regional views, there lurks another layer of the GMS that lagged in development—connections among the cities within and across the member countries. Given the expansive geographic territories, agricultural lands, and multiple borders within the GMS boundary, rapid economic development in member countries over the last 20 years is unlikely to evenly benefit all of their subnational parts. To achieve more balanced subnational development, the cities—large or small—in GMS countries will need to play their individual and collective roles more effectively to generate local growth, stimulate regional development, contribute to national welfare, and foster GMS and even global integration. This is a difficult proposition because besides the national capitals, there are few cities of sufficient demographic and economic scale and strength in the GMS. Moreover, these noncapital cities are located unevenly across space, weakly connected, and quite limited in functioning as regional centers to facilitate broader development. While this may not be unique to the GMS, it raises the timely question of how to promote and guide regional development of cities within and across national boundaries, which can help propel the GMS to the next and more successful stage of development.

Reassessing Regional Urban Development

Urban development, or the growth and changing functions of cities, always occurs in some sort of regional context. In fact, the regional dimension and connections of cities long predate their positions in any kind of national urban system and policy environment, because cities and regions are much older than the modern sovereign nation-state in its legal territorial form, which formally

came into existence with the Peace of Westphalia in 1648. For centuries, if not longer, the regional context of cities was shaped and constrained by natural geographic endowments such as location on or by oceans, rivers, or valleys. Increasingly longer distance trade, in conjunction with industrialization, overcame some regional territorial barriers and reinforced several regional comparative advantages to facilitate inter-city economic connectivity and functional division of labor. Some aspects of this regional urban change were captured by the German geographer Walter Christaller in his Central Place Theory in the first half of the 20th century.² He saw a regional urban system in which the cities or urban settlements are arrayed hierarchically to provide services to surrounding areas in a fairly regular and predictable spatial pattern. This model crystalized the classical notion of natural economic regions as more or less closed containers of functionally and spatially linked cities with surrounding rural hinterlands.

Central place-like regional systems also emerged and existed robustly in many parts of pre-1949 rural PRC. G. William Skinner provided an extensive treatment of this development.³ The PRC's rural marketing systems consisted of settlements that performed central place economic functions in a regular hierarchy. Skinner identified three levels of central places: standard market town, intermediate market town, and central market town, each of which had a market that served a corresponding area. A local or regional city stood above the central market town and served a larger and more urbanized marketing area. Urbanization in many parts of Asia from the 1960s exhibited an extended metropolitan form of mixed urban and rural characteristics and processes by which major cities spilled out uneven industrial, commercial, and residential development into the agricultural hinterlands.⁴ Some aspects of these earlier regional systems and processes of both rural and urban attributes have survived despite varied national policies and planning—albeit in altered forms—in several GMS countries through the eras of socialist planning and subsequent market transition.

A regional perspective on cities has recently taken a new turn, deviating from the vibrant path of research on global cities and primary cities from the 1980s. This has stemmed from a growing literature on the renewed importance and dynamics of varied forms of regions and regionalism. This research has

² W. Christaller. 1966. *Central Places in Southern Germany*. New Jersey: Prentice Hall.

³ G.W. Skinner. 1964. Marketing and Social Structure in Rural China: Part I. *Journal of Asian Studies*. 24 (1). pp. 3–43; G.W. Skinner. 1965. Marketing and Social Structure in Rural China: Part II. *Journal of Asian Studies*. 24 (2). pp. 195–228.

⁴ N. Ginsberg, B. Koppel, and T.G. McGee, eds. 1991. *The Extended Metropolis: Settlement Transition in Asia*. Honolulu: University of Hawaii Press.

recognized the “crucial middle” role of regions in bridging and integrating global, national, and local economies. This role also turns regions into highly contested terrains for the diverse tensions and outcomes of economic integration, or lack of it, to play out. These include simultaneous tendencies in competitive and cooperative policies and practices of subnational and local governments against those of global and local firms, as well as shifting opportunities and constraints on economic development.⁵ Looking at cities from this renewed perspective on regions helps us see more clearly how to balance the opportunities and constraints facing the cities in the GMS.

A revived focus on cross-border or transborder regions has added another analytical wrinkle and policy complication to understanding the multiple layers of the city–region nexus. In an earlier book, I characterized trans-border regions as having simultaneous tendencies toward both integration and fragmentation.⁶ This contradiction arises from a transborder region like the GMS being composed of multiple national and subnational politico-economic and territorial units. It has a set of complex economic, political, and spatial relations among the units, because they are linked (i) with outside units within countries, (ii) among the units within the region across borders, and (iii) with external units beyond the region. The integration of transborder regions can be both state-directed and market-led and involve social networks and nonstate actors. Transborder regions are also shaped by the twin processes of debordering and rebordering, which reinforces borders as porous, mutating spaces rather than fixed lines. Debordering is characterized by the role of borders shifting from barrier to bridge, turning some marginal and remote border cities and areas into dynamic and networked centers and hinterlands. Rebordering refers to the state imposing or reimposing control or regulation over borders so as to stem the phenomena of terrorism and other illegal crossings such as drugs and human trafficking. Nevertheless, the territorial authority of the state can be unsettled by other border-making capabilities that include global city-based financial networks and multi-sited, translocal movements.⁷

Given these internal and external factors, cities located in transborder as opposed to within-country regions are exposed to new opportunities for development

⁵ X. Chen. 2007. A Tale of Two Regions in China: Rapid Economic Development and Slow Industrial Upgrading in the Pearl River and the Yangtze River Deltas. *International Journal of Comparative Sociology*. 48 (2–3). pp. 167–201.

⁶ X. Chen. 2005. *As Borders Bend: Transnational Spaces on the Pacific Rim*. Lanham, MD: Rowman & Littlefield Publishers.

