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2016 Progress Survey Report of Infrastructure Projects in CADP 2.0

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Preface

The Economic Research Institute for ASEAN and East Asia (ERIA) submitted the Comprehensive Asia Development Plan 2.0 (CADP 2.0) to the East Asia Summit in 2015.

In CADP 2.0, we update the infrastructure projects from the first CADP which was submitted to the 2010 East Asia Summit - Economic Ministers Meeting, reformulate the conceptual framework for connectivity and innovation, and discuss the quality of infrastructure projects.

CADP 2.0 lists 761 East Asian infrastructure projects in a wide range of sectors – such as roads and bridges, railroads, ports, electric power, etc. – on which we conducted a survey in 2015–2016. The progress status may not be noticeable due to the short period the survey was conducted. However, the results reflect to some extent the political and economic situation in each country and the influence of its policies.

Several remarkable infrastructure projects were completed in 2016, and more projects will be completed in the coming years. We will continue to monitor the progress of these infrastructure projects and summarise trends and prospects obtained from the survey.

Finally, we acknowledge the support provided by Fukunari Kimura, Chief Economist, and Yasushi Ueki, Economist. We also express our gratitude to Masami Ishida, Ikumo Isono, and So Umezaki of the Institute of Developing Economies, Japan External Trade Organization; Toshihiro Kudo of the National Graduate Institute for Policy Studies; Keola Souknilanh of the Bangkok Research Center; and the former EAIC Team members for their contributions to CADP 2.0.

East Asia Industrial Corridor (EAIC) Team

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Contents

List of Figures

List of Tables

List of Graphics

List of Abbreviations

ASEAN	Association of Southeast Asian Nations
BIMP–EAGA+ (BIMP+)	Brunei Darussalam–Indonesia–Malaysia–Philippines East ASEAN Growth Area and surrounding regions
CADP 2.0	Comprehensive Asia Development Plan 2.0
CT	container terminal
EAIC	East Asia Industrial Corridor
FS	feasibility study
IMT+	Indonesia–Malaysia–Thailand Growth Triangle and surrounding regions
Km	kilometre
Lao PDR	Lao People's Democratic Republic
MRT	mass rapid transit
MW	megawatt
SEZ	special economic zone
US$	United States dollar

Executive Summary

In 2016,[1] the East Asia Industrial Corridor (EAIC) Team conducted a progress survey[2] of 761 infrastructure projects in the Comprehensive Asia Development Plan 2.0 (CADP 2.0). We report the following results:

- Completed projects, including partial operation, comprise about 6% of the total. Projects beyond construction stage increased by 11 percentage points (henceforth, points) from the previous year.

  The completed projects by subregion – Greater Mekong (henceforth, Mekong), BIMP-EAGA+ (BIMP+), and IMT+ – increased by 6, 8, and 10 percentage points, respectively. The progress from feasibility study (FS) stage to construction stage in Mekong, BIMP-EAGA+, and IMT+ increased by 11, 10, and 6 percentage points, respectively. Based on the latter results, Mekong's progress is the fastest.

- The percentage of completed projects is high in Viet Nam and Myanmar but low in the Philippines and the Lao People's Democratic Republic (Lao PDR). On the percentage of projects that advanced from feasibility study (FS) stage to construction stage, Indonesia has a high percentage, with 14 points increase, followed by Cambodia and Myanmar. Philippines and Malaysia have a low percentage, with 4 points increase. Although the survey was conducted for only a year, the results of the survey reflect to some extent the political and economic conditions and policies of each country.

- The project progress of special economic zone (SEZ) and energy sectors is relatively fast because it is easy for private companies to enter into these sectors. The progress of railroad projects is slow because of time-consuming process, such as land expropriation, and difficulty in raising funds.

- On tiers,[3] the percentage of projects that advanced to operational stage in Tier 3 is highest. On the projects that progressed to construction stage, the construction ratio

[1] The survey period is from January to December 2016.

[2] The progress is evaluated in four stages: (i) conceptual stage, (ii) feasibility study stage, (iii) construction stage, and (iv) completion stage.

[3] The CADP classifies stages of development in terms of the degree of participation in production networks as follows (ERIA, 2010:12):
Tier 1: Countries or regions that are already in production networks and where industrial agglomerations start to form.

is high in the order of Tier 1, Tier 2, and Tier 3. Tier 3 projects are given lower priority than projects in other tiers. However, the progress of Tier 3 projects is the fastest because these projects are relatively small and not complicated.

- Countries, such as Indonesia, Thailand, Philippines, and Viet Nam which have many Tier 1 projects, are expanding infrastructure spending; it is expected that project progress will accelerate. On Tier 3, the progress of projects in Indonesia and the Philippines will also accelerate because these countries will focus on regional development.

- Only one cross-border project reached operational stage, and another project reached construction stage. The progress of cross-border projects may be slow compared to that of non-cross-border projects.

- The following are the findings based on the follow-up survey conducted by the EAIC Team in 2011–2014:

  (i) An increasing rate of projects which operationalised per year is about 6 points.
  (ii) Tier 3 has the highest ratio of projects that reached the operational stage, although it has the highest ratio of projects which did not advance to upper stage.
  (iii) Of the three subregions, Mekong has the highest progress for operational stage. IMT+ has the highest proportion of projects that did not advance to upper stage.
  (iv) On classification by sector, SEZ and energy sectors have the highest progress. Many railway projects stopped at the FS stage.

The survey results in 2015–2016 indicate similar tendencies as findings (i), (ii), and (iv) above.

Tier 2: Countries or regions that are not yet fully integrated into quick and high-frequency production networks.

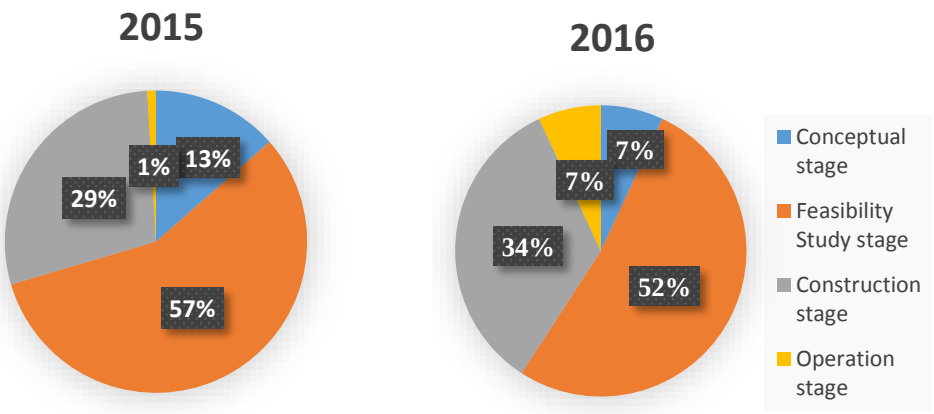
Tier 3: Countries or regions that are unlikely to come into quick and high-frequency production networks in the short run, but would like to provide a new framework for industrial development with the development of logistic infrastructure as a trigger.

Chapter 1

Overview

- The percentage of operational stage is 7%, construction stage is 34%, FS stage is 52%, and conceptual stage is 7% (Figure 1). Six percent of the 761 projects were completed during the period.

