

Fostering Cross-border Twin Cities in the Greater Mekong Subregion

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Received: August 5, 2021

Revised: November 30, 2021

Accepted: January 29, 2022

Abstract

This study endeavors to build a theoretical framework of cross-border twin cities by examining three case studies within the Greater Mekong Subregion. These cities act as production, trade, and border nodes that concentrate resources, labor forces, and infrastructure in geographical spaces connected by transport networks. They can provide necessary public and social services for urban development, such as education, healthcare, utilities, and cultural events, to prospective citizens in a coordinated or even integrated manner. Both hardware (i.e. location, infrastructure, endowment, or networks) and software (i.e. policy and cooperation) dimensions capture the complexity of the phenomena and the cross-cutting socioeconomic benefits for the border zones. Although the growing interactions and networks of people and organizations have effectively facilitated trade and industrial activities, urban infrastructure sharing, and cooperation between neighboring cities, policy interventions generally remain insufficient to tap the full potential of these cross-border twin cities.

Keywords: cross-border development, Greater Mekong Subregion, Lao PDR, Myanmar, Thailand, twin cities

Introduction

During the past decades, production and supply activities have increased along the Greater Mekong Subregion (GMS) borders, particularly between Thailand and its neighboring countries such as Lao PDR and

Myanmar. Those cross-border activities include the trade of goods and services, the flow of capital, and the movement of labor, which function within the networks of infrastructures and institutions (Brunner, 2013). The development of cross-border activities and networks also reinvigorates the growth of the local business community. It promotes its linkages with international markets – primarily through the increased flows of foreign direct investment (FDI), product and service development, skill enhancement, technology transfer, and access to capital (Singh, 2016). Over time, cross-border activities have the potential for transforming into cross-border production systems, regardless of the levels of socioeconomic development (e.g. different labor wages, land prices, and industrial structures) (Shen, 2003).

On Thailand's borders with its GMS neighbors, cross-border production networks are structured around nodes that conduct cross-border trade, production, and logistics, often along transnational economic corridors. The various types of nodes include commercial nodes (cities or large towns), border nodes (customs and immigration offices), gateway hubs (access points to external markets), interchange hubs (logistical centers), and corridor towns (central commercial nodes along economic corridors) (Asian Development Bank [ADB], 2014). The examination of nodes across Thai borders reveals the existence of cross-border twin cities, which are adjacent townships of different nations that develop with varying degrees of parallelism, often sprouting up across rivers and linked by international bridges. Twin cities are made possible in part by their existence in a dynamic economic space for socioeconomic development across two nations (Anuar, Mustafa, and Farhat, 2014). However, the integration process of twin cities phenomena may not be smooth, as each side has its own socioeconomic interests while presenting the paradoxical relationship between the desire for unimpeded flows of capital and people, and the necessity of maintaining socioeconomic differences.

Against this backdrop, the present article first frames cross-border twin cities conceptually. Such a conceptualization allows for the evaluation of the twin cities' impact on economic and social

dimensions of development. The article then examines the evolution of twin cities through case studies on Thailand's borders along the East-West Economic Corridor (EWEC). The proposed case studies illustrate the geographical and physical characteristics of selected twin cities along the EWEC and the (often incomplete) policy initiatives or administrative actions taken by policymakers and stakeholders.

Defining Cross-border Twin Cities: A Conceptual Framework

Scholars have so far used a multidisciplinary approach to assess the phenomenon of cross-border twin cities, integrating insights from several fields – such as economics, political science, geography, history, sociology, anthropology, and ecology – in efforts to frame the concept comprehensively. Examples are presented in Table 1, defining the term “twin cities” through transnational border trade and investment and city or urban planning, thereby providing crucial characteristics and insights on actual practices.

Table 1 Evolution of the definition of “twin cities”

Study	Term	Definition	Country/zone	Scientific field
Lapidus (1969)	Double cities, twin cities	Formed by adjacent settlement units separated by rivers or a fortress and its suburbs developing separately.	Middle-East	Urbanism
Herzog (1991)	International boundary cities, trans-frontier metropolis	Densely-populated regions along international borders, sharing ecological resources as well as environmental problems.	Western Europe and the United States-Mexico border	Natural resources studies
Zelinsky (1991)	Sister cities	Formal long-distance twinning of cities, often based on historical connections, shared economic, cultural, recreational, and ideological concerns, similar or identical place names.	World-wide	Geography, history

Table 1 Evolution of the definition of “twin cities” (cont.)

Study	Term	Definition	Country/zone	Scientific field
Buursink (2001)	Border crossing cities, partner cities, binational cities, twin cities, double cities, sister cities, neighbouring cities, companion cities, transborder cities	A pairing of two cities of about equal size, situated close to each other, but separated by a national state border.	Europe and North America	Borderland studies, economic geography
Sparrow (2001)	Cross-border twin cities	Cross-border cities of strong emotional and mental togetherness with four integration stages: (i) physical, (ii) behavioral, (iii) organizational, and (iv) politico-administrative integration.	San Diego and Tijuana	Transnational integration and socioeconomic development
Kehi (2006)	Friendship cities	A long-distance formal relationship between two cities, with the mutual promotion of values, local cooperation, and cross-cultural exchanges.	Australia and Timor Leste	Political economy, political science
Clarke (2009)	Twin towns	A modality of international cooperation at the local level, formalized by twinning agreements, the permanence of relationships, and recognition by local authorities.	Great Britain	History, geography
Anishenko and Sergunin (2012)	Twin cities	A new cross-border cooperation model at the municipal level: (i) closely located, (ii) generally across a river border, (iii) sharing a common history – whether rivals or not, (iv) hosting mixed ethnic composition, and (v) cooperating based on legal institutions.	Baltic States	Economic development and regional cooperation

Table 1 Evolution of the definition of “twin cities” (cont.)