⁷ S. Sassen. 2013. When Territory Deborders Territoriality, Territory, Politics, Governance. *Territory, Politics, Governance*. 1 (1). pp. 21–45.

associated with the cross-boundary flows of goods, services, and people. At the same time, they are also subject to certain unfavorable conditions such as marginal locations, relatively small markets, insufficient support from national governments, less developed transportation infrastructure, and potential cross-border conflicts. It is the coexistence of these two opposing sets of forces that determine the success of urban development or the lack of it in a transborder region like the GMS.

Two International Cases and Their Implications for the Greater Mekong Subregion

In understanding the urban scale and intercity cooperation of the GMS, we can look briefly at two cases in the Asian context that are both similar to and different from the GMS, and thus may carry a few pertinent lessons. Unlike such formal regional blocs as the European Union formed through negotiated treaties among nation-states, the GMS features a certain degree of interstate participation with ADB's facilitation. The inclusion of Guangxi and Yunnan as the subnational administrative entities of the PRC adds a less formal or more subnational political layer and a prominent cross-border dimension to the GMS. An analytical and policy shift to urban development in the GMS points to the value of learning about how cities located in less developed territories and near or on borders fare in fostering or inhibiting broader regional integration and development.

The Greater South People's Republic of China Subregion

Given this analytical complexity, I have simplified the earlier and recent findings from my research in this scheme which shows that the dominance of export-oriented manufacturing in the Pearl River Delta (PRD) is embedded in its regionalized, global-local production linkages through global production chains that span Taipei, China; Hong Kong, China; and the PRD cities in Guangdong Province. It displays the complementary inputs from and the functional linkages among the four geographic nodes of commodity chains that connect the PRD to the global economy through Hong Kong, China and Taipei, China. For example, toys are designed in Hong Kong, China; assembled in the PRD, often with a chip made in Taipei, China for talking dolls; and finally packaged in and shipped from Hong Kong, China to world markets. The commodity chain structure of labor-intensive industries in the PRD reveals both the cooperative and competitive

aspects of industry-level, inter-firm ties among the PRD; Hong Kong, China; and Taipei, China. The broad distribution of benefits for the different nodes (cities and region) of a given chain varies according to their relative position on and contribution to its overall value. Generally speaking, multinational companies are most profitable by controlling marketing and retailing. Firms from Hong Kong, China and Taipei, China control the less profitable segments of order receiving and manufacturing services, while factories in the PRD cities profit the least by occupying the middle segment of manufacturing (footnote 7).

Studying the Greater South People's Republic of China Subregion (GSCS)—the PRD in particular through this analytical approach—also highlights the varied and generally complementary roles of core, secondary, and peripheral cities in shaping the production chains within and through a regional urban system. This shifts from a horizontal to a vertical analysis of how cities of different sizes and complexities function both independently and interdependently with one another regionally. While Hong Kong, China and Shenzhen are the dominant cities in the region, relevant lessons for the GMS are more likely to arise from looking at the role of secondary cities like Dongguan. Dongguan is a favorably located secondary city in the PRD bordering Shenzhen (and thus close to Hong Kong, China) and located by the railroad between Guangzhou and Hong Kong, China. This location, coupled with its flexible policies and incentives, has turned Dongguan into one of the “hottest” spots for investments from Hong Kong, China and Taipei, China in over 15,000 enterprises. These accounted for 80.0% of Dongguan's gross industrial output, 62.5% of its economic growth, and 90.0% of its exports in 2002, pushing Dongguan up to the PRC's third-ranked city in exports volume behind Shanghai and its more powerful neighbor Shenzhen.⁸

A rural township surrounded by rice fields and known for growing lychee fruit in the 1980s, Dongguan has risen to a large manufacturing center that stretches 2,520 square kilometers (km²) and includes about 8 million people today. With large revenues from leasing increasingly valuable land for building factories, the local government is capable of funding the entire primary and secondary education at no cost to residents, and of experimenting with completely free health insurance and old-age pensions. The level of wealth in Dongguan households is reflected in a 20% ownership of private cars, the highest of all cities in Guangdong Province and one of the highest in the PRC (footnote 7).

⁸ Y. Mao, L. Wenxing, and H. Jixia. 2004. Dynamics of SEMs Clusters and Networks: An Analysis of the Export Network Economy of IT Industries in Dongguan. *Web Journal of China Management Review*. 7 (1). pp. 49–65.

The city today even boasts the world's largest shopping mall with a gigantic entertainment park—the New South China Mall—which, however, has attracted only a small number of businesses, customers, and tourists.

Overall, the GSCS is a mature and successful region. Its success stems from the comparative advantages of the four main units (Fujian; Guangdong; Hong Kong, China; and Taipei, China) in creating a powerful synergy for rapid growth and integration. Economic complementarity among the constituent units of the GSCS has created direct and strong linkages between the global and local economies via investment flows and production chains. These flows and linkages allow cities in the PRD to become differentially specialized centers of low-cost manufacturing such as Dongguan. However, this distinctive strength shows an increasingly vulnerable side, as rising labor costs and shortages have slowed down the region's growth—especially during the global financial crisis—triggering a difficult process of industrial upgrading.⁹

If the GSCS, or the PRD more precisely, provides a successful reference or positive lesson for the GMS, the Greater Tumen Subregion in Northeast Asia offers a few potentially negative lessons that may be more pertinent to the GMS.