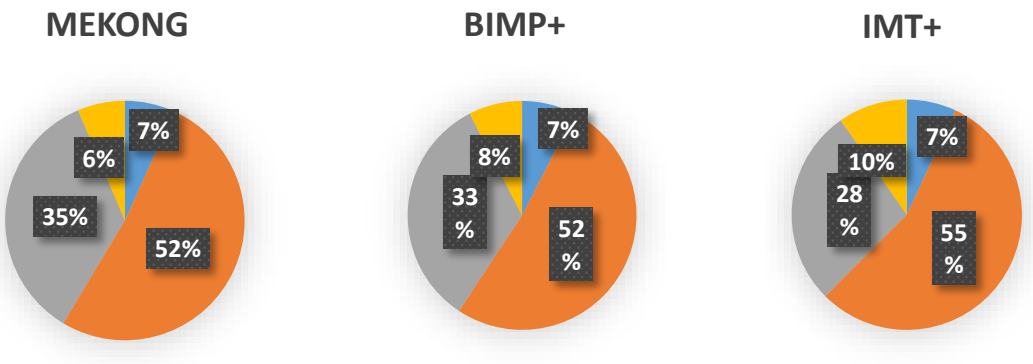
Figure 1. Project Status (2015–2016)



Source: East Asia Industrial Corridor (EAIC) Team.

- On classification by subregion, the following are the percentages for projects that advanced to operational stage: (i) 6% for Mekong, (ii) 4% for BIMP+, and (iii) 8% for IMT+. IMT+ has a relatively high percentage because three energy projects in Malaysia advanced to operational stage in 2016. The following are the numbers of projects that advanced from FS stage to construction stage: (i) 57 (11 points increase) in Mekong, (ii) 4 (6 points increase) in IMT+, and (iii) 18 (10 points increase) in BIMP+. Based on the results, Mekong's progress is faster than that of other subregions (Figure 2).

Figure 2. Project Status by Region (2016)



BIMP+ = Brunei Darussalam–Indonesia–Malaysia–Philippines East ASEAN Growth Area and surrounding regions.
IMT+ = Indonesia–Malaysia–Thailand Growth Triangle and surrounding regions.
Source: EAIC Team.

- On classification by sector, the following are the numbers of projects in 2016: (i) 15 in the energy sector (9 points increase, (ii) 4 in the airport sector (8 points increase), (iii) 3 in the SEZ (sector 7 points increase), (iii) 15 in the road and bridge sector (7 points increase), (iv) 2 in the port sector (3 points increase), and (v) 5 in the railway sector (4 points increase). The following are the numbers of projects that advanced from FS stage to construction stage: (i) 8 in the water supply and sanitation sector (22 points increase), (ii) 7 in the SEZ sector (16 points increase), (iii) 10 in the port sector (14 points increase), (iv) 23 in the road and bridge sector (10 points increase), (v) 16 in the energy sector (9 points increase), (vi) 9 in the railway sector (8 points increase), and (vii) 2 in the airport sector (4 points increase). The progress of energy and SEZ projects is faster than that of other sectors because it is easy for private companies to enter into the sectors. The progress of the railway sector is relatively slow due to time-consuming process, such as land expropriation, and difficulty in raising funds.

- On classification by tier, the following are the numbers of projects: (i) 17 in Tier 1 (8 points increase) under operational stage, (ii) 19 in Tier 2 (4 points increase), and (iii) 9 in Tier 3 (8 points increase). Of the 17 projects in Tier 1, 8 are from Viet Nam, 6 of which are in Hanoi and Hai Phong areas; this means that various infrastructure as basis of industrial agglomeration have been developed around these areas. In Tier 2, 6 out of 19 projects under operational stage are those of Myanmar, 5 of which are in areas extending

from Yangon to Mawlamyine. In Tier 3, 6 out of 9 projects under operational stage are for either expansion or rehabilitation. The following are the numbers of projects that advanced from FS stage to construction stage: (i) 27 in Tier 1 (12 points increase), (ii) 45 in Tier 2 (10 points increase), and (iii) 7 in Tier 3 (7 points increase). Tier 1 has the highest proportion of groundbreaking, followed by Tier 2 and Tier 3. Based on the results, infrastructure budget tends to be allocated to projects in Tier 1; time to complete the projects in Tier 3 is faster than in other tiers because these are relatively small and not complicated.

- On progress by country, Viet Nam has the highest number of projects that operationalised in 2016. It has 12 projects (8 points increase), followed by Myanmar with 7 projects (8 points increase). The Philippines and the Lao PDR have the least number with 2 projects (each 3 points increase). On the number of projects that advanced from feasibility stage to construction stage, Indonesia has the highest number with 16 projects (14 points increase), followed by Myanmar with 10 (11 points increase) and Cambodia with 9 (13 points increase). Malaysia has the least number with 1 project (4 points increase), followed by the Philippines with 3 projects (4 points increase).

- Of the 29 cross-border projects, 10 are beyond construction stage (34%); of the remaining 732 projects, 301 (41%) are beyond construction stage. Only one cross-border project was completed and one advanced to construction stage. The development of cross-border projects is slow because these may be of low priority or negotiation among related countries may take time.

- The following are the findings based on the follow-up survey conducted by the CADP Team in 2011–2014:

  (i) An increasing rate of projects that have been operationalised per year is about 6 points.

  (ii) Tier 3 has the highest percentage of projects that reached the operational stage, although it has the highest percentage of projects that did not advance to upper stage.

(iii) Of the three subregions, Mekong has the highest percentage of projects that advanced to operational stage. IMT+ has the highest percentage of projects that did not advance to upper stage.

(iv) On classification by sector, SEZ and energy sectors have the highest percentage of projects that advanced to operational stage. Many railway projects stopped at FS stage.

The survey in 2015–2016 indicates similar tendencies as findings (i), (ii), and (iv) above: (i) the increasing rate of projects that operationalised in 2015–2016 is 6 points; (ii) the percentage in Tier 3 is the highest among the three tiers with 8 points increase; and (iii) the progress of the energy, airport, and SEZ sectors is relatively high, and the progress of the railway and port sectors is relatively slow.

We outline the progress of each country below.

Chapter 2

Country Report

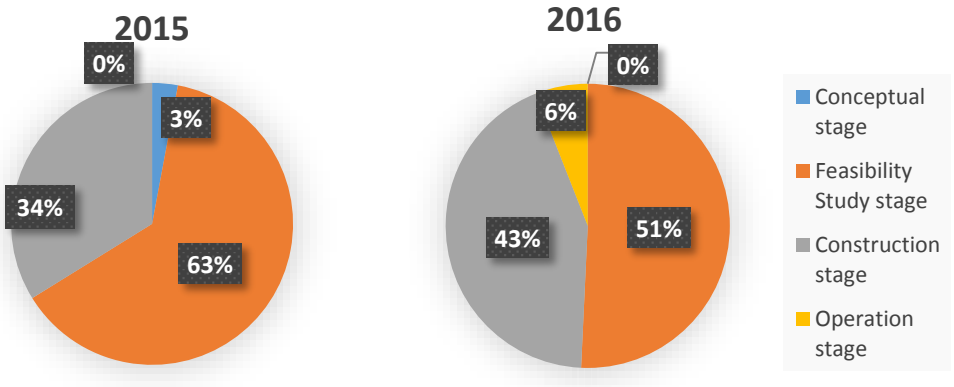
2.1. Cambodia

Table 1. Completed Projects of Cambodia in 2016 (including partial operation)

Project	Sector	Region	Tier
Rehabilitation of National Road No. 76 (171.8 km): Banlong Triangle Border Point (C–L–VN)	Road/Bridge	Mekong	Tier 3
Urban Transport Planning in the Municipality of Phnom Penh	Road/Bridge	Mekong	Tier 2
Techno Park Poipet	Industrial Estate/SEZ	Mekong	Tier 2
Coal Power Plant in Sihanoukville (Phase 1: 270 MWs)	Energy	Mekong	Tier 2

MW = megawatt, SEZ = special economic zone.
Source: EAIC Team .

