

Transportation Infrastructure Development in CLMV Countries



Associate Professor Dr. Jittichai Rudjanakanoknad
Deputy Director, Transportation Institute, Chulalongkorn University

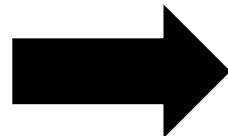
Presentation Outline

- Introduction
- Literature Reviews
- Transport Infrastructure Development
 - Cambodia
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- Summary and Concluding Remarks



Introduction

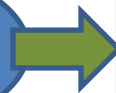
AEC will be fully effective in late 2015.



Direct investment plays attention to CLMV countries.

Transportation infrastructure in CLMV countries has been underdeveloped.

Review on



- Existing Condition
- Current Development
- Comparison

Literature Review

➤World Bank (2008) categorizes transport infrastructures into four modes, i.e., roadway, railway, port, and airport. This category will be used for further analysis in this paper. To evaluate transport infrastructure quality and readiness, past studies have tried to do it in several ways.

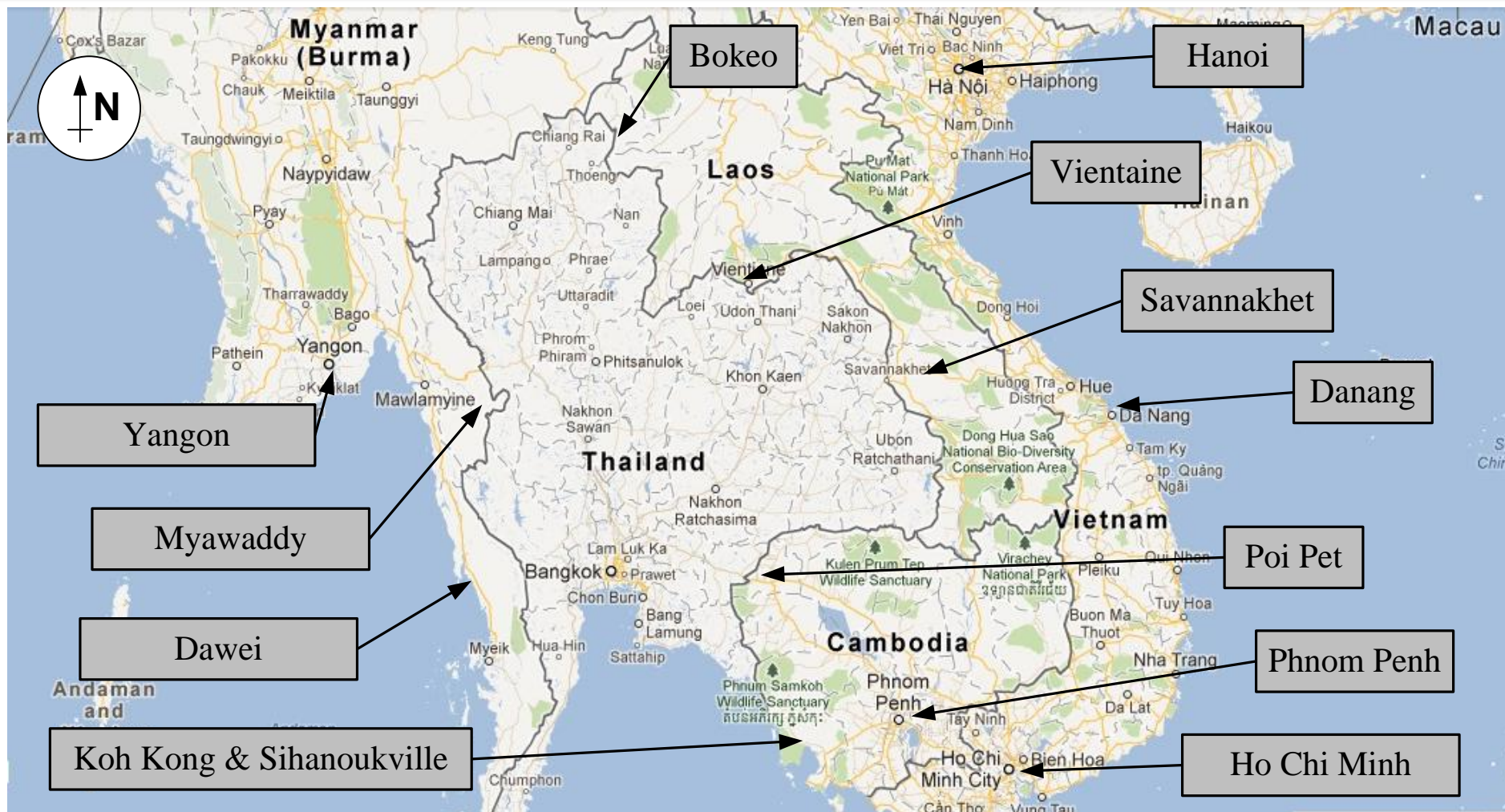
Transport Infrastructure : roadway, railway, port and airport