The Greater Tumen Subregion

The Greater Tumen Subregion (GTS) emerged in 1991 when the United Nations Development Programme (UNDP) initiated the Tumen River Area Development Project. The original core of the GTS was labeled the Tumen River Economic Zone, which was anchored on the border city of Hunchun in Jilin Province of the PRC, the border port city of Sonbong of the Democratic People's Republic of Korea (DPRK), and the port city of Posyet in the Khasan Region of the Russian Far East (RFE). In 1994, this zone of 1,000 km² was enlarged into the Tumen River Economic Development Area, which covered approximately 10,000 km² and was bounded by the border city of Yanji in the PRC, the port city of Chongjin in the DPRK, and Vladivostok and Nakhodka of the RFE. On an even larger scale, the region and its hinterland constitute the spatial core of Northeast Asia encompassing northeastern PRC, the Republic of Korea, Mongolia, the DPRK, and the RFE, especially its eastern section. In 2005,

⁹ X. Chen and T. de'Medici. 2012. From a Fishing Village via an Instant City to a Secondary Global City: The "Miracle" and Growth Pains of Shenzhen Special Economic Zone in China. In X. Chen and A. Kanna, eds. *Rethinking Global Urbanism: Comparative Insights from Secondary Cities*. New York: Routledge. pp. 107-126.

this regional project was transitioned to the four member states of the PRC, Mongolia, the Republic of Korea, and the Russian Federation and rebranded as the Greater Tumen Initiative (GTI). The member states agreed to extend their cooperation for another 10 years via the GTI Strategic Action Plan, 2006–2015. Under this most recent cooperative framework, the Greater Tumen Region is defined as comprising four provinces in the PRC: Heilongjiang, Inner Mongolia Autonomous Region, Jilin, and Liaoning; four Eastern port cities of the Republic of Korea: Busan, Gangwon-do, Gyeongsangbuk-do, and Ulsan; three provinces of Mongolia: Dornod, Hentii, and Sukhbaatar; and Primorsky Territory of the RFE.¹⁰ To draw more relevant implications for regional urban development in the GMS, I focus on the more narrowly defined GTS, especially on the cities and their interconnections in the broader border zones across the PRC, the DPRK, and the RFE.

The GTS has an uncanny similarity to the GMS in featuring the interactions among the socialist and postsocialist border (and hence peripheral) areas—the PRC, the Russian Federation, and the DPRK—in the Asian and global economy, mostly via border trade. Since the early 1990s when relations between the DPRK and the Russian Federation began to decline, the PRC has supplied about one-third of the DPRK's imports, especially oil and grains. The period 1991–1994 saw the most rapid growth of Jilin Province–DPRK trade. The number of traded items went from 217 in 1987 to 230 in 1994. The number of PRC and DPRK companies involved in trade rose from 20 in 1991 to over 110 in 1994. The volume of trade between Jilin's Yanbian Prefecture (with its large population of Korean descent) and the DPRK surged from \$75 million in 1991 to \$310 million in 1993, which accounted for nearly 70% of Yanbian's total foreign trade and about 60% of Jilin's total trade with the DPRK that year.¹¹

In the GTS, the border city of Hunchun in Jilin Province has been an important frontier center due to its favorable location. Centrally situated at the trilateral borders of the PRC, the DPRK, and the RFE, Hunchun has the closest and most convenient access to the railroad and road termini near the DPRK and RFE borders. Following the onset of the Tumen River development in 1992,

¹⁰ C.M. Koo, H. Lee, and D. Yoo. 2011. *Northeast Asian Economic Cooperation: Assessment and Prospects of the Greater Tumen Initiative*. Asia-Pacific Cooperation Academy. Kangwon National University. http://www.academia.edu/1811357/Northeast_Aasian_Economic_Cooperation_Assessment_and_Prospects_of_the_Greater_Tumen_Initiative

¹¹ Footnote 8, p.3.

sponsored by the UNDP, Hunchun was chosen by the central government to be among the first group of officially designated open border cities and was allowed to set up the first Border Economic Cooperation Zone in the PRC. It received infrastructure investment totaling \$150 million from the state. In April 2000, the national government approved the establishment of the Hunchun Export Processing Zone. In February 2001, the national government approved the Hunchun PRC–Russian Federation Free Market and Trade Zone, which offered financial incentives and procedural conveniences, including visa-free entry for Russian traders and duty-free exodus of Russian goods.

The GTS has benefited little from the positive forces of economic globalization via production-driven trade as in the GSCS. Instead, its development and integration have been constrained by unfavorable internal economic conditions, limited and late political decentralization, underdeveloped transportation infrastructure, and the lack of complementarity among the participating units of the GTS. The limited inflow of global capital and export-oriented manufacturing due to the peripheral location of the GTS have imposed an external constraint on PRC border cities like Hunchun to develop beneficial translocal and global ties. Except for the PRC, the national and regional governments of the RFE and the DPRK have severe financial constraints that prevent them from upgrading their segments of the cross-border transportation infrastructure. As a result, the serious dearth of physical or territorial connections in the GTS will persist for a long time and thus inhibit long-term regional growth and integration.

On the surface, the GTS appears to resemble the GMS in having a major international organization (i.e., UNDP) as a key facilitator, a large frontier and underdeveloped cross-border region, a small and unevenly distributed number of relatively small cities, and a lack of transportation connectivity among them. At a deeper level, the differences between them are much more important. The GTS does not have nearly the economic diversity and dynamism of the GMS and has to deal with the political isolation, economic malaise, and military threat of the DPRK. Even the later involvement of the Republic of Korea and Mongolia is shallow and distant. The GMS, however, has enjoyed 2 decades of deeper economic cooperation that is now setting the stage for shifting the development priority to the urban scale, albeit against its own constraints and opportunities.

Urban Development in the Greater Mekong Subregion: Constraints and Opportunities

What are the most relevant lessons from the GSCS or PRD and the GTS for the GMS? In mutually reinforcing and contrasting ways, the two cases illustrate an essential set of factors such as a tiered urban hierarchy, clear functional specialization, and strong transportation linkages that make cities effective in regional growth and integration. To assess how these factors operate in the GMS context, a wider look at the systemic attributes of the GMS cities must be undertaken to see how their positional and relational roles are shaped by critical conditions at the local, national, and global scales.