Figure 3. Project Status in Cambodia (2015–2016)



Source: EAIC Team.

- Cambodia operationalised four projects in 2016. Nine projects advanced from FS stage to construction stage: (i) 3 in the transmission line sector, (ii) 2 in the road and bridge sector, (iii) 1 in the railway sector, and (iv) 1 in the SEZ sector. The reason for a higher number of transmission projects is the shortage of power supply, which is one of the biggest problems of Cambodia in attracting foreign direct investment. Thus, the development of transmission lines is of high priority.

- We highlight Techno Park Poipet (TOYOTA Tsusho, 2016) as representative project in Tier 2 (Graphic 1). From the framework of CADP 2.0, Techno Park Poipet belongs to infrastructure for innovation in Tier 2 where industrial agglomeration starts and high-quality SEZ projects attract companies that are principal elements for industrial agglomeration. The construction work started in May 2015 and the project was operationalised in September 2016. The contracts for six out of seven blocks were concluded. Poipet is expected to develop as a manufacturing hub directed at Thailand by making use of location advantage with proximity to Bangkok on the Southern Economic Corridor and affluent and affordable labour force.

  However, the challenges are the infrastructure developments around the SEZ. The construction work of National Road No. 5, which is recognised as top-priority project, will take time to complete. The North Line of Cambodian Royal Railway between Phnom Penh and Poipet has missing link and has not been in operation. Electricity is mainly provided by Thailand and the cost is high.

  To address the challenges, the following are concrete measures in the Cambodia Industrial Development Policy 2015–2025 to be achieved by end of 2018:

  (i) Prepare and implement a plan to reduce electricity tariffs for industrial and commercial purposes, including strengthening reliability and expanding coverage of electricity supply.

  (ii) Develop and implement a master plan for transport and logistic system development with the aim of creating an integrated and highly effective multimodal transport and logistic system, focusing on connecting the major economic poles and the three economic corridors – Phnom Penh–Sihanoukville, Phnom Penh–Bavet, and Phnom Penh–Poipet – to become key national economic corridors through the construction of highways of international standards and the setup of an effective logistic system.

Graphic 1. Techno Park Poipet (2016)

Techno Park Poipet(2016)
Source: EAIC Team.

Railway between Thai border and Poipet (2016)
Source: EAIC Team.

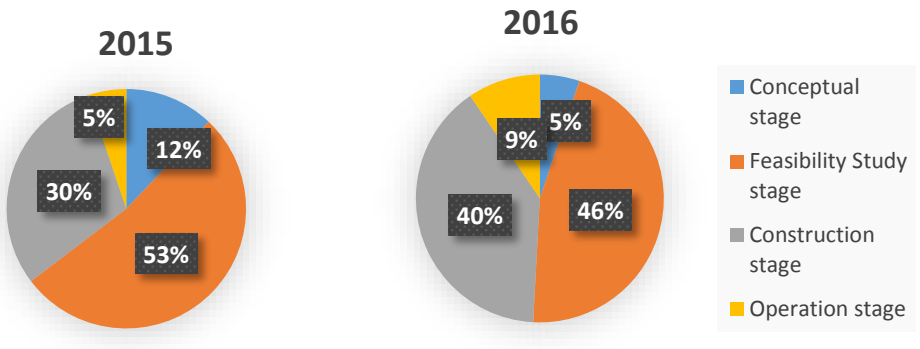
2.2. Indonesia

Table 2. Completed Projects of Indonesia in 2016 (including partial operation)

Project	Sector	Region	Tier
Medan–Kualanamu (North Sumatra) Elevated Track	Railway	IMT+	Tier 2
Tanjung Priok Port Development	Port	BIMP+	Tier 1
Expansion of H. AS. Hananjoeddin Airport, Bangka–Belitung Island	Airport	IMT+	Tier 3
Expansion of Matahora Airport, Southeast Sulawesi	Airport	BIMP+	Tier 3
Sarulla Geothermal Power Plant	Energy/Power	BIMP+	Tier 3

Source: EAIC Team

Figure 4. Project Status in Indonesia (2015–2016)



Source: EAIC Team.

- The number of Indonesian projects that reached operational stage is five. The number of projects that reached construction stage is 16, which is higher because the Indonesian government executed its budget from the latter half of 2015 and issued Presidential Decree No. 3 in 2016 to expedite the development of infrastructures, especially the 225 national strategic projects. Of the 16 projects, 7 are included in the 225 strategic projects.

- We highlight two projects representing operational stage, Tanjung Priok Port expansion and Sarulla Geothermal Power Plant:

(1) Tanjung Priok Port expansion (Susanty, 2016)

- Tanjung Priok Port expansion project is the construction and operation of a new container terminal (CT) at Tanjung Priok Port, Jakarta, Indonesia (Graphic 2). The first of the five phases includes the construction of three terminals to be completed in 2019. In August 2016, one of the three container terminals (CT1) started commercial operation. In CADP 2.0, this project belongs to infrastructure for connectivity in Tier 1 and requires full-scale seaport and terminals with sufficient capacity. CT1 has a capacity of 1.5 million TEUs1 that expands the current container capacity by 30%. The completion of CT2 and CT3 will double the capacity of the existing CT. Moreover, after completion of dredging work in 2017, large-sized containers can utilise the port. These developments will lead to substantial reduction in service link cost. However, these expansion projects are insufficient with the rapidly increasing number of containers entering the port. Thus, the New Patimban Port project is proposed and is to be completed in 2019. But the challenge is the congestion that may arise between the port project and the industrial parks in east Jakarta. The construction of Tanjung Priok Access Road under the Official Development Assistance (Japan) is ongoing and is for completion in 2017. The access road and the proposed Jakarta Outer Ring Road 2 will reduce congestion in this area (IPC Port Developer, 2015).

[1] TEU = twenty-foot equivalent unit.

Graphic 2. Tanjung Priok Port

CT1, new container terminal
Source: Mitsui & Co., Ltd.

(2) Sarulla Geothermal Power Plant[2] (Yoi, 2014)

- We highlight Sarulla Geothermal Power Plant project as representative of Tier 3 which came into operational in 2016 (Graphic 3). Tier 3 comprises countries or regions that are unlikely to come into quick and high-frequency production networks in the short run, but would like to provide a new framework for industrial development with the development of logistic infrastructure as a trigger. The project is in Tapanuli Utara District, North Sematera Province and set to be the largest geothermal power plant with a total installed capacity of 330 megawatts (MWs) when completed in 2019. The project consists of three phases of 110 MWs each. The first phase was completed in December 2016 and is scheduled to be under operation in 2017. It utilises highly advanced technology, such as geothermal reservoir management technology and plant operation and maintenance technology, which realises high-efficiency power generation.

- Indonesia is one of the world's largest geothermal power potentials estimated at 29,000 MWs. The rate of utilisation is about 5%. The country issued Presidential Decree No. 3 in 2006 which aims to achieve a capacity of 9,500 MWs. The plant's operation could trigger geothermal power development in the country.

[2] According to the staff of Kyushu Electric Power Co. related to the project, since the area around the power plant is mountainous and the road infrastructure around the power plant is not well developed, the route is changed based on the size of loads of the conveyer for transport to prevent spillage. Moreover, at the time of construction, basic construction work, especially soil improvement, was more difficult than the construction work of the power plant (20 December 2016).

Graphic 3. Sarulla Geothermal Power Plant

Source: EAIC Team.