➤World Economic Forum (2009) creates transport infrastructure indices for quantify infrastructure quality in 132 countries. These indices are derived from specialists' returned questionnaires.

Literature Review

- Drahosava (2011) evaluates the quality of infrastructure by studying the attraction towards investors. It assumes that higher quality of infrastructure would draw higher number of investors.
- Khongkan and Laptaned (2011) compares three locations on Thailand borders and choose the best location for locating the distribution center. The factors in the analysis consist of road access, water access, rail access and air access.
- Kumar (2001) compares the density of infrastructure in different area with the assumption that higher density means better quality. For example, roadway and railway lengths per area and number of airports per area were used.

Targeted Zones for Investors



These are where Thai investors are most interested in locating their business or currently locate their base.

Transportation Development - Cambodia

- Cambodia's transportation system in 20th Century was damaged due to war and fighting.
- Railways are old and linked only to Thai border.
- Highways are 50% paved esp. on major highways and in the major cities.
- Rehabilitation and development of transport sector are ongoing to improve access and connectivity due to GMS and ASEAN agreements



Transportation Development - Cambodia

ROAD TRANSPORTATION

- Total length of Cambodia national network is only 2,200 km and about 40,000km of provincial and rural roads.
- International roads connect with neighbors are:
 - R1: Bangkok-Aranyaprathet-Poipet-Sesopon-Phnom Penh-Bavet-Ho Chi Minh City (SEC)
 - R10: Trad-KohKong-Sihanouville-Hatien-Camau (SEC)
 - R13/AH11: Vientian-StungTreng-Ho Chi Minh City



Transportation Development - Cambodia

RAIL TRANSPORTATION

- Only two lines: Phnom Penh to Poipet (386 km) & Phnom Penh to Sihanouville (264 km)
- Some of northern lines were disrepair and destroyed during the war. (still under repair)



AIR TRANSPORTATION

- Only Phnom Penh, Siem Reap, and Sihanouville airports have all been upgraded to international standards. There are 3 small domestic airports.



Transportation Development - Cambodia

WATER TRANSPORTATION

- Inland waterways is 1,750 km but only 580 km Mekong and its branch (+ Tonle Sap rivers) can be used for year round.
- Barges operate along the Mekong River from ports in Viet Nam to Phnom Penh but the volumes have been declined due to highway improvement
- Major seaports are Sihanouville, Kampot