Salient Characteristics of the Greater Mekong Subregion Cities

Major and minor cities tend to grow individually while connecting to each other in favorably endowed regions that, for example, normally benefit from opportunities provided by an important river. Despite the shared rich water resources of the Mekong River, the GMS has not bred a regional urban system featuring a high level of urbanization, cities of tiered scales and functions, and strong inter-city connections. This current state of urban development could be attributed to the colonial history, a remote frontier status, and a low level of economic development, but it is a given and must be documented and dealt with. All GMS countries show a relatively low level of urbanization, below the world and Asian averages through 2010 (Table 5.1). It is worth noting that even the most urbanized of the GMS members—Guangxi and Yunnan—remained lower than the national level of urbanization of the PRC. Several member states of the GMS experienced accelerated urbanization during 1990–2003. Guangxi, Yunnan, and the least urbanized countries of Cambodia and the Lao PDR urbanized most rapidly. All the GMS countries experienced slower urbanization more recently. Generally speaking, all GMS member countries have entered the stage of urbanization (over 30%) that is usually associated with fast economic growth anchored to cities of a larger size with more functional strength.

While the level of urbanization in the GMS has been relatively low, there is a persistent dominance of a few major cities that are also capitals of their respective countries. Table 5.2 displays the ratio of the capital cities' population to the total urban population in GMS countries. While not the most conventional measure of urban primacy, which ranks the largest city against the second-largest city and the smaller ones in an urban system, the data in Table 5.2 confirm the disproportionately large size and weight of the capital city in the GMS countries. Besides the extreme primacy of Bangkok, Phnom Penh

Table 5.1: Urbanization in the Greater Mekong Subregion Countries, Selected Years

Area	Urban Population (10,000)			Urban Population (%)			Urban Population Growth (annual %)		
	1990	2003	2010	1990	2003	2010	1990–2003	2005–2010	...
World	226,330	301,570	350,000	44	49	51	2.20	...	...
Asia	103,228	161,436	184,773	32	41	44	3.00	2.70	2.70
PRC	31,110	49,800	66,029	27	39	49	3.60	2.93	2.93
Guangxi	628	1,235 ^a	1,842	15	28 ^a	40	7.00	4.08 ^b	4.08 ^b
Yunnan	618	1,127	1,610	17	27	35	5.30	...	...
Thailand	1,040	1,270	2,332	19	20	33	1.50	0.90	0.90
Myanmar	1,000	1,440	1,539	25	29	32	2.80	1.76	1.76
Viet Nam	1,340	2,070	2,670	20	25	30	3.30	2.16	2.16
Lao PDR	60	120	205	15	21	33	4.70	3.80	3.80
Cambodia	120	250	280	13	19	20	5.60	0.66	0.66

... = data not available, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

^a Data for 2000 as data for 2003 are not available.

^b For 1990–2000 and 2000–2010, respectively.

Sources: Data for 1990 and 2003 are from the World Bank through W. Song 2005. A Design of the Urban Structure of the Greater Mekong Subregion (in Chinese). China's Science and Technology Research Articles online. <http://www.paper.edu.cn>; data for 2010 are from various tables from United Nations. 2011. *World Urbanization Prospects: The 2010 Revision, Volume I: Comprehensive Tables*. ST/ESA/SER/A/313. New York: United Nations; data for Guangxi provided by Yina Zhang at Fudan University in Shanghai.

accounted for about half of Cambodia's total urban population around 2000. Over time, however, the demographic dominance of these cities has declined and is projected to drop further by 2015 as the growth of secondary and other cities is expected to pick up speed. Guangxi seems to be an exception as its capital city of Nanning has grown faster than the other cities of the region. Still, strong urban primacy is not good for each GMS country in that it perpetuates the overconcentration of resources in a single city at the expense of secondary and even smaller cities. Given its vast geographic territory, the presence of very few large cities can only play a highly limited role in stimulating and coordinating broader regional development. The GMS countries have very few and sufficiently large secondary cities to help transmit and relay development impulses to the more distant hinterlands.

The overall low level of urbanization coupled with the dominance of a few capital cities in the GMS means that only this handful of urban centers have more diversified functions and that most other relatively small cities are narrowly specialized in single sectors like trade, transportation, and tourism, with little local manufacturing strength.¹² They are also spread unevenly over large distances and are thus incapable of generating many economic linkages and spillovers within and across the GMS countries such as those that have taken place in the PRD as discussed earlier. These characteristics of the GMS cities appear to present more constraints than opportunities for cooperative and integrated regional development.

New Opportunities and Influence from Yunnan Province

As urban development in the GMS is emerging as a polity priority for the next phase of its development, the region is facing new opportunities unleashed by strong and targeted policies from the Government of the PRC and Yunnan. On 6 May 2011, the State Council of the PRC issued an important document entitled "Supporting the Accelerated Construction of Yunnan as the Important Outpost for the Southwest Region," which tasked the capital city of Kunming to become the international hub for PRC's southwestern region facing the GMS. Symbolically, Yunnan's tallest building is rising in Kunming's Panlong District, which will serve as the financial and commercial zone for the local presence and regional expansion of multinational companies. This is only one important component of a broader and ambitious plan to build Kunming up and out as a comprehensive center for trade, transportation, tourism, education, and

¹² United Nations. 2011. *World Urbanization Prospects: The 2010 Revision, Volume I: Comprehensive Tables*. ST/ESA/SER.A/313. New York.