2.3. Lao PDR

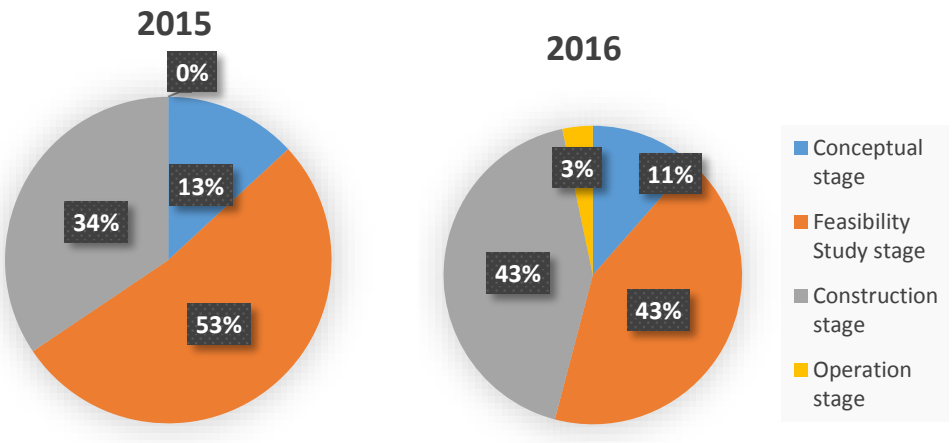
Table 3. Completed Projects of the Lao PDR in 2016 (including partial operation)

Project	Sector	Region	Tier
Nasak–Khokkaodo Mekong Bridge	Road/Bridge	Mekong	Tier 3
Hongsa Lignite Mine Mouth Power (1,878 MWs)	Energy/Power	Mekong	Tier 2

Lao PDR = Lao People's Democratic Republic.

Source: EAIC Team

Figure 5. Project Status in the Lao PDR (2015–2016)



Source: EAIC Team.

- The Lao PDR has two projects that advanced to operational stage: (i) 1 coal-fired power plant and (ii) 1 bridge project. Infrastructure development in the logistic sector seems to be disrupted because of financial difficulties.

- Seven projects advanced from FS stage to construction stage: (i) 2 in the hydropower sector and (ii) 2 in the road sector. We highlight Boten–Vientiane Rail Link as notable project. The project consists of six sections covering a total length of 427 kilometres (kms), and requires an investment of about United States dollars (US$) 7 billion. It is medium-speed and is scheduled to be completed in 2020. In CADP 2.0, this project is under the infrastructure for connectivity in Tier 2. Upon completion of this project, indirect economic benefit for the Lao PDR is expected through strengthening connection between two industrial hubs, Bangkok and Kunming. On the quality of infrastructure, the rail link will provide high-grade and dual modal connectivity (ERIA, 2015, p.29). However, economic viability could be a problem because its construction will involve high construction and maintenance cost since this railway will run through mountainous area and thus will require a lot of tunnel construction works.

- On securement of labour force and connectivity between Lao PDR and Bangkok, it is important to invite foreign investors to special economic and industrial zones, which will be constructed in big cities in Lao PDR, such as Vientiane, Savannakhet, and Pakse, where there are a substantial number of labour force. Vientiane Industrial Park is a remarkable example (Graphic 4) (ERIA, 2016, pp.96-97). The second phase of construction will start in 2017. More foreign investors will be attracted if provision of convenience improves by introducing one-stop services, among others (ERIA, 2016, pp.154-255).

Graphic 4. VITA Park (2016)

VITA PARK = Vientiane Industrial Park.
Source: EAIC Team.

- We also touch on Vientiane–Hanoi Expressway project although it is not included in CADP 2.0. The project could be significant because it would boost connectivity between Hanoi, Vientiane, and Bangkok (ERIA, 2016, pp.96-97).

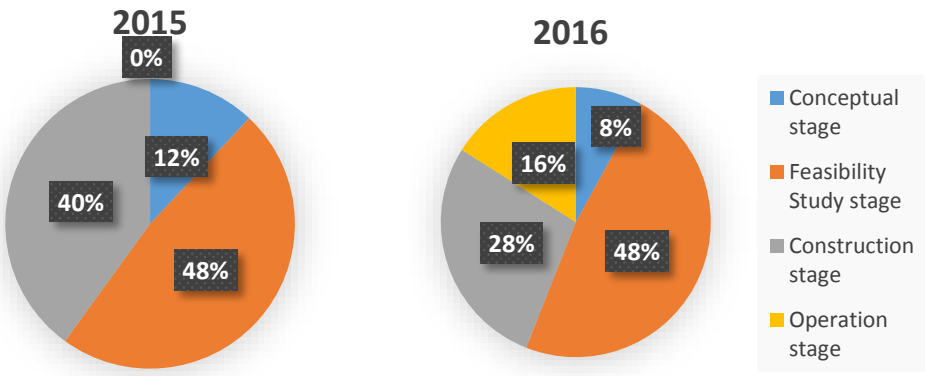
2.4. Malaysia

Table 4. Completed Projects of Malaysia in 2016 (including partial operation)

Project	Sector	Region	Tier
Klang Valley Mass Rapid Transit (MRT)	Railway	IMT+	Tier 1
Hulu Terengganu Hydroelectric Power Plant (212 MWs)	Energy/Power	IMT+	Tier 1
Tanjung Bin Coal-fired Power Plant (1,000 MWs)	Energy/Power	IMT+	Tier 1
Prai Combined-cycle Gas turbine (CCGT) Power Plant	Energy/Power	IMT+	Tier 1

Source: EAIC Team

Figure 6. Project Status in Malaysia (2015–2016)



Source: East Asia Industrial Corridor (EAIC) Team.

- Four out of the 25 projects in Malaysia advanced to operational stage: (i) 3 in the energy sector and (ii) 1 in the railway sector. Malaysia promotes diversification of power source by utilising natural gas, hydropower, and coal power because of the rapid growth in electric consumption.

- We highlight Klang Valley Mass Rapid Transit (MRT) as notable project under operational stage in Tier 1. The MRT project involves the construction of a rail-based public transport network which, together with the existing light rail transit, monorail transit, etc., forms the backbone of the Greater Kuala Lumpur or Klang Valley region. Phase one of the MRT Sungai Buloh–Kajang Line from Sungai Buloh to Semantan started operation end of 2016.[3] This project belongs to infrastructure for innovation in Tier 1 where upper- middle-income countries should emphasise on the urban amenities in infrastructure development. The MRT will operate every 3 minutes and will be utilised daily by an average of 400,000 people. Moreover, this emphasises the development of a variety of shops inside the station building, such as convenience stores, drug stores, and restaurants. The smooth flow of traffic and the variety of services to be provided by this rail line are typical elements which infrastructure for innovation in Tier 1 should pursue.

- Project 3 B coal-fired power plant at Jimah is one project that advanced from FS stage to construction stage. The electric company Tenaga Nasional Berhad acquired the project interests of this coal-fired power plant in July 2015, and began construction in August 2016. This is a supercritical power plant of 2,000 MWs and the key to ensure Malaysia a stable power supply. It is scheduled to commence operation in 2019.