Transportation Development - Lao PDR

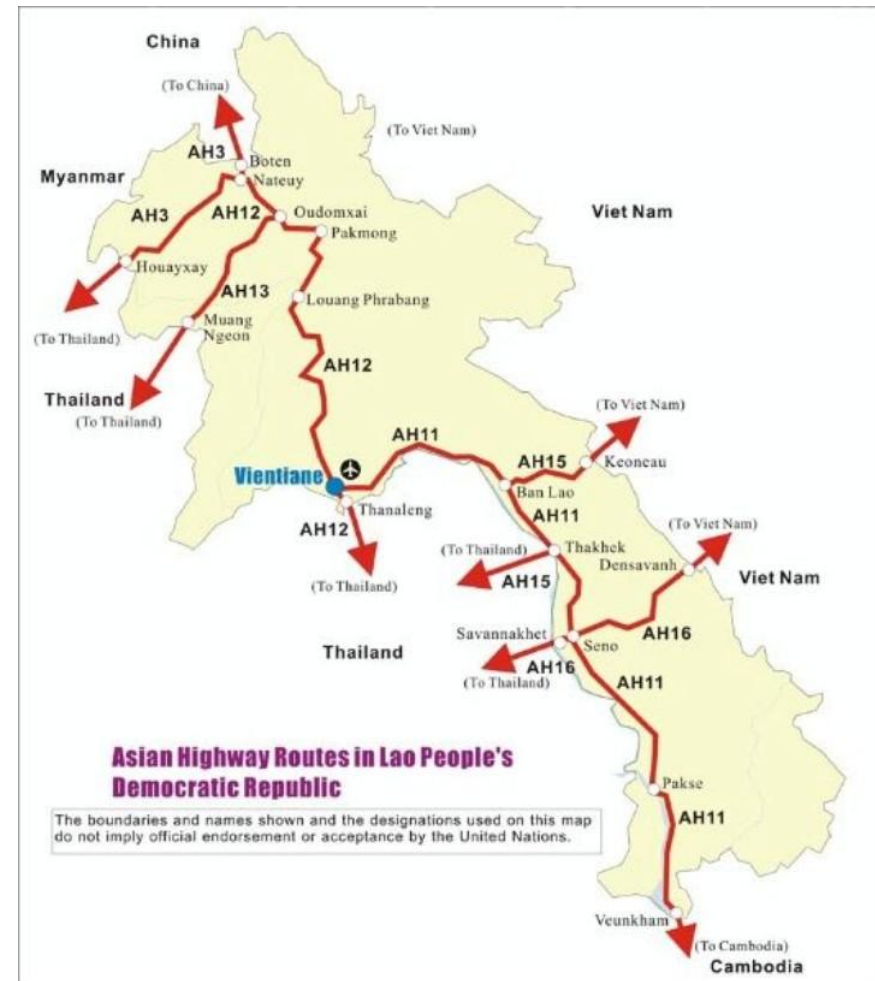
- An only land-locked country in Southeast Asia with no seaport
- Lao has several modern transportation systems, including highways, airports, and a fraction of railway system.
- Transport on Mekong river is quite insignificant due to geographical difficulty.
- Due to its mountainous topography and lack of development, Laos has few reliable transportation routes.



Transportation Development - Lao PDR

ROAD TRANSPORTATION

- Laos has highway networks through all regions but less than half of them can be used for all seasons.
- Most are two-lane highways with muds and potholes due to lack in highway maintenance and mountainous terrains.
- Currently, there are 4 main Thai-Lao friendship bridges across Mekong rivers.
- Main highways in Laos (under this study) are R1, R2, R3, and R8



Transportation Development - Lao PDR

RAIL TRANSPORTATION

- Broadly speaking, Laos has no railways, except a very short 3.5km link to connect near Thai border over the 1st Thai–Lao Bridge.
- For international rail linkage from Lao to Vietnam and China, it is still under negotiation.



AIR TRANSPORTATION

- Laos has 52 airports, of which 9 have paved runways. There are two main international airports at Vientiane and Luang Prabang; most connects Bangkok and Kunming



Transportation Development - Lao PDR

WATER TRANSPORTATION

- Most of water transportation is done through the Mekong and its tributaries.
- Water level is unreliable and can be used mostly during June-December only.
- Three navigable sections are:
 1. Huayxai, Bokaew to Laungprabang (all seasons)
 2. Luangprabang to Vientiane (July to February)
 3. Vientiane to Savarnnakhet (all seasons)
- Decreasing trend of water transport due to highway development
- Major seaports are Bangkok/Laemchabang (Thailand) and Danang (Vietnam)