Study	Term	Definition	Country/zone	Scientific field
Nugent (2012)	Border towns and cities	Smaller urban settlements and large conurbations are located on either side of an international border, often across rivers or lakes or on either side of mountain passes. Income inequalities, differences in living costs, migrations, cross-border shopping, or selective use of social amenities may be part of the phenomena.	North America, Europe, Africa	Borderland studies, urban anthropology
Lainé (2013)	Twin cities	(i) Two urban centers facing each other, (ii) across an international border, (iii) possibly linked by an institutional agreement, (iv) integrated to international flows of trade, capital, and tourism, and (vi) influenced by local, national, and international stakeholders.	Greater Mekong Subregion	Economic development and regional cooperation
Shen (2014)	Twin cities	Integration of cross-border cities through: (i) economic integration, (ii) institutional integration, and (iii) social integration.	Shenzhen and Hong Kong, China	Economic integration
Anuar, Mustafa and Farhat (2014)	Twin cities	Spatial organization is fostered by: (i) infrastructure networking, (ii) administrative harmonization, (iii) respective comparative advantages, and (iv) socioeconomic complementarities.	Malaysia and Thailand	Transnational integration and socioeconomic development

Table 1 Evolution of the definition of “twin cities” (cont.)

Study	Term	Definition	Country/zone	Scientific field
Frank (2014)	Twin cities	Urban counterparts integrated into specific axes of economic, spatial, and demographic accumulation between two poles based on: (i) geographic proximity, (ii) economic or cultural ties, (iii) transnational cooperation, and (iv) transboundary urban configurations.	Southeast Asia	Economic development and regional cooperation

Source: Authors’ compilation

While this literature review reveals similarities and contrasts in the definitions of twin cities, recent studies have examined the concept through infrastructure development and cross-border trade and investment in addition to the networking of people, entities, and governments that would influence urban planning. However, scholars have yet to provide an operational framework to assess such a phenomenon regarding socioeconomic development between neighboring developing countries that may require further cooperation in policy, regulatory, and institutional frameworks. Twin cities phenomena eventually refer to the complex intertwining of administrative practices, spatial reorganization, dynamic internationalization of production, and multilateral stakeholders. Thus, the concept of twin cities is multidimensional.¹ Extending the earlier works of Sparrow (2001) and Shen (2014), this article proposes a unifying conceptual framework, relying on subsets of *hardware* (physical) and *software* (institutional) dimensions. Figure 1 is a summary of the dimensions presented hereafter. Most importantly, we do not impose a specific allocation of the dimensions. That is, both hardware and software

¹ The multidimensionality of the concept is apparent through the variety of terms and concepts used in the literature (Table 1), although not yet unified and consistently connected with policy tools.

dimensions may be shared between the twin cities, or conversely be held exclusively by one city. However, we will later emphasize the mutual benefits arising when these dimensions are shared or fostered through cooperation.

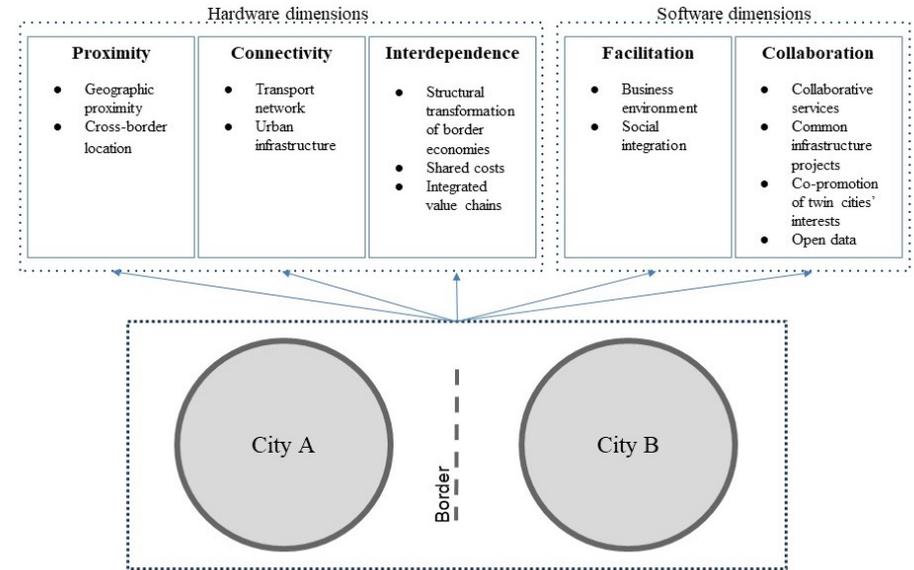


Figure 1 The twin cities phenomenon: Key dimensions

Source: Authors’ illustration

Hardware Dimensions

Hardware dimensions are the first set of crucial components defining the *physical* aspects of the twin cities phenomenon. The dimensions include geographic, physical, or socioeconomic elements (such as location, infrastructure, endowment, or networks) (Buursink, 2001; Lapidus, 1969; Sparrow, 2001). This study highlights three hardware dimensions, as follows: (i) proximity, (ii) connectivity, and (iii) interdependence.