[3] http://www.mymrt.com.my/en/sbk/the-mrt-sungai-buloh-kajang-line

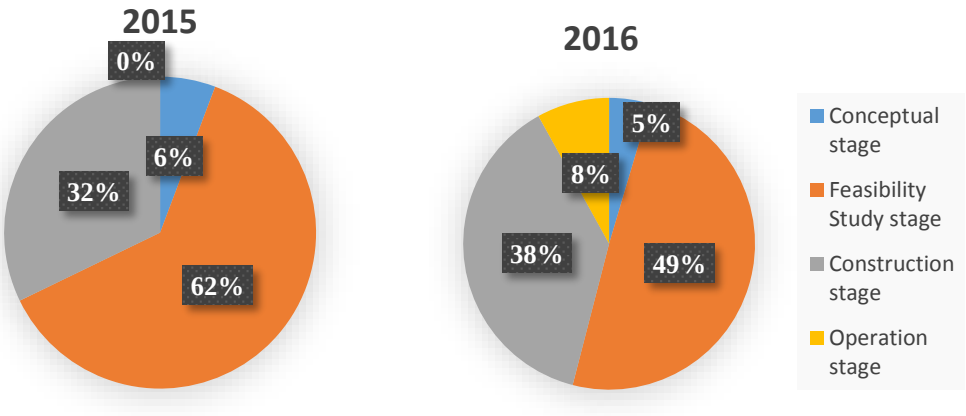
2.5. Myanmar

Table 5. Completed Projects of Myanmar in 2016 (including partial operation)

Project	Sector	Region	Tier
Mawlamyine–Yee–Dawei–Myeik–Kawthaung Road	Road/Bridge	Mekong	Tier 2
Meiktila–Taunggyi–Kyaing Tong (Kengtung)–Tachileik Road	Road/Bridge	Mekong	Tier 2
Yangon International Airport (Expansion)	Airport	Mekong	Tier 2
Thilawa SEZ Development: Zone A	Industrial estate/SEZ	Mekong	Tier 2
Thilawa Power Development	Energy/Power	Mekong	Tier 2
Mawlamyine Combined Cycle Power	Energy/Power	Mekong	Tier 2
Rehabilitation of Baluchaung No. 2 Hydropower Plant	Energy/Power	Mekong	Tier 3

Source: EAIC Team.

Figure 7. Project Status in Myanmar (2015–2016)



Source: EAIC Team.

- Of the seven projects under operational stage, three are in the energy sector: (i) 2 gas-fuelled power plants and (ii) 1 hydropower plant. Since the inauguration of the new administration, progress of coal-fired power plants seems to have stopped.

- We highlight Thilawa Special Economic Zone A project as important project that advanced to operational stage (Graphic 5). Zone A launched its operation in September 2015. As of December 2016, 21 factories started operation and 53 factories started construction. Seventy-nine companies from 15 different countries opted to locate their factories, production facilities, or logistic facilities in Thilawa

with a total investment of more than US$1 billion.[4] On infrastructure surrounding SEZ, a gas-fuelled power station of 50 MWs was completed in 2016, and Thilawa Port is ongoing construction. An access road between Yangon City and the SEZ, and a bridge that will connect Yangon and Thanlyin over the Bago River will start construction soon. Moreover, construction of Zone B project started in February 2017.

- In CADP 2.0, this SEZ project belongs to infrastructure for innovation in Tier 2, where the role of SEZ in attracting foreign investors will be emphasised by making good investment in environments. The significant feature of the successful SEZ is its full back up by the Government of Japan to develop hard and soft infrastructure in and around the SEZ, which has been recognised as credible environment for investors.

Graphic 5. Thilawa Special Economic Zone A (2017)

Source: EAIC Team.

- Of the 10 projects that advanced from FS stage to construction stage, three are in the road sector in Yangon City and four are in the energy sector.

- On the missing link of East–West Economic Corridor in Myanmar, the construction of Eindu–Kawkareik section has started. Also, the proposed construction of three bridges under the Official Development Assistance (Japan) loan will improve logistic flow and reduce service link costs. Moreover, construction of the bypass road

[4] http://www.bangkokpost.com/business/news/1204317/thilawa-sez-expanding

between Myawaddy and Kawkareik, which areas used to cause bottleneck in the corridor, was completed in 2015. This reduces transportation lead time from 2–4 hours to 0.5 hour.[5]

- In Southern Economic Corridor in Myanmar, a two-lane road from Thai border to Dawei SEZ is ongoing construction (Graphic 6). In 2015, the EAIC team crossed this road, which had many curves and ran along mountainous area that a four-wheel drive was necessary to move from Thai border to Dawei SEZ. Almost all sections were unpaved. This road has a significant role in strengthening connectivity with Thailand and Dawei SEZ. The specifications of this road will be discussed in the next industrial master plan of Dawei SEZ since road quality depends on the industries that will move into the SEZ.

Graphic 6. Two-lane Road from Thai Border to Dawei SEZ (2015)

SEZ = special economic zone.
Source: EAIC Team.

[5] http://www.nittsu.co.jp/press/2015/20150909-1.html

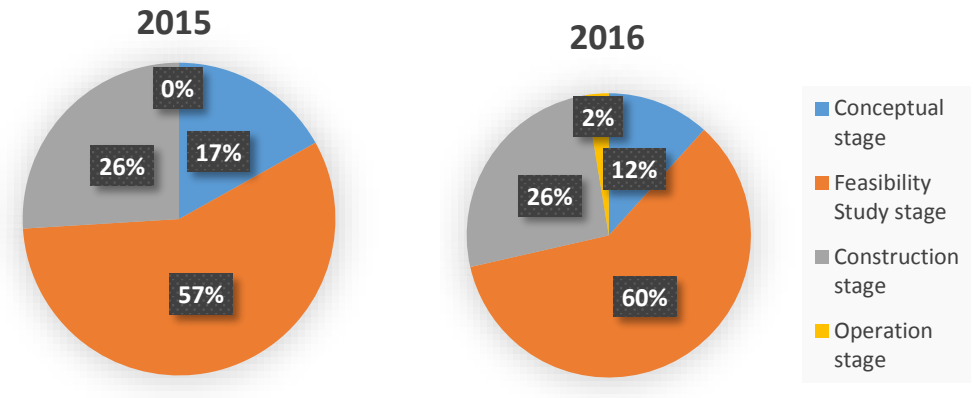
2.6. Philippines

Table 6. Completed Projects of the Philippines in 2016 (including partial operation)

Project	Sector	Region	Tier
NAIA Expressway (Phase II)	Road/Bridge	BIMP+	Tier 1
Water Supply and Wastewater in Boracay Island	Water supply/Sanitation	BIMP+	Tier 2

Source: EAIC Team

Figure 8. Project Status in the Philippines (2015–2016)



Source: EAIC Team.

- The Philippines has two projects under operational stage: (i) NAIA Expressway and (ii) Water Supply and Wastewater in Boracay Island. Project progress was slow because of the presidential election in 2016 and the stagnation of public–private partnership projects in the Aquino administration.

- However, the Duterte administration approved 17 infrastructure projects since taking over in 2016 (Chanco, 2017). Two of these projects, the Plaridel Bypass Toll Road and North–South Railway, are included in CADP 2.0. The new government will accelerate infrastructure development by increasing infrastructure budget by 86 billion Philippine peso (+13.8%) in 2017.[6] Moreover, legislation for infrastructure development is underway. In March 2016, Congress passed Republic Act No. 10752 to expedite land appropriation for infrastructure development (Business World Online, 2017). The impending enactment of build–operate–transfer amendments will also help accelerate the procurement of public–private partnership projects. CADP 2.0 selected many projects from public–private partnership pipelines. The project progress in the Philippines will be faster than in previous years.