Table 5.2: Urban Primacy in the Greater Mekong Subregion Countries (Percentage of Total Urban Population in Largest City), 1960–2015, Selected Years (%)

City, Country	1960	1970	1980	1990	1995	2000	2015
Kunming, Yunnan Province, PRC	28.0	40.4	34.5	10.7	9.1	17.2	14.4
Nanning, Guangxi Zhuang Autonomous Region, PRC	(1964) 2.1	...	(1982) 5.9	6.2	...	7.4	(2010) 14.5
Phnom Penh, Cambodia	69.6	52.5	45.2	48.4	51.4	49.8	31.1
Vientiane, Lao PDR	...	...	(1985) 74.8	...	63.8	(2005) 44.3	(2010) 38.5
Yangon, Myanmar	22.6	22.9	27.3	31.9	31.6	30.8	28.3
Bangkok, Thailand	65.1	65.5	59.3	56.6	55.7	54.0	48.8
Ho Chi Minh City, Viet Nam	25.9	25.6	26.5	24.2	23.0	21.7	19.6

... = data not available, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Sources: Adapted from Table 2 from W. Song, 2005. A Design of the Urban Structure of the Greater Mekong Subregion. (in Chinese) PRC's Science and Technology Research Articles online. <http://www.paper.edu.cn>; data for Guangxi provided by Yina Zhang at Fudan University in Shanghai.

research and development. Kunming was a scenic-but-sleepy, historic-but-less developed provincial city through the early 2000s. Since then, both central and Yunnan provincial governments have pushed it to become a much more powerful international metropolis that will spread and distribute growth benefits to and around the smaller secondary cities in Yunnan, while at the same time projecting long-distance influences over the border to the GMS.

In implementing the strategy of Kunming as an international outpost, Yunnan provincial and Kunming municipal governments have introduced a variety of related policies and projects with important connections to and implications for the GMS. First, they are building a central Yunnan regional economic circle knitted together by the four cities of Chuxiong, Kunming, Qujing, and Yuxi, with Kunming as the core. This is intended to grow the three secondary cities as the eastern, southern, and western poles for the larger region.¹³ As a cluster, these four cities and their connected hinterlands constitute the most populous and economically densest region in Yunnan, but they have experienced uneven development as well as lack of connected infrastructure and overall coordination. The balance of these factors will determine whether these four separate cities can combine into the envisioned central Yunnan economic circle. Meanwhile, Kunming has recently consolidated its hub position with the opening of the fourth-largest international airport in the PRC in June 2012.

To extend Kunming's influence in the direction of the GMS countries south and west of the border, in May 2012, Yunnan approved the establishment of six border economic cooperation zones—including one around the city of Tengchong—allowing them the autonomy to offer financial incentives and approve investment projects. This provincial initiative augmented the central government's approval of opening three border economic cooperation zones in the cities of Hekou, Ruili, and Wanding in 1992 when the GMS was launched. Having grown rapidly since, Ruili and Hekou are now the largest and second-largest border ports for Yunnan's total foreign trade. At the border trade market in Ruili, there are often hundreds of petty traders and dealers, including some from Bangladesh, India, Myanmar, Nepal, Pakistan, and Thailand selling cotton, jade, bracelets, ivory items, and aquatic products. The Ruili and Wanding municipal governments have encouraged foreign investors to utilize raw materials to manufacture products to meet both local and international demand.¹⁴ The opening of a second land border bridge at Hekou to Viet Nam in June 2012

¹³ *The People's Daily*. 2012. The Central Yunnan Urban Economic Circle Takes Off. 22 October. p. 2.

¹⁴ X. Chen. 2006. Beyond the Reach of Globalization: China's Border Regions and Cities in Transition. In F. Wu, ed. *Globalization and the Chinese City*. London: Routledge. pp. 21–46.

widened the scope of PRC–Viet Nam border trade by allowing easier, faster, and greater flows of goods and traders. On 23 February 2013, a train that departed Kunming ran through Yunnan’s Yuxi City and reached Mengzi City, signaling the completion of a southbound railway that will be eventually linked to Hekou. This improved transportation linkage also helps strengthen the possible formation of a southern Yunnan city-region, including the secondary cities of Gejiu and Kaiyuan with Mengzi. Besides building transportation linkages toward the border with its southern neighbors, Yunnan has been constructing highway and railway connections into the Lao PDR and Thailand, thus extending and tightening the transport network across the multiple boundaries of northern GMS.

To complement the spatial planning of new city-regions and extension of transportation connections to and through the border, Yunnan has created new institutional and cultural ties to the GMS countries. It has recently set up commercial representative offices in Singapore and Cambodia and is planning to expand the number of Confucius Institutes (Chinese cultural institutes) and Chinese language centers already operating in the GMS countries. Yunnan sends about 300 teachers and students to the neighboring countries to study. It has trained a growing number of specialists who can speak Thai, Burmese, and Vietnamese. The number of international students in Yunnan rose from 760 in 2001 to 10,000 in 2007 and over 20,000 in 2011, and about 80% of them came primarily from Southeast Asia and also South Asia.¹⁵ The provincial government recently called for setting aside more scholarships to attract students from Cambodia, the Lao PDR, and Myanmar. Under a new agreement between the Yunnan Provincial Education Department and the Ministry of Education and Sports of the Lao PDR, the two sides will jointly produce TV programs on Chinese language learning and the teaching of specialized subjects and professional skills. Yunnan will provide annual university scholarships for 10 Lao PDR students who will study at Kunming Medical University in the next 5 years, while nearly 1,000 Lao PDR students are already studying in Yunnan now. Yunnan has some 13,000 learners of Lao and 200 teaching staff members for the language.¹⁶

Growing Influence of the People’s Republic of China

The above evidence clearly shows that the PRC and Yunnan have aggressively pursued a regional “Go South” policy toward the GMS with a dual focus on cross-border economic cooperation and cultural exchange. As this Kunming-

¹⁵ *The People’s Daily*. 2013. Internationalizing Education in Yunnan. 22 January. p. 2.