Dimension I: Proximity

The proximity dimension plays the first key role in the twin cities concept. The two urban centers are located near each other and share an international border (land, river, lake, or strait border). The proximity criterion implies that the two urban centers are close enough not to deter any economic agent from migrating to the other town and is a crucial factor leading to economic interdependence between the two urban centers. Therefore, the daily migration of workers seeking to work on the other side of the border is a convenient parameter for defining the maximum distance between twin cities. Shirai (2019), after investigating the relationship between residential location, employment site, and commuting distance in Northeastern Thailand, suggests that a threshold distance beyond which workers are unlikely to travel is between 10 and 20 kilometres for a travel time by a vehicle of roughly 30 minutes, including the border crossing. This implies that twin cities are typically located within a radius of fewer than 30 kilometres from each other.

Dimension II: Connectivity

Twin cities are characterized by improved physical connectivity between two urban centers. The connectivity dimension is divided into two sub-dimensions which are related and necessary for optimal flows of goods and human resources between the two cities: (i) transport network, and (ii) urban infrastructure.

The transport network is the backbone of the twin cities phenomenon mostly through the essential role it plays in the establishment of new markets; optimal investment in transport infrastructure leads to an increase in trade volumes (Bougheasa, Demetriades, and Morgenroth, 1999). More typically in the case of twin cities, the building of bridges, roads, urban bypasses, seaports, airports, dry ports, river piers, or warehouses is an essential factor in internationalizing local economies and connecting several modes of transport (Franck, 2014).

Twin cities also benefit from well-designed urban infrastructure that facilitates commercial activities and migrations. Urban amenities

(recreational, sanitary, and health facilities) enhance local development by providing adequate infrastructure to attract industries and labor forces into the local economy while strengthening cross-border trade and investment (Gottlieb, 1994). A particular effort must be made to develop quality education systems, providing vocational and higher education and professional training to workers (Ivakhnyuk, 2006).

Dimension III: Interdependence

Twin cities' economies are physically integrated, complementary, and co-developed, thereby benefiting from the following key drivers of regional growth: structural transformation of border economies, shared infrastructure, and active participation in cross-border value chains. However, interdependence often implies the lack of capital, natural resources, institutions, and public services at the urban level so that each city seeks access to such scarce resources on the other side (Grundy-Warr, Peachey and Perry, 1999).

Along the borders, twin cities experience a structural transformation of their economies, fostered by developing cross-border value chains, growing collaboration among traders and producers with value-added trade and FDI. Driven by competition in an open economy, the agglomeration of resources and the resulting spatial division of labor occurring around border crossings increase returns to scale and productivity due to growing sectoral heterogeneity and manufacturing activities (Brunner, 2016). As exporters and producers tend to operate in clusters (notably attracted and developed by the conducive business environment and appropriate policies), they enjoy spill-over effects (often referred to as agglomeration economies), such as lower transaction costs and the transfer of information, knowledge, and technology (Porter, 1996).

The shared infrastructures of twin cities notably save transportation costs, a factor that is crucial for cross-border trade (Aseff, Espejo and Morales, 1997). Twin cities with different infrastructure endowments can also share the use of electricity, telecommunications, water supply, ports, and airports provided by the more well-endowed neighbor to its urban counterpart and save large costs (Kudo, 2009).

Software Dimensions

The software dimensions are the second set of critical components describing the institutional aspect of the twin cities phenomenon. These sub-dimensions define the cooperation and mutual actions of twin cities' institutions and stakeholders (Buursink, 2001; Sparrow, 2001). Two software dimensions are inherent to twin cities and added to its concept: (iv) policy-level facilitation, and (v) administrative collaboration.

Dimension IV: Facilitation

Twin cities actively use various policy tools to facilitate socioeconomic co-development and local growth across the border. Such intervention from both central and local governments usually takes the following forms: (i) policies shaping the business environment and promoting trade and investment (such as SEZ and industry cluster development), and (ii) policies accelerating the pace of social integration processes.

The policies and associated regulatory environments are designed to foster local business communities and enhance trade and investment flows between the two urban centers by removing significant business challenges faced by firms, such as bureaucratic red tape or transport costs. Comprehensive business regulations and competition policies, designed to develop enabling environment for business communities, enhance the growth of total factor productivity (Brunner, 2016). Trade and investment agreements, including cross-border transport agreements, are multilateral and multidimensional instruments used by policymakers to facilitate cross-border trade and investment (Baier and Bergstrand, 2007; Carrere, 2006). Cross-border transports agreements also specifically cover transport facilitation, harmonize customs regulation, and ease cross-border movements of goods and people, with a positive effect on trade volumes (ADB, 2009). In addition, SEZs provide twin cities with business- and trade-easing services, including simplified administrative procedures and governmental support for technological transfer or human resources development (Kudo, 2009).

Twin cities also facilitate cross-border social integration through co-development and mutual complementarity of labor forces and social assets. Free movement balances the lack and surplus of labor in various

industries on both sides of the border and provides significant development dividends to local communities (Hugo, 2009; Ivakhnyuk, 2006). Joint social events also have a positive impact on both sides by accelerating the social integration process (Wickramasekera, 2002).