[6] http://www.bworldonline.com/content.php?section=Economy&title=philippine-year-in-review-2016&id=138661

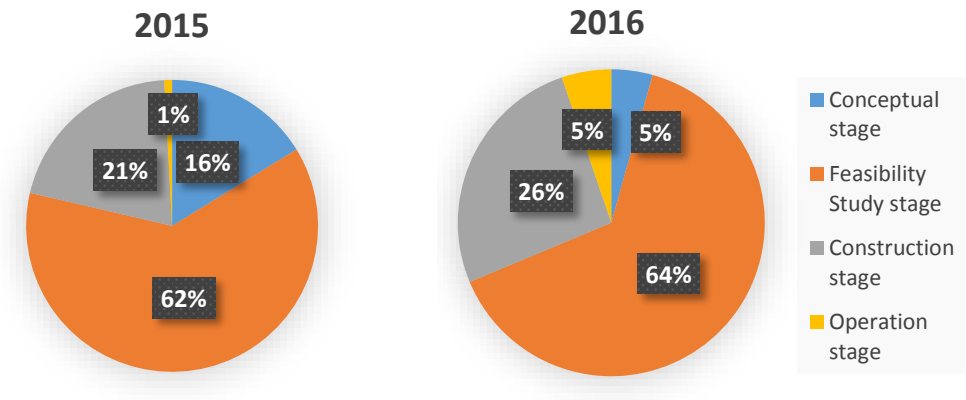
2.7. Thailand

Table 7. Completed Projects of Thailand in 2016 (including partial operation)

Project	Sector	Region	Tier
Sirat–Bangkok Outer Ring Road Expressway	Road/Bridge	Mekong	Tier 1
Bangkok MRT: Purple Line (Bang Yai–Bang Sue)	Railway	Mekong	Tier 1
Multipurpose Port in Khlong Yai, Trat	Port	Mekong	Tier 2
The 4th Natural Gas Transmission Pipeline (Rayong–Kaeng Khoi)	Energy/Power	Mekong	Tier 2
Nakhornsawan On-shore Natural Gas Pipeline, Phase 1 and Phase 2	Energy/Power	Mekong	Tier 2

Source: EAIC Team.

Figure 9. Project Status in Thailand (2015–2016)



Source: EAIC Team.

- Five of Thailand's projects reached operational stage. The country's natural gas has been a major energy resource, and two natural gas pipeline projects and two transport infrastructure projects near Bangkok were completed.

- We highlight Bangkok MRT: Purple Line (Bang Yai–Bang Sue) (Graphic 7). In CADP 2.0, this project is under infrastructure for innovation in Tier 1. These infrastructure are required to promote the flow of people and things in the metropolitan area by developing efficient and speedy transportation and to create convenient and comfort cities. This project connects Bangkok with the adjacent western region by a high-standard railway. Connecting 22-km distance between Tao Poon Station, which is 1 km west side of Bang Sue Station, and Khlong Bang Phai Station in Nonthaburi Province will ease the traffic between Nonthaburi Province and the centre of Bangkok where population is increasing. However, changing trains between Tao

Poon Station and Bang Sue Station of the subway Blue Line is inconvenient,[7] and the utilisation rate is lower than expected because the fare is more expensive than bus fee.

- The proportion of projects beyond the construction stage is relatively low (31%) because 39 (34%) of Thailand's 115 projects are in the railway sector that need time and funding. [8]

- Eleven projects advanced from FS stage to construction stage, four of which are in the road sector. The Government of Thailand approved the plan to spend US$50.8 billion on 20 major infrastructure projects by 2022. Three[9] of the four projects cited above are included in the plan. Moreover, Bangkok–Chiang Mai High-speed Railway, which is also included in the plan, is scheduled to start construction in 2018.

Graphic 7. Bangkok MRT: Purple Line (2017)

MRT = mass rapid transit.
Source: EAIC Team.

[7] In February 2017, it took us about 4 minutes to travel without traffic congestion and 20 minutes when traffic jam occurred.
[8] The railway project proportion is 16% of the 761 infrastructure projects.
[9] Three routes: (1) Pattaya in eastern Chonburi Province–Map Ta Phut in Rayong Province, (2) Bang Yai in Nonthaburi
Province, northern suburb of Bangkok–western Kanchanaburi Province, (3) Bang Pa-In in central Ayutthaya–northeastern Nakorn Ratchasima Province.

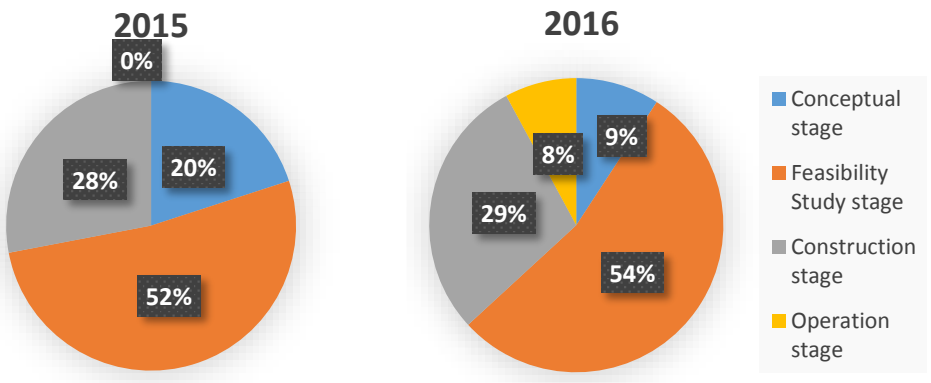
2.8. Viet Nam

Table 8. Completed Projects of Viet Nam in 2016 (including partial operation)

Project	Sector	Region	Tier
Expansion of National Road 1A	Road/Bridge	Mekong	Tier 3
Expansion of Ho Chi Minh Route	Road/Bridge	Mekong	Tier 3
Hanoi Ring Road: No. 2 (including Nhat Tan Bridge and Dong Tru Bridge)	Road/Bridge	Mekong	Tier 1
Ring Road: Road from Phu My Bridge–Rach Chiec 2 Bridge	Road/Bridge	Mekong	Tier 1
Highway: Hanoi–Bac Giang	Road/Bridge	Mekong	Tier 1
Hanoi–Hai Phong Highway	Road/Bridge	Mekong	Tier 1
Hanoi–Hai Phong Bridge	Road/Bridge	Mekong	Tier 1
North–South Expressway construction (Ho Chi Minh City–Dau Giay Section) Phase (III)	Road/Bridge	Mekong	Tier 1
Hanoi–Ho Chi Minh City Railway Line Bridges Safety Improvement	Railway	Mekong	Tier 1
Expansion of Cat Bi International Airport, Hai Phong	Airport	Mekong	Tier 1
Lai Chau Hydro Power Plant No. 1, No. 2, and No. 3	Energy	Mekong	Tier 2
Vung Ang Power Plant I No.2	Energy	Mekong	Tier 2

Source: EAIC Team.

Figure 10. Project Status in Viet Nam (2015–2016)



Source: EAIC Team.

- Viet Nam has 12 completed projects and has the largest number in surveyed countries (8% of the 152 projects in Viet Nam): (i) 8 in the road and bridge sector, (ii) 2 in the electric power sector, (iii) 1 in the railroad sector, and (iv) 1 in the airport sector.

- We touch on the Hanoi–Hyphon Expressway[10] as representative project under operation (Graphic 8). The project is a high-grade arterial expressway composed of six lanes (two lanes for emergency) and connects Hanoi and Hyphon in about an hour drive, which used to be about 2.5 hours. It will make service link cost cheaper and industrial agglomeration bigger in the area within 100 kms from Hanoi. Moreover, Hyphon has been developed as an industrial and logistic hub. Since logistics around it have already been developed, high-quality industrial zones, such as Nomura–Hyphon industrial zone, VSIP industrial zone, and Vinh Bu industrial zone, are constructed. Cat Bi International Airport was completed in 2016, and Lack Huyen Deep Sea Port and Halon–Hyphon Highway are under construction (Graphic 9) (METI, 2015). The Lack Huyen Deep Sea Port will likely generate synergy with Hanoi–Hyphon Highway to improve connectivity with other big industrial hubs (Shino, 2016).