¹⁶ *The China Daily*. 2013. Yunnan, Lao PDR Strengthen Education Exchanges.

based and border-oriented urban development initiative gains momentum, it will project a stronger PRC influence across the border to Southeast Asia. To facilitate trade along and beyond the PRC's long border with Myanmar, the Lao PDR, and Viet Nam, the PRC has been extending its tentacles of transport infrastructure to the GMS. The PRC has also intensified its varied efforts to secure the rich natural resources in the region. It has stirred up controversy in generating more hydropower by building dams on the Lancang River in Yunnan, which forms the upper reaches of the Mekong River. The PRC has also begun to extend its sphere of political influence in the GMS. When a drug lord from Myanmar massacred 13 PRC sailors on the Mekong River, the PRC worked closely with the Myanmar and Lao PDR police to capture and later execute Naw Kham, the alleged mastermind. And despite having run into some resistance from local farmers in northern Myanmar living near the route of the PRC–Myanmar oil and gas pipeline, which starts at Kyaukphyu Port on Myanmar's coast and enters the PRC at the city of Ruili, the pipeline started to deliver natural gas to the PRC in July 2013.

The growing engagement of the PRC in the GMS is motivated by how state policy and market forces have intersected and reinforced each other, with Beijing playing a larger role. As the PRC pushes its national “Go West” development strategy forward, Yunnan has become the focal region for accelerating southwestern development, with Kunming emerging as its most important hub for generating and spreading regional development benefits. Strengthening economic and physical ties with the GMS became an extension of the PRC's regional and international development strategy for securing more market opportunities in trade, investment, infrastructure, and energy. The more active market processes of cross-border trade, migration, commuting, and tourist activities fuel this process.

The PRC appears to be benefiting more from its growing relationship with the GMS in two ways. First, due to its sheer economic size and political influence, the PRC has widely spread its presence and footprint in the GMS and thus has been a key driving force of the subregion's development and integration. Second, the PRC occupies the higher end of the development spectrum and thus can gain more value-added through setting more self-favoring terms for trade and infrastructure projects. While the GMS countries and cities may benefit from new economic opportunities tied to the PRC, especially new opportunities in Yunnan, they (except for Thailand) are generally in less advantaged positions in dealing with the PRC's powerful influence originating from and through Yunnan's cities, especially Kunming.

Developments on the Southeast Asian Side

While the preceding section has documented the PRC's growing presence in city-oriented development in the GMS, it should not be taken as a PRC-centric or PRC-only analysis of multifaceted and multisited developments within and across cities in the GMS. Some of these developments have been in response to the PRC's outreach and one another's needs. I draw from my earlier and current research to focus on intra-GMS economic linkages among cities in the different member countries. In response to active border trade from Ruili and Wanding, the Myanmar border towns of Muse and Namhkam have done well by importing Chinese goods such as garments and consumer electronics, which occupy as much as 80%–90% of the local markets in northern Myanmar. The border trade has also revived cities away from the border. In Lashio, a remote but important market town 195 kilometers (km) from Mandalay, many trucks loaded with Chinese consumer goods roll through the town and onto the booming city of Mandalay. The population of Lashio was about 50% Chinese, while Mandalay, the seat of Myanmar's culture, was one-fifth Yunnanese Chinese. A network of Chinese clan and linguistic credit associations provided capital to Chinese-owned business ventures in creating a powerful social group that was distinctively Chinese. With the Myanmar–PRC oil-gas pipeline being completed for full operation in 2013, the economic connections between northwestern Myanmar and Yunnan are only expected to get stronger and more diverse.

Like the Yunnan–Viet Nam border trade, Guangxi–Viet Nam border trade has taken place at a number of open crossings spaced out along the 1,020 km border. Along the northern segment of the Guangxi–Viet Nam border, the PRC border town of Shuikou became a bustling post for exchanging goods with Viet Nam. On a daily basis, trucks loaded with potatoes and apples crossed over the checkpoint into Viet Nam, whereas trucks full of iron and manganese ores rolled in from Viet Nam's side. Given the rich deposit of iron and manganese ores in Viet Nam's Cao Bang Province and the Government of Viet Nam's relaxation on exports, the town of Shuikou became the largest border import–export and processing base for certain mining products in Guangxi. At the southern tip of the Guangxi–Viet Nam border by the Gulf of Tonkin, the PRC border city of Dongxing and its Viet Nam counterpart, Mong Cai, formed a dynamic twin trade post. A commercial outpost between the PRC and Southeast Asia for several centuries, Dongxing reemerged from total isolation during the PRC–Viet Nam border war during the late 1970s. During the early 1990s, when Guangxi–Viet Nam border trade officially began, thousands of PRC and Viet Nam border residents would walk across the 10-meter wide river separating Dongxing from

Mong Cai to buy and sell mostly daily necessities. This border trade grew in scale and volume after the bridge—damaged during the war—was repaired and reopened, and the Government of the PRC raised the ceiling for exempted taxes on traded goods (footnote 8).

For the border trade ties to stretch beyond the small border cities, the GMS transportation network needs to expand to incorporate more places. Given its fairly long border with Viet Nam's Lao Cai and Lai Chau provinces, Yunnan is connecting its recently completed Kunming–Mengzi Railway to the border city of Hekou so it can be joined with the Kunming–Hai Phong Railway, which provides the shortest overland route from landlocked southwestern PRC through northern Viet Nam to maritime Southeast Asia. With financing and technical assistance from ADB, several projects to improve or upgrade the important roads in the GMS have been under way or partially completed. A very important highway links Kunming with Bangkok for about 1,800 km via two separate routes in Myanmar and the Lao PDR, respectively. It is the main overland transportation artery through south Yunnan toward Southeast Asia. Following the opening in April 1994 of the 1,174 meter Mittaphab (Friendship) Bridge connecting the Lao PDR and Thailand across the Mekong River, several other bridges have been proposed as priority projects by the GMS countries. Thailand and the Lao PDR have recently agreed to build a new bridge over the Mekong River, between Bueng Kan in Thailand and Borikhamxay in the Lao PDR. This will be the fifth bridge linking the two countries; the fourth bridge is now under construction between Chiang Khong District of Chiang Rai and Bokeo Province in northern Lao PDR. Given the vast size and uneven development of the GMS, there are continued challenges to build a well-connected cross-border transport network that can alleviate the physical constraints of large geographic distances between the cities and towns and a major natural barrier like the Mekong River, which separates some of them even more.