Transportation Development - Myanmar

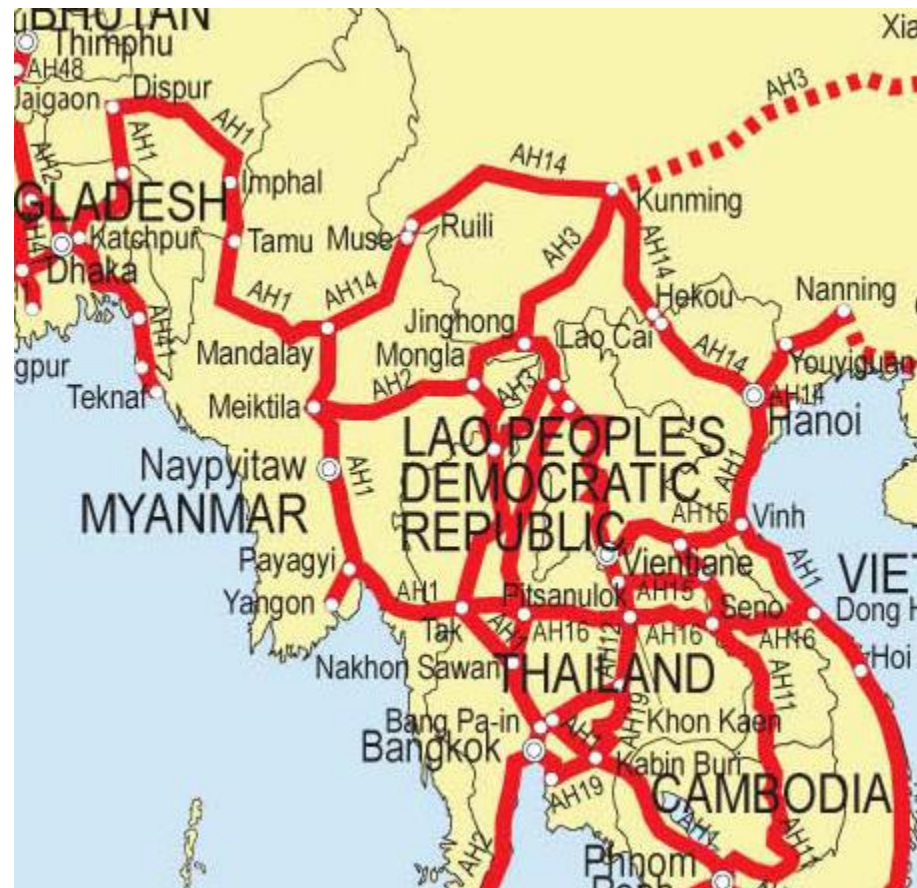
- Myanmar lacks adequate infrastructure. Goods travel primarily across the Thai border and along the Irrawaddy River.
- Railways are old and rudimentary, with few repairs since their construction in the late 19th century.
- Highways are normally unpaved, except in the major cities.
- Recently after reforming the country, Myanmar has a lot of plans to upgrade and develop its transportation infrastructure to be a part of AEC, BIMSTEC, and GMS member.



Transportation Development - Myanmar

ROAD TRANSPORTATION

- Total length of Myanmar national network is only 27,000 km, with only 12% of them or 3,200-km are paved roads.
- International roads connect Myanmar with others are:
 - R3B: Chiang Tung-hakilek(Myanmar)-Mae Sai-Chiang Rai-Bangkok
 - East-West Economic Corridor
 - Asian Highway No. 14
 - BIMSTEC Highway



Transportation Development - Myanmar

RAIL TRANSPORTATION

- 5,100-km railways belong to Myanmar government without international connections.
- There is no railway linking China due to geographical difficulty through high mountain terrains and minority problem.