Dimension V: Collaboration

As the ultimate step in promoting co-development between the two urban centers, twin cities collaborate in spheres such as city administration or civic institutions (Anishenko and Sergunin, 2012). Both central and local administrations are involved in the promotion of common structural changes, leading to new articulations of investment and spatial administration (Arnold, 2010). The collaboration takes place in several aspects. First, the twin cities concept can provide a foundation for collaborative services jointly administered by the neighboring authorities (national or local), such as creating a common market; organizing and maintaining border crossing posts; cooperating in education, social security, and healthcare systems; and co-participating in cultural events. Second, twin cities can share the management of infrastructure projects, public spaces, and buildings to ensure joint efforts in fostering connectivity between the cities. Third, authorities can implement a joint promotion of local stakeholders' interests at the national and international levels.

Development of Cross-Border Twin Cities: Case Studies along Thai Borders

To illustrate the concept of twin cities and related policies and institutional frameworks, this study assesses three cases on Thailand's borders with its neighboring countries. Thailand serves as a base economy for comparison. At the same time, the differing rates of the movements of goods, people, and capital between neighboring twin cities will reflect the degree of their socioeconomic integration relative to one central point. These particular cases are highlighted in that they are medium-sized urban centers of relative but similar demographic size and are increasingly experiencing socioeconomic cross-border development processes.

Mae Sot and Myawaddy

We first investigate the case of the Mae Sot (Thailand) and Myawaddy (Myanmar) border crossing, separated by the Moei River (Figure 2). Mae Sot is a vibrant, ethnically diverse city in Tak province in the North. Nicknamed ‘Little Myanmar’ by locals, Mae Sot has hosted many Burmese refugees since Myanmar’s civil war started in the Kayin state in the late 1940s. Thousands of Burmese (estimates range from 38,000 to 140,000) have crossed the Moei River to avoid political oppression and to benefit from Thailand’s social services and job opportunities (Siu, 2014). Myawaddy, on the opposite side, has archaeological evidence of its existence dating back over 2,500 years. It was several times used as a military checkpoint from the Burmese invasion of Siam in 1566 to the Japanese attack on Burma during WWII (Myint, 2015). Trade between the two cities has always been significant and the construction of the two Thai-Myanmar Friendship Bridges (1997 and 2019) further transformed the two cities into gateway and interchange hubs between Thailand and Myanmar (Bando, 2020).

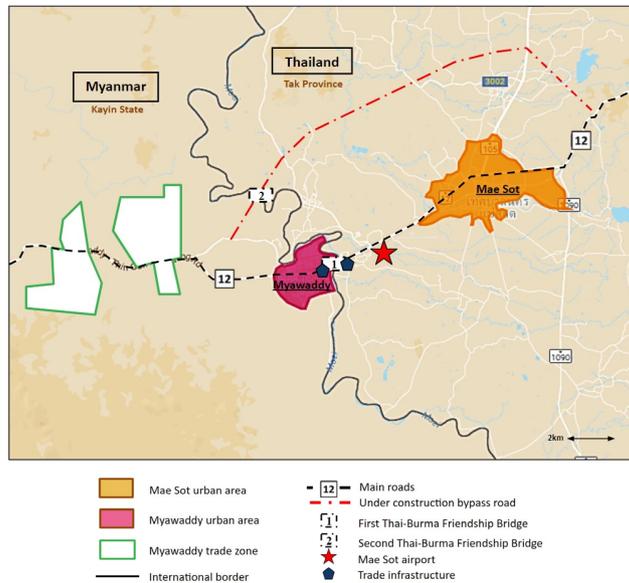


Figure 2 Mae Sot and Myawaddy spatial organization

Source: Authors' construction

Connectivity

Mae Sot and Myawaddy are part of a growing transport network within the EWEC. The two cities have improved the network of infrastructure connecting them to the other economic nodes along the corridor, such as Da Nang (Vietnam), Yangon (Myanmar) or Bangkok (Thailand). A small-scale airport in Mae Sot provides access to Bangkok and Phuket. In addition, Myawaddy is an essential node of the Asian Highway (AH) network in Myanmar and the main transit point for trade with Thailand (Naing, Chulasai, and Panthamit, 2014). The Thai-Myanmar Friendship Bridge joined the two banks in 1997, while the second Thai-Myanmar Friendship Bridge, along with customs and bond facilities, opened in October 2019 to meet with growing traffic (Bando, 2020). Moreover, the two cities share an electricity supply, effectively reducing the cost of investments in such infrastructure. Myawaddy factories and households are provided with electricity by a Thai company based in Mae Sot (Kudo, 2009). Industries in Myawaddy have access to a reliable electricity supply, which is commonly a significant obstacle throughout Myanmar for commercial and manufacturing activities. However, this situation is based on an informal understanding between the two cities' authorities without any official agreement.

Despite sharing critical connecting infrastructures, both Mae Sot and Myawaddy still lack crucial urban amenities and legal frameworks to ensure that the twin cities' labor-intensive industries are supported by a labor force of sufficient size and skills. Most Burmese migrant workers – currently estimated at over 20,000 (Negishi, 2014) – cross the border illegally. However, local Thai companies (in Mae Sot or further) are reluctant to employ them because of their illegal status (Kida and Fujikura, 2014). On the other hand, urban amenities in Myawaddy are not developed enough for the Burmese migrants to return to their homeland to settle. Limited social integration also suggests other challenges that migrant laborers have faced: lack of a concrete policy framework for migrant workers, lack of public services and

healthcare, inequality in wages, and poor working conditions (United Nations Thematic Working Group on Migration in Thailand, 2019).