Development and Cooperation across the Greater Mekong Subregion Cities

The preceding section reviewed the new opportunities (largely originating from Yunnan) and persistent constraints or weaknesses facing the GMS cities with reference to a more successful region in the PRD and another much less so in the GTS. It is clear that any recommended policies to promote and coordinate urban development within each GMS country and across them will have to

target and adapt to complex conditions and differing realities. But these can be simplified by a pair of related concepts—diversity and disparity—that can guide a more tiered and integrated approach to foster GMS city development and cooperation. Cities in the GMS are very diverse in scale, location, functionality, as well as their distance and connectivity to borders and other cities. By extension, there is great disparity within the GMS with regard to the pace and mode of growth, level of human capital, capacity of innovation, transportation infrastructure, and quality of life. These city-level characteristics are complicated further by national variations in the recent history, political system, level of development, and demographic and cultural composition of GMS countries. While the PRC, the Lao PDR, and Viet Nam have been similarly undergoing transition from some version of socialist planned economy, they vary greatly in the autonomy of cities and the financing of their urban infrastructure. Despite the myriad of cross-border linkages among many ethnic minorities formed through spatial mobility over a long time, a number of GMS cities and towns have existed in more or less isolated local ecological and economic environs associated with some ethnic groups' traditional activities. This makes it institutionally and financially challenging to use a unified national policy to stimulate and synchronize broad-based urban development across the GMS.

A multitiered approach to foster urban development makes the best policy sense in light of current conditions such as the Kunming-originated regional initiative, planned development of several economic corridors, completed and ongoing transportation arteries, and a range of strong border-intensive trade ties across international boundaries. While giving full attention to the Kunming-anchored and border-targeting policies of the PRC, this approach should seek a broader GMS-based urban development strategy that can simultaneously take advantage of the new opportunities unleashed by the PRC's "Go South" initiative and counter and mitigate its potential undue strong influence. This calls on the key stakeholders of the PRC in relation to the GMS, the GMS as a whole, but especially the Lao PDR, Myanmar, and Viet Nam, to consider the following policy approaches:

- i. Create city clusters or circles within and across the GMS boundaries that make them collectively more competitive and synergistic by enhancing intercity cooperation within the subregion.
- ii. Encourage the national governments of the GMS to use targeted policies and other leverage to empower these connected and clustered cities to work together horizontally by means of interlocal institutional and informal ties.
- iii. Further strengthen and enlarge the geographic scope of existing trade and other economic connections between any pair or other linked border cities.

- iv. Scale up and out the related and complementary nature of the above by completing the major and multimodal transportation networks that can link city clusters and border trade dyads into urban development corridors and eventually elevate their converged benefits to the GMS level.

The first recommendation is prompted and demonstrated by what Yunnan recently attempted to create—the central Yunnan and southern Yunnan city circles, which encompass three or four secondary cities that are either around or away from the dominant core of Kunming. This approach is partly premised on the classical regional system of cities in that it takes advantage of geographic proximity between a few cities in making them fully connected to produce agglomeration benefits. Secondly, this geoeconomic rationale calls for a more complex political and institutional reform for providing decentralized decision making to the provincial and local levels. As the second recommendation makes clear, the national governments should push and incentivize municipal authorities to be more willing to cooperate across administrative boundaries against the political pressure on achieving isolated GDP growth and protecting local markets and specialized products. The basic idea of this approach can be adapted to promote interlocal cooperative development in certain regions of GMS countries away from their capital cities. It will need to adjust for much smaller urban places or towns with their surrounding villages around a given secondary city in countries like Louangphabang in northern Lao PDR or Mandalay in northern Myanmar. There may even be a possibility for a developing rural-based marketing system around small urban central places that may approximate those in the pre-1949 PRC described by Skinner (footnote 5).

Regarding the third recommendation, the established and expanding trade in and between border towns presents a renewed opportunity to promote and spread urban development in the GMS. In addition to what has been documented earlier in both the GTS and GMS, border-focused urban development has recently gained greater momentum beyond petty trade. The Thai town of Mae Sot on the border with Myanmar is booming, riding on Myanmar's rapid opening up and its strategic position as a regional transportation hub. In the last 2 years, 20 new hotels have sprung up, mainly involving Thai investors. Concrete pillars are being laid for a Big C Supermarket, cinemas showing the latest films are opening, and department stores are selling international brand names. The Thai population in Mae Sot is projected to increase from 130,000 to 220,000 in the next 2 years, while there is already an estimated 150,000–200,000 migrant workers from Myanmar, with over 1,000 of them entering Thailand at Mae Sot every day.

The boom, however, has not improved the poor working and living conditions in Mae Sot.¹⁷ This case reflects the differential comparative advantages on both sides of the border in terms of land and labor costs. As it draws these factors of production together into a growing space of frontier economy, it may be capable of pulling a lagged region to faster growth. This is reminiscent of the early dynamics associated with making the border town of Shenzhen a special economic zone in the early 1980s, which benefited greatly from being on the border with Hong Kong, China (footnote 12). In fact, the Thai government is planning to turn Mae Sot into the country's first special economic zone by 2015.