AIR TRANSPORTATION

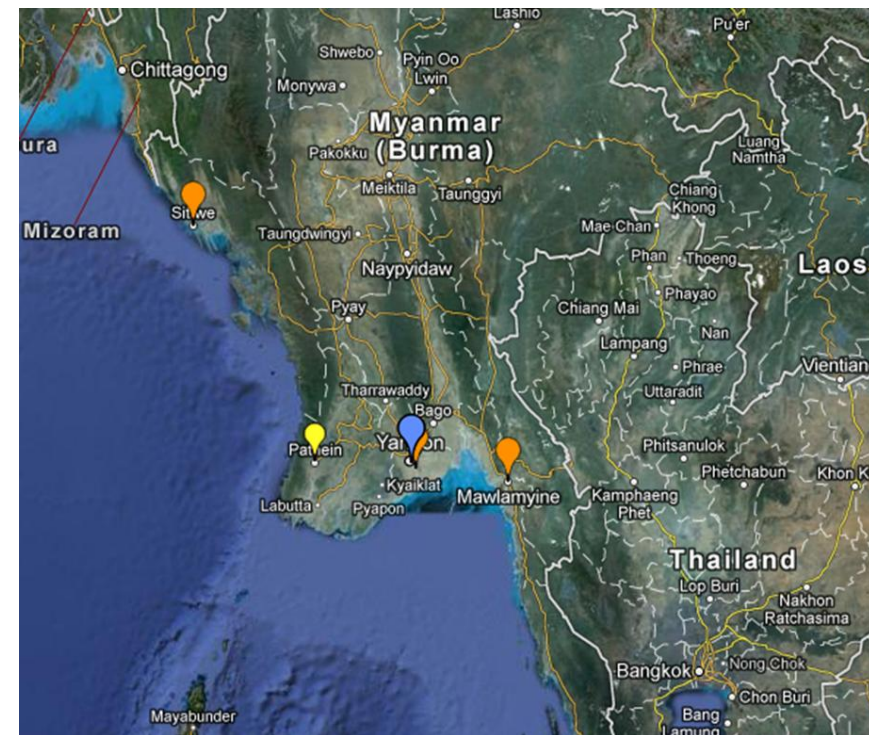
- Myanmar has 7 commercial airports, but Yangon, Mandalay and Naypyidaw ones can serve jet aircrafts.



Transportation Development - Myanmar

WATER TRANSPORTATION

- Myanmar has large and navigable rivers with the length 12,800 km river line.
- inland water transport in Myanmar is quite popular and dominates other domestic modes of freight transportation.
- Myanmar connects with the sea of Bengal and Indian Ocean.
- Its main seaports are Port of Yangon, Port of Mawlamyine, Port of Thilawa, Port of Sittwe and Port of Bassein.



Transportation Development - Vietnam

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Transportation Development - Vietnam

ROAD TRANSPORTATION

- The total roadway length is 222,179 km, with about 25% of them are paved.
- The most important one is AH1 from Hanoi to Ho Chi Minh City
- Expressway is new for Vietnamese. The total length is 800-km, ranged from 60 to 120 km/hr
- International roads connect Vietnam with others are:
 - Hanoi-Lao Cai-Kunming (Yunnan, PRC)
 - Hanoi-Long Son-Nanning (GuangXi, PRC)
 - R8/R9/R12 to Lao PDR & Thailand
 - R1/R10 to Cambodia & Thailand



Transportation Development - Vietnam

RAIL TRANSPORTATION

- 1726-km single track North-South Railway running between Hanoi and Ho Chi Minh City, more than half of 2,600-km total length
- The network is all of single track, mainly with 1,000 mm gauge, but also with some 1,435 mm gauge and dual-gauge sections.



AIR TRANSPORTATION

- Vietnam has 18 civilian airports but only 3 major international ones are Hanoi, Saigon, and Danang



Transportation Development - Vietnam

WATER TRANSPORTATION

- Vietnam has rivers with a total length of 41,900 km, of which 8,013 km are used for freight transport
- Major problems are weak waterway management, poor existing conditions of waterways and facilities, inadequate dredging
- Inland water services have increased and improved significantly
- The major ports are Saigon, Cai Lan, Cai Mep, Hai Phong, Danang, Na Trung
- Ocean freight costs to and from Vietnam are high because of low traffic volumes



Summary and Concluding Remarks

Major Problems for Transportation Infrastructures in CLMV are:

1. Most roads are not connected well and poor maintained. Many of them cannot be used during monsoon season.
2. Railway networks are rarely linking among different countries. The reliability and handling facilities are problematic.
3. Most airports are mostly used and built to handle passengers not goods.
4. Most special economic zones are not connected well to deep seaports, especially Lao's ones since it is a land-locked country.

Summary and Concluding Remarks

What we should focus on after AEC implementation:

- CLMV countries are growing fast and many infrastructures are being built to accommodate AEC in the near future.
- More studies are needed to follow up the development of transport infrastructures in these countries and survey if these developments can satisfy Thai investors in respective industries.
- The assessment of suitability for Thai and foreign government to support the investment of transport infrastructures in these countries might be further investigated for collaboration among ASEAN countries.

Comments and Discussion