Interdependence

Mae Sot and Myawaddy and their respective regions have developed interdependency in industries, labor forces, and endowments. Mae Sot's garment and textile factories, which export to Myanmar and other markets such as ASEAN member states and Japan, have incentivized Myawaddy to develop complementary apparel industries (Ishida, 2013). It is also notable that Mae Sot's agro-industry processes Myawaddy's crops such as maize and mung beans (Ishida, 2013). Moreover, Myawaddy has the potential to develop high-technology industries, such as electrical appliance or automobile part manufacturing, which would be well integrated into Thailand's electronics and automotive sectors (Kida and Fujikura, 2014). The opening of the border for trade between Mae Sot and Myawaddy in 2013 has had a significant and positive impact on business between the two cities by nearly doubling imports of Myawaddy products in Mae Sot (Figure 3).

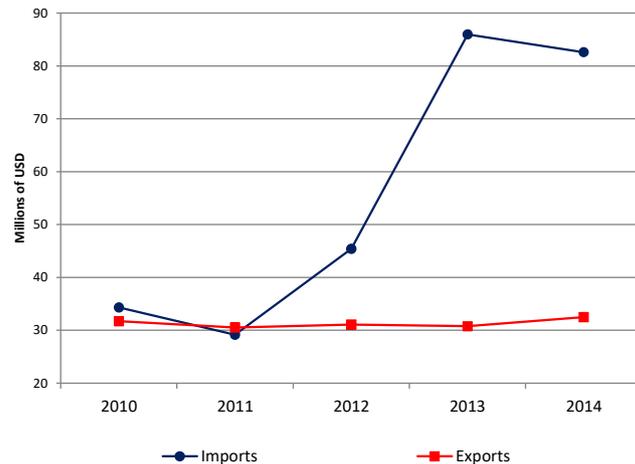


Figure 3 Trade in Mae Sot, 2010-2014, \$ USD million

Source: Data provided by the Mae Sot Customs House in 2016

Facilitation

The national governments of both countries have developed SEZs to foster the twin cities' local industries and export businesses and to promote integration. SEZs' incentives, such as tax exemptions and onsite administrative services, have enhanced economic interdependence between the two cities. On the Thai bank, the Tak Special Economic Zone extends various investment incentives to the agricultural and construction sectors. Local business owners and others lobbied the government of Thailand to provide the stimuli throughout Tak province so that its local businesses would compete well with those newly invested in Myawaddy (Abonyi and Zola, 2014). On the Myanmar bank, the Myawaddy Industrial Zone (opened in 2017) offers several investment incentives, such as a three-year income tax exemption and tax rates for foreign workers identical to those of their domestic counterparts. To encourage the development of infrastructure, construction equipment and machinery are exempt from import duty. The Myawaddy Trade Zone also provides compete administrative services to domestic and foreign investors, facilitating the delivery of investment incentives.

Mukdahan and Savannakhet

Mukdahan (Thailand) and Savannakhet (Lao PDR) have been officially recognized as twin cities under the Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy (ACMECS) (Laine, 2015). Mukdahan and Savannakhet are province-wide urban and economic centers on the EWEC, facing each other across the Mekong River and linked by the Second Thai-Lao Friendship Bridge (Figure 4). Mukdahan, on the west bank of the river (Thai side), has a history going back to the 18th century. Constructed and named in 1770, the city used to span both sides of the river. On the east bank of the Mekong River (Lao side), the city of Savannakhet was ceded to France in 1893 to become a colonial administrative center. The town experienced a development phase during the colonial period, the first half of the 20th century, with the influx of Vietnamese (as French administrative staff) and Chinese migrants (as laborers) and the construction of urban infrastructure (Laine, 2015).

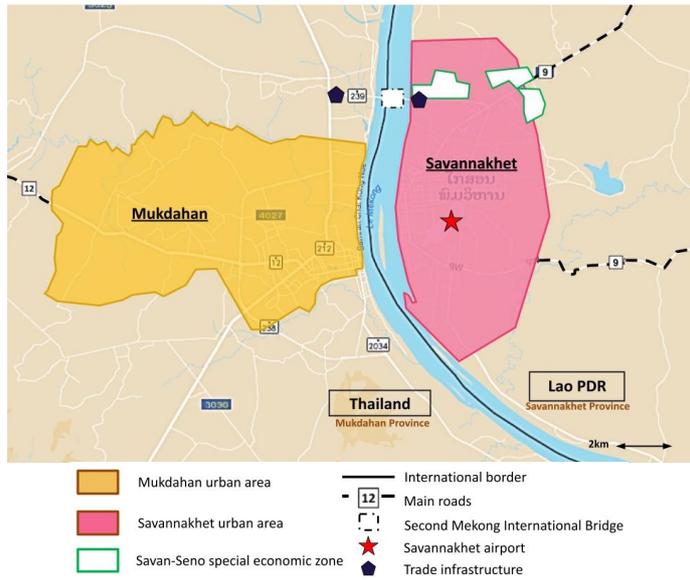


Figure 4 Mukdahan and Savannakhet spatial organization
 Source: Authors' construction
 Note: Mukdahan SEZ spans the entire Mukdahan province.