Graphic 8. Hanoi–Hyphon Expressway (2016)

Source: EAIC Team.

[10] The Government of Viet Nam is promoting the development of the highway network. In March 2016, it approved the 'Viet Nam Expressway Network Development Plan to 2020 and the Vision to 2030 (Extended 6411 kms)', which is the basic plan for expressway development up to 2020. It plans to expand the distribution network with border areas and port bases by starting from major cities of the country.

Graphic 9. Lack Huyen Port Construction Site (2016)

Source: EAIC Team.

- Ten projects (7%) advanced to construction stage: (i) 4 in the road and bridge sector and (ii) 3 in the water supply sector. The road projects include road infrastructure for innovation, such as Hanoi Ring Road No. 1 and Hoa Lac–Hoa Binh Highway, which will improve urban amenities in Hanoi.

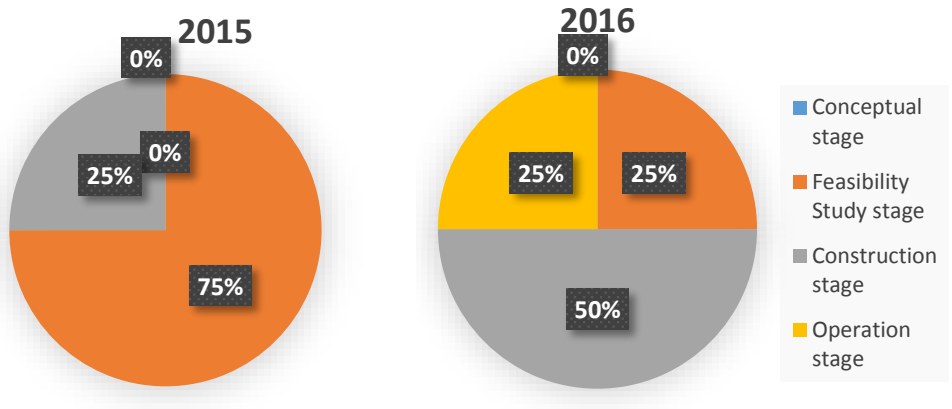
2.9. Singapore and Brunei Darussalam

Table 9. Completed Projects of Singapore and Brunei Darussalam in 2016 (including partial operation)

Project	Sector	Region	Tier
Construction of Telisai Lumut Highway (Brunei Darussalam)	Road/Bridge	BIMP+	Tier2

Source: EAIC Team.

Figure 11. Project Status in Brunei Darussalam (2015–2016)



Source: EAIC Team.

- We present the number of projects in Singapore and Brunei Darussalam collectively since the projects are few.
- The Singapore–Kuala Lumpur High-speed Rail Line project connecting the capital of Singapore and Malaysia is important. It is the first cross-border high-speed rail in Asia, which connects 350 kms distance between Singapore and Kuala Lumpur in 90 minutes minimum. Both the Government of Singapore and the Government of Malaysia signed an agreement on this project in December 2016. Construction will start in 2018; its opening is scheduled in 2026. The project is expected to (i) alleviate congestion at Changi International Airport in Singapore, (ii) revitalise urban development around the route and the flow of people for business and tourism between two countries, and (iii) have a big impact on the economies of both countries (Abidin, 2016).

- On Brunei projects, one was completed and two advanced to construction stage (Graphic 10). Both are road and bridge projects.

Graphic 10. Temburong Bridge Construction Site, Brunei Darussalam (2016)

Source: EAIC Team.

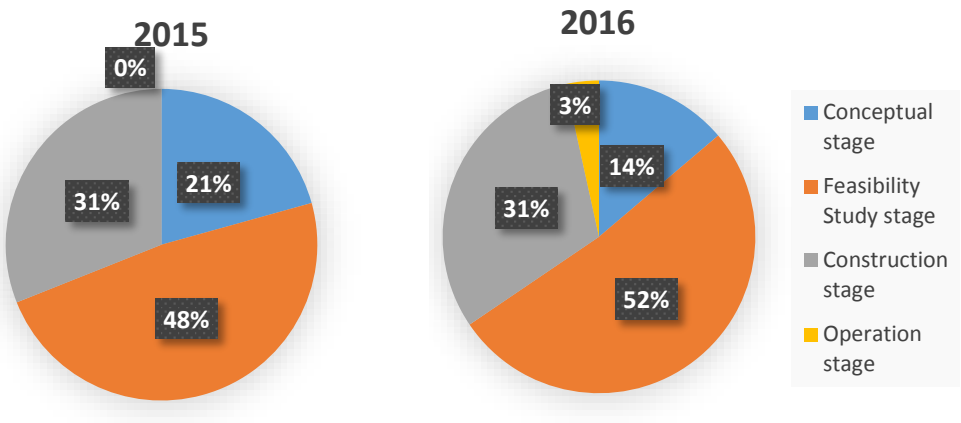
2.10. Cross-border

Table 10. Completed Project of Cross-border in 2016

Project	Sector	Region	Tier
Trans Borneo Power Grid (Sarawak–West Kalimantan) (Part of ASEAN Power Grid)	Energy	BIMP+	Tier 2

Source: EAIC Team

Figure 12. Project Status in Cross-Border (2015–2016)



Source: EAIC Team.

- Of the 29 cross-border projects, only one between Malaysia and Indonesia was completed. Malaysia began exporting electricity of 70,000 kw s from Sarawak State, Malaysia to West Kalimantan Province, Indonesia. As part of the Association of Southeast Asian Nations (ASEAN) Power Grid Plan, export of electricity is first time for Malaysia. With Indonesia purchasing surplus electricity from Malaysia, the former will save fuel cost of US$100 million annually.

Chapter 3

Future Prospects

We wrap up this report by mentioning the projects under construction as of 2016 and the short-term outlook of CADP 2.0 projects by each tier.

(1) Tier 1 has 67 projects under construction: (i) 16 in the road or bridge sector (24%), (ii) 15 in the railway sector (22%), and (iii) 8 in the water supply sector (12%). The representative infrastructure projects for connectivity are Lach Huyen Port, which will be completed in 2017, and Jawa High Speed Railway construction in Indonesia, which started in February 2017. In this tier where urban amenities should be emphasised, some infrastructure for innovation have been under construction. The representative examples are the (i) MRT and light rail transit projects in Jakarta (Graphic 11), (ii) MRT projects in Bangkok, (iii) metro rail transit and light rail transit projects in Manila, and (iv) urban railway projects in Hanoi. These will advance to operational stage, at least partially, by 2020.

Some ASEAN member-countries have increased their budget for infrastructure because of urbanisation advancement and the influences of the Economic Community inauguration. Indonesia (Smith et al. 2016), Thailand (Limsamarnphun 2016), and the Philippines (de Vera, 2016) are such examples; Viet Nam has kept its infrastructure spending more than 5% of its gross domestic product (Le, 2016). Thus, *we* assume that the project progress in Tier 1, where the four countries' projects occupy 82%, will be faster.

Graphic 11. Jakarta MRT Construction Site (2016)

Source: EAIC Team.

(2) Tier 2 has 154 projects under construction: (i) 50 in the road *and* bridge sector, (ii) 50 in the energy sector, and (iii) 15 in the port sector. Moreover, there are many road projects which will strengthen and improve connectivity between middle-sized industrial districts. The representative examples are the National Road 1 project in Cambodia and Hyphon–Halon

Highway project[11] in Viet Nam, which are to be completed in 2017, and the Manado–Bitung Highway project[12] in Indonesia (Graphic 12), which will be *under* operation in 2018. Forty-two of the 50 energy projects belong to Mekong Subregion.[13] Examples of these are (i) 8 coal-fired power plant projects in Viet Nam, (ii) 7 transmission projects in Cambodia, and (iii) 7 hydropower plant projects in the Lao PDR, etc., all of which are for completion by 2020.