Other similar developments provide new momentum to implement the third recommendation. For example, ADB is providing a total of \$220 million to strengthen the small cities in Cambodia, the Lao PDR, and Viet Nam along the GMS East–West Economic Corridor, which can also help mitigate potential dependence on opportunities originating from Yunnan and Kunming. Through ADB, female street vendors in three small cities (Battambang in Cambodia, Kaysone Phomvihane in the Lao PDR, and Dong Ha in Viet Nam) will have access to a microfinance project worth \$2.5 million in nonrefundable aid from the Japan Fund for Poverty Reduction. The local authorities will also develop child care services to ensure children's safety while their parents earn a living. This initiative is well suited to address the weak attributes and functions of many GMS cities: agricultural production, trade, and tourism near the border regions.¹⁸ However, it is financially very challenging to develop border cities and regions in the non-PRC part of the GMS. Viet Nam has an ambitious plan of establishing 52 border gates in its border areas with Cambodia, including 13 international border gates and 13 main border gates by 2020. Local residents in An Giang, Dong Thap, and Kien Giang provinces must give up their land to investors to serve the border economic zone projects, but cannot move because resettlement areas have yet to be built. In the border commune of Thuan Yen in Ha Tien Town of Kien Giang Province, where the Thuan Yen Industrial Zone has existed for the last 8 years, 37 out of the 115 households have to give land to the industrial zone but still have no other places to relocate to. These zones have also attracted very limited investment due to their poor infrastructure.¹⁹ The promises and challenges of these border economic zones point to the critical need for putting strong financial backing and other supportive measures behind the focused policy of favoring border cities as local economic growth engines.

¹⁷ *Karen News*. 2013. Border Boomtown: A Tale of Winners and Losers. 27 March.

¹⁸ *VOV Online Newspaper*. 2013. ADB Provides \$2.5 Million for Mekong Delta Cities. 22 May.

¹⁹ *Viet Nam Net Bridge*. 2012. Sickly Border Economic Zones Need Treatment. 12 June.

Finally, urban development needs to be scaled up to the GMS level, whether it is from city clusters or circles within Yunnan or booming individual or twin cities across any of the international borders. The key to making this happen is twofold. On the one hand, the ongoing development of the transportation and economic corridors in both directions in the GMS will enhance local and regional urban development. The completion of the GMS East–West Economic Corridor, the massive 1,500 km multilane highway linking the coasts of Viet Nam and Myanmar through the Lao PDR and Thailand, which goes through Mae Sot, will add to its continued growth. This will further shorten the distance of about 100 km between Mae Sot and the Myanmar port of Mawlamyine, which is only another 100 km from the port of Yangon for accessing the Andaman Sea and the Indian Ocean.

More connected transport infrastructure for strengthening the ties among the main cities along the East–West Economic Corridor will enhance the viable growth alternative to the North–South Economic Corridor, which is increasingly influenced by the PRC from Yunnan. Yet the Yunnan portion of the Southern Corridor will facilitate the formation and linked growth of its central and southern city clusters. The larger spatial scope of this growth in conjunction with location comparative advantages could be conducive to a cross-border production network around cities of varied scales and functions. While this scenario is unlikely to involve the full range of industries located in the PRD, it can happen on a limited scale considering that the growing differentials in labor costs across the GMS (increasingly higher in the PRC than in Cambodia, the Lao PDR, Myanmar, and even Viet Nam) have already driven a few of the most labor-intensive industries (i.e., shoes and garments) from the PRC to Southeast Asia. This is not surprising since the average wage in Cambodia and the Lao PDR is approximately one-third of that in PRC coastal cities like Shanghai and about half of that in Kunming. In 2012, Cambodia received more foreign investment per person than the PRC for the first time since the 1970s.²⁰ Given the much smaller labor pool in the Lao PDR and Cambodia, rising demand from accelerated industrial growth can quickly lead to higher wages and less competitiveness. In the meantime, the planned establishment of the National GMS Supply Chain Cooperation and Exchange Center in Kunming in 2014 can potentially create a new regional manufacturing base for more advanced industries such as microelectronics, which are gaining in local scale and concentration due to the push by both the national and Yunnan provincial governments.²¹

²⁰ *The New York Times*. 2013. Hello, Cambodia: Wary of Events in PRC, Foreign Investors Head to the South. 19 April. p. B6.

²¹ *The People's Daily*. 2013. Kunming Is Building a GMS Supply Chain Platform. 2 April. p. 2.

The institutional side of scaling urban development to the GMS level is to extend the second recommendation to formulating some sort of intercity alliance across international boundaries. While this has been used with uneven success in other regional contexts, including a Mayors' Forum of several cities in the PRC, the Republic of Korea, and Japan (footnote 8), it is a worthy policy experiment for the GMS that can be instigated and assisted by ADB. If not already in place, initiating a partner city program is another promising strategy to bring about cooperation and exchange between pairs of GMS cities. If successfully institutionalized, these initiatives will help push the other more centralized governments of the GMS to devolve urban development to regional and local levels as the PRC has done with Yunnan and its capital city of Kunming.

The growing trade and other cross-border economic transactions between the PRC and other GMS countries could bring about undesirable social consequences such as the cross-border trafficking of women for marriage and prostitution. These problems should be addressed if the process of cooperative and coordinated cross-border urban development is not to be derailed. Ultimately, it is up to all six GMS member countries, and not just the PRC alone, to determine how to compete and yet cooperate to achieve greater sustainable development. If a win-win relationship between the PRC and the other five GMS countries focused on cooperative urban development can be developed and sustained, the economic and political landscape of the GMS will be forever reshaped with benefits for all.

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Urban Development in the Greater Mekong Subregion

This book about the urban agenda in the Greater Mekong Subregion (GMS) is timely as the world economy embraces the region with accelerated growth. An important element of the Association of Southeast Asian Nations Economic Community, the GMS is expected to catch up with the rest of Asia by 2050. With urbanization levels still averaging about 30%, gross domestic product contributions of towns and cities have moved ahead to 50%–60%. By 2050, when urban areas in the GMS reach 64%–74%, urban gross domestic product will grow to an estimated 70%–80%. The challenge lies in consolidating and deepening development along the existing corridors and improving the environmental conditions to prepare for future green growth developments.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to the majority of the world's poor. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.



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