Connectivity

Mukdahan and Savannakhet are well connected with other economic centers through the EWEC (Laine, 2013). Savannakhet is a primary commercial node of Road 9 (i.e. EWEC) and Road 13, which links Vientiane, the capital of Lao PDR, with the Southern Economic Corridor in Cambodia (Laine, 2013). The construction of the Second Thai-Lao Friendship Bridge and its adjacent infrastructures in 2007 has been a turning point in expanding the twin cities. The bridge provides a significant transport mode improvement for cross-border trade and the movement of people. Before 2007, the river crossing for vehicles was possible only via ferries, serving 700 vehicles and 17,000 trucks annually between 2003 and 2006. Traffic increased to 160,000 cars and 53,000 trucks in 2009 (Supatn, 2012). In parallel with the bridge construction, Mukdahan and Savannakhet have developed a wide range of urban infrastructure and trade facilities, including customs houses, immigration

buildings, an international bus system, and warehouses along the river to facilitate cross-border trade (Laine, 2013).

Interdependence

Mukdahan and Savannakhet have also been developing complementary economies that would be integrated into cross-border value chains through the trade of raw materials and intermediate goods. Savannakhet province has the largest share of agricultural production in Lao PDR, with half of the province's gross private product (GPP), and is the site of Lao PDR's largest handicraft center, consisting primarily of small enterprises engaged in wood products, garments, and food processing (Warr, Menon, and Yusuf, 2010). By contrast, Mukdahan province is less industrialized, with the manufacturing sector accounting for only 10 percent of its economy, while it relies mainly on the service sector (Warr, Menon, and Yusuf, 2010). The linkages between the two economies seem to have been strengthened since the opening of the international bridge in 2007. A clear result of this increasing interdependence is the surge in cross-border trade that the twin cities have experienced since 2007, despite a significant drop in 2012, when traffic shifted to the Nakhon Phanom and Thakhek border crossing (Figure 5), which will be discussed below.

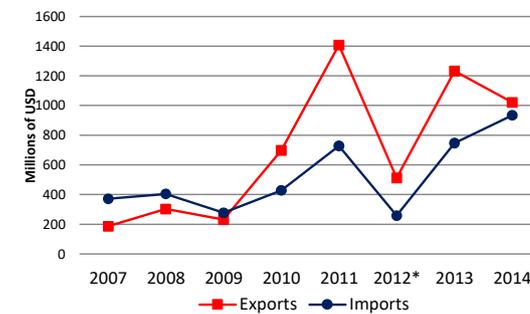


Figure 5 Trade through Mukdahan customs, 2007-2014, \$ USD million
 Source: Authors' reconstruction based on ADB (2016)

Notes: (*) Trade dropped in 2012 as traffic shifted to the Nakhon-Phanom and Thakhek border crossing – see next case study.

Mukdahan, moreover, serves as the major gateway to tourism in Lao PDR and Vietnam. As authorities have noted, tourism has also flourished near the crossing, mainly thanks to the opening of the Savan Vegas Casino in Savannakhet in 2009. The complex, which consists of a casino, a hotel, and a restaurant, generated 2.1 million USD in 2011 (Laine, 2015).

Facilitation

The border crossing has benefited from several policies easing trade, investment, and business. First, the Greater Mekong Subregion Cross-Border Transport Agreement (CBTA), implemented in 2008, is meant to ease the cross-border movement of people engaged in transport operations, harmonize transit traffic regimes, and implement one-stop customs inspections (Souvannavong, 2010). Second, the Savan-Seno SEZ, nine kilometres from the second Thai-Lao Friendship Bridge and five kilometres from the Savannakhet airport, was first developed in 2002-2003 on the Lao side to provide a service and logistics center close to the border (Suzuki and Keola, 2008). By 2014, the SEZ attracted more than 200 million USD, mainly from Japan, Lao PDR, Malaysia, and Thailand, and experienced an influx of manufacturers and highly-skilled workers (SavanPark, 2014). Third, the Mukdahan SEZ, established in 2014, aims to promote the agro-industry by providing crop drying and silo facilities, animal feed production, and plants for by-products (Bangkok Post, 2017). The SEZ has yet to open, although land sales, road construction, a high-speed railway project, and providing electricity, water and drainage services have been initiated to support the zone (Bangkok Post, 2017).

However, despite the two SEZs being designed as partners (rather than competitors) and clear cross-border economic complementarities, little cooperation exists between national and regional authorities regarding the implementation of the SEZ. Operations remain mainly piloted by the Thailand Prime Minister's office, barely involving local officials. Local communities' misunderstanding of the project likely creates opposition to the project, with primary concerns being threats to local citizens' businesses, fear of land evictions, and environmental health problems (Bangkok Post, 2017).

Nakhon Phanom and Thakhek

The Mekong River also separates Nakhon Phanom (Thailand) and Thakhek (Lao PDR). The former is known for its rich cultural history and was originally built in the 16th century by the Laotian king, Photisarith of Lan Xang. About 50 kilometers from Nakhon Pathom city is the famous Phrathat Phanom Chedi, an important Buddhist pilgrimage site believed to date much earlier and to house an important relic of the Buddha.

Across the river, Thakhek achieved its modern status through French colonial occupation. While the historical value of the two cities is recognized by both administrations, attracting regional tourists, both have been developed chiefly as rural and agricultural economies. Today, the two cities increasingly play the role of a transit node for the logistical network linking Thailand and Vietnam through Lao PDR. The Thai and Lao governments have promoted socioeconomic synergies around this node, taking advantage of the Third Thai-Lao Friendship Bridge which physically links the two cities (Figure 6).

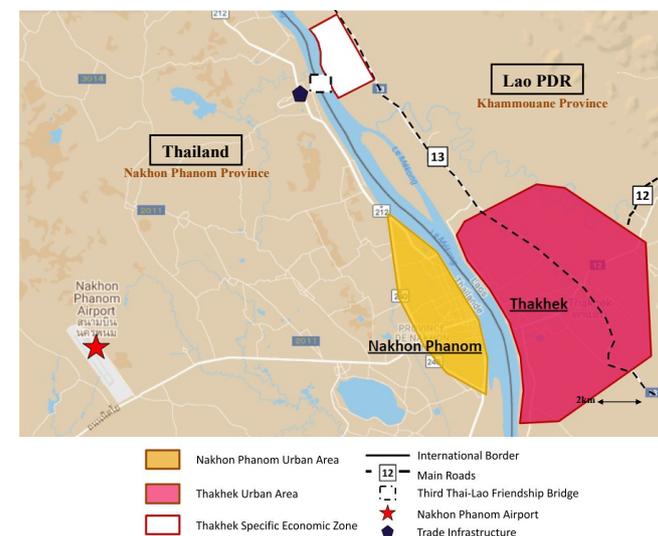


Figure 6 Spatial organization of Nakhon Phanom and Thakhek

Source: Authors' construction

Note: Nakhon Phanom SEZ spans the entire province.

Connectivity

The Nakhon Phanom-Thakhek border crossing, structured around the Third Thai-Lao Friendship Bridge and its associated infrastructures, has been a secondary gateway for trade between Thailand and Lao PDR after the Mukdahan-Savannakhet border crossing during the past decades. The 1.4 kilometer-long bridge, opened for traffic in 2011, has provided the shortest way for Thai and Vietnamese exporters to get to the other side's markets. The border crossing also provides Thai businesses with a gateway to Vietnam's major seaports as it is linked to Road 12, the main road to the Vung Ang deep seaport and others on the northern coast of Vietnam (Keonuchan, 2012). In Nakhon Phanom, many projects have focused on strengthening transport infrastructures linking Lao PDR, especially as part of the Nakhon Phanom SEZ, which spans the entire Nakhon Phanom province. A logistics center and a warehouse have already been constructed, while a new customs checkpoint building between the Nakhon Phanom airport and the bridge, a border transport center, and a railway network are planned (The Government Public Relations Department of Thailand, 2017). On the Lao side, the construction of the Thakhek Specific Economic Zone, started in 2015, has driven several infrastructure projects. The SEZ plans to bring to Thakhek a wide range of trade, transport, and logistics infrastructures including, among others, a warehouse, a distribution center, public transport stations, and an IT service center. These would be supported by new urban amenities, such as a sports center and education and public healthcare services, including schools, a hospital, and a medical device distribution center (Ministry of Planning and Investment of Lao PDR, 2017).

Interdependence

Nakhon Phanom province holds many opportunities in the agricultural sector, as more than 60 percent of its workforce is engaged in this sector. However, only 31 percent of the province's revenue comes from agriculture and agro-industry (The Government Public Relations Department of Thailand, 2017). On the Thakhek side, the main industrial sectors are small-scale low-tech manufacturing, agriculture, and tourism.

The province has a great potential in rice production to be exported to Thailand and Vietnam. It also produces hydroelectricity, which is exported to Thailand's industries. In addition, the province in general and the urban center of Thakhek city have inherited a notable architectural heritage from the French colonial times, which is a minor but growing tourist attraction. Trade between the twin cities suggests an increasing interdependence of their economies and their increasing role to be gateway hubs between Thailand and Vietnam through Lao PDR. Trade relations at the border remain uneven, with Nakhon Phanom being mainly an export hub. The opening of the Third Thai-Lao Friendship Bridge between Nakhon Phanom and Thakhek has arguably strengthened the economic links between the two cities (Figure 7). However, Nakhon Phanom is economically lagging behind Mukdahan because its twin city, Savannakhet, is the second-largest city in Laos. Nakhon Phanom receives far fewer border crossings and exports, with Thakhek as its sister city.

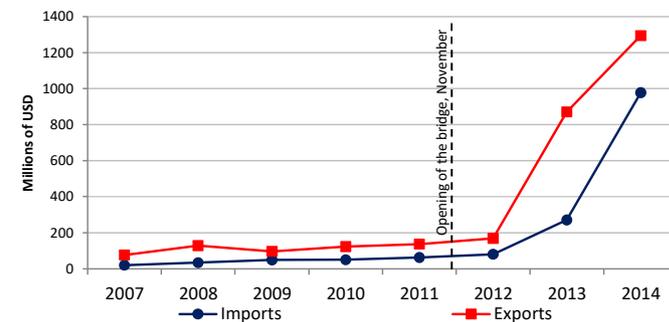


Figure 7 Trade at the Nakhon Phanom customs, 2007-2014, \$ USD Million

Source: Authors' construction based on ADB (2016)

Facilitation

Local governments and foreign investors have invested heavily in SEZs designed to attract manufacturing, facilitate trade and transport, and foster cross-border value chains. First, the Thakhek SEZ was

established in 2012, located 400 meters from the Third Thai-Lao Friendship Bridge and 16 kilometers from the city center of Thakhek (Ministry of Planning and Investment of Lao PDR, 2017). However, the SEZ already faces a fund shortage, although it attracted 22 domestic and foreign investment projects, amounting to \$12.9 billion USD from 2012 to 2018 (KPL, 2018). There are also weak interactions between local authorities, SEZ developers and SEZ authority, and very few interactions between the Lao officials and their Thai counterparts. Second, the Nakhon Phanom Economic Zone was established in 2015, covering 775 square kilometres (Board of Investment of Thailand [BOI], 2015). Its proximity to the Mekong River provides potential for tourism development.

Conclusion and Policy Implications

The three case studies illustrate the validity of the twin cities concept by clearly indicating that twin cities phenomena have flourished within the Greater Mekong Subregion (GMS) under the momentum of the East-West Economic Corridor (EWEC), although not optimally. As a symbiotic economic phenomenon, cross-border twin cities provide vast opportunities to become integrated nodes along cross-border value chains, far beyond being sites of border trade. In order for cross-border twin cities to thrive, it is essential that appropriate policy actions are taken. We wish to highlight seven policy areas with high potential for fostering mutual socioeconomic development across international borders. Overall, this set of policies must regard cross-border twin cities as urban organisms with solid connectivity to the economy and society of its neighbors across the border.

Urban Development

To ensure that twin cities grow as cities rather than outposts, urban infrastructures, including hospitals, schools, and community facilities, must be a focus. Similar infrastructure on both sides of the border ensures that the attraction of twin cities for labor is not unilateral. Thus, labor

forces would be optimally distributed in twin cities according to the repartition of industries around the border crossing rather than because of a disproportion in urban infrastructure on one side of the border. In addition, city planning is needed to integrate new urban developments and foster old city centers.

Industry Development

Twin cities' economies sometimes lack the necessary infrastructures, knowledge, and technology to grow complementary industries. Possible strategies for fostering local industries include attracting FDI through SEZs to increase investment in infrastructure, technology, and knowledge transfers. Implementing and managing SEZs implies strong coordination and information exchanges between local authorities, SEZ developers, and SEZ authorities to ensure the viability of the policy in the long run. Such agglomeration policies must relate to a previous competitive advantage assessment to drive the benefits of cluster-related spill-overs to the appropriate industries.

Labor Migration Policies

Efficient labor force formation on each side of the border is necessary for the economies of twin cities to be complementary and reach their potential growth. Barriers to labor movement would prevent industries from getting the required level of skills in high value-added industries or constrain business development in labor-intensive sectors. Moreover, workers illegally crossing the border have faced increased risks of legal retaliation and rejection from the other side's labor market. It is also worth mentioning that inefficient border procedures for migrant workers add to the commuting distance to work and weaken labor force mobility.

Border Control Regulations

As twin cities expand and develop, prime considerations must be given to offsetting the negative impacts of increased border crossing movement. Human trafficking, smuggling, drug trafficking, or pandemics such as Covid 19 are severe negative externalities arising

from liberalizing cross-border trade and movement of people. Thus, state and municipal actors must ensure the quality of trade and industrial activities, seek the reduction of smuggling, and diminish the development of black markets through establishing better knowledge of the border crossing ecosystem and better control of issues associated with movement of goods and people across borders.

Social Policies

Policies targeting social protection, healthcare, and childcare are crucial to counteract the twin cities' possible negative effects, such as widening inequality and gender issues. The differential impact of the twin cities across age and gender raises the need for social policies targeting those who benefit the least from economic changes and social reconfigurations. For instance, implementing similar healthcare systems across the border would further protect the workers while avoiding any illegal and hazardous labor movement. Childcare services are also crucial to filling the gender gap in employment, as women workers benefit from assistance in order to hold jobs. In addition, policies protecting the rights or structuring the relationships between employers and employees are potent tools to soften the predominance of the opaque power of corporations over social spheres in twin cities.

Administrative Collaboration

Since the twin cities in this study have recently emerged as nodes for cross-border value chains, local governments thus far have implemented only minor official and administrative collaboration activities – mainly annual meetings at the governor level. More frequent but informal discussions at the operational level exist for some collaboration (e.g. sharing office equipment) but depend on the personal relationship between officers. Although the local authorities recognize the importance of such cooperation and wish to improve administrative coordination between the two cities, actual actions are still needed.

The role of national authorities as key actors in the development of twin cities phenomena is finally to be highlighted. As twin cities are

often second-rank cities in provinces not yet reaching their growth potential, they do not necessarily have the local autonomy and resources to develop by themselves. Policies related to urbanization, borders (customs and immigration), transport infrastructures, SEZs, and social and health issues are often the prerogatives of higher-level governments. The lack of coordination and support from the national authorities to the local authorities leads to questionable policy results and effectiveness. By extension, intergovernmental coordination and cooperation among central governments may also be at play in the development of twin cities, on both hardware and software dimensions.

Acknowledgements

Christian Ksoll, Elsa Xuan Laine, Sangwon Lim, Hans-Peter Brunner, Yuko Shirai, Myo Thant and Captain Aung Khin Myint provided substantive comments to the authors. An early version of this article was published as a working paper of the Asia-Pacific Research and Training Network on Trade (ARTNeT). Beini Liu and Pun Permsakul also assisted the authors in providing research assistance. Bonnie Pacala Brereton has done a great work in editing this manuscript. The opinions expressed in this article are those of the authors and do not necessarily reflect the views of the United Nations.

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