The presentation *above* shows that projects by country (Indonesia, Thailand, Philippines, and Viet Nam) and energy projects by sector will make wide strides. However, the progress of some energy projects in Myanmar remains uncertain.

Graphic 12. Manado–Bitung Highway (2015)

Source: EAIC Team.

(3) Tier 3 has 38 projects under construction: (i) 14 in the road and bridge sector, (ii) 8 in the energy sector, and (iii) 6 in the airport sector, etc. The representative projects are the Balikpapan–Samarinda Toll Road in Indonesia and the national road development and improvement in the Lao PDR.

In the energy sector, most projects are geothermal and hydropower plants, which utilise regional-rich natural resources. Examples are the Lumut Balai Geothermal Power Plant, which is for completion in 2017; and the Nam Ou 1, Nam Ou 3, Nam Ou 4, and Nam Ou 7 hydropower plants in the Lao PDR, which are for completion in 2020.

Since Tier 3 projects consist mainly of those from Indonesia and the Lao PDR and the tier has

[11] http://www.quangninh.gov.vn/en-US/Pages/Tin%20chi%20ti%E1%BA%BFt.aspx?newsid=2334&cid=1&dt=2016-04-25

[12] https://kppip.go.id/en/priority-projects/road/manado-bitung-toll-road/

[13] Many projects are in the construction stage in Tier 2 because electricity supply is a big challenge for Mekong region, and frameworks for accommodating electricity, such as the ASEAN Power Grid, have been developed.

many energy projects by sector, the proportion of projects for operation in this tier will be the highest.

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Appendices

Appendix 1. Progress in Construction Stage

1. Conceptual Stage, 2. Feasibility Study Stage (2015) → 3. Construction Stage (2016)

1. Conceptual Stage, 2. Feasibility Study Stage (2015) → 3. Construction Stage (2016)		Mekong	BIMP+	IMT+	Brunei Darussalam	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Thailand	Viet Nam	Cross-border	Total
Tier1	①Progress (1,2 → 3) project	19	7	1	0	0	6	0	1	0	1	4	7	0	27
	②Total Project	146	55	21	0	1	28	0	20	0	25	47	81	5	222
	③Progress rate(①/②)	13%	13%	5%	-	0%	21%	-	5%	-	4%	9%	9%	0%	12%
Tier2	①Progress (1,2 → 3) project	35	7	3	2	9	6	4	0	10	2	7	3	1	45
	②Total Project	319	76	37	4	65	44	29	1	84	46	64	65	20	432
	③Progress rate(①/②)	11%	9%	8%	50%	14%	14%	14%	0%	12%	4%	11%	5%	5%	10%
Tier3	①Progress (1,2 → 3) project	3	4	0	0	0	4	3	0	0	0	0	0	0	7
	②Total Project	52	41	14	0	2	44	32	4	3	6	4	6	4	107
	③Progress rate(①/②)	6%	10%	0%	-	0%	9%	9%	0%	0%	0%	0%	0%	0%	7%
Sub-total	①Progress (1,2 → 3) project	57	18	4	2	9	16	7	1	10	3	11	10	1	79
	②Total Project	517	172	72	4	68	116	61	25	87	77	115	152	29	761
	③Progress rate(①/②)	11%	10%	6%	50%	13%	14%	11%	4%	11%	4%	10%	7%	3%	10%
Road/Bridge	①Progress (1,2 → 3) project	16	7	0	2	2	4	2	0	2	1	4	4	0	23
	②Total Project	163	49	10	3	31	20	20	3	19	30	20	58	10	222
	③Progress rate(①/②)	10%	14%	0%	67%	6%	20%	10%	0%	11%	3%	20%	7%	0%	10%
Railway	①Progress (1,2 → 3) project	5	3	1	0	1	3	1	0	0	1	2	0	0	9
	②Total Project	85	22	13	0	10	15	4	3	8	11	39	21	4	120
	③Progress rate(①/②)	6%	14%	8%	-	10%	20%	25%	0%	0%	9%	5%	0%	0%	8%
Port/Maritime	①Progress (1,2 → 3) project	4	5	1	0	1	6	0	0	0	0	2	1	0	10
	②Total Project	33	26	14	1	5	28	3	2	9	6	13	5	0	73
	③Progress rate(①/②)	12%	19%	7%	0%	20%	21%	0%	0%	0%	0%	15%	20%	-	14%
Airport	①Progress (1,2 → 3) project	2	0	0	0	0	0	1	0	0	0	0	1	0	2
	②Total Project	22	22	8	0	0	13	5	4	4	12	6	7	0	52
	③Progress rate(①/②)	9%	0%	0%	-	-	0%	20%	0%	0%	0%	0%	14%	-	4%
Other Transportation	①Progress (1,2 → 3) project	2	0	0	0	0	0	0	0	2	0	0	0	0	2
	②Total Project	5	2	0	0	0	0	0	0	4	2	0	0	0	7
	③Progress rate(①/②)	40%	0%	-	-	-	-	-	-	50%	0%	-	-	-	29%
Industrial Estate/SEZ	①Progress (1,2 → 3) project	7	0	0	0	1	0	1	0	0	0	1	1	0	7
	②Total Project	41	1	3	0	2	0	4	0	9	1	11	12	1	45
	③Progress rate(①/②)	17%	0%	0%	-	50%	-	25%	-	0%	0%	9%	8%	0%	16%
Energy/Power	①Progress (1,2 → 3) project	13	1	2	0	3	2	2	1	4	0	0	0	1	16
	②Total Project	113	35	21	0	15	30	20	10	24	10	15	28	12	169
	③Progress rate(①/②)	12%	3%	10%	-	20%	7%	10%	10%	17%	0%	0%	0%	8%	9%
Water Supply/Sanitation	①Progress (1,2 → 3) project	7	1	0	0	0	0	0	0	2	1	2	3	0	8
	②Total Project	22	12	2	0	0	7	1	2	5	5	5	10	0	36
	③Progress rate(①/②)	32%	8%	0%	-	-	0%	0%	0%	40%	20%	40%	30%	-	22%
Telecommunication	①Progress (1,2 → 3) project	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	②Total Project	10	0	0	0	3	0	0	0	3	0	2	1	1	10
	③Progress rate(①/②)	0%	-	-	-	0%	-	-	-	0%	-	0%	0%	0%	0%
Urban Development	①Progress (1,2 → 3) project	0	1	0	0	0	1	0	0	0	0	0	0	0	1
	②Total Project	6	2	1	0	1	2	0	1	0	0	2	3	0	9
	③Progress rate(①/②)	0%	50%	0%	-	0%	50%	-	0%	-	-	0%	0%	-	11%
Others	①Progress (1,2 → 3) project	1	0	0	0	1	0	0	0	0	0	0	0	0	1
	②Total Project	17	1	0	0	1	1	4	0	2	0	2	7	1	18
	③Progress rate(①/②)	6%	0%	-	-	100%	0%	0%	-	0%	-	0%	0%	0%	6%
Sub-total	①Progress (1,2 → 3) project	57	18	4	2	9	16	7	1	10	3	11	10	1	79
	②Total Project	517	172	72	4	68	116	61	25	87	77	115	152	29	761
	③Progress rate(①/②)	11%	10%	6%	50%	13%	14%	11%	4%	11%	4%	10%	7%	3%	10%

Source: East Asia Industrial Corridor (EAIC) Team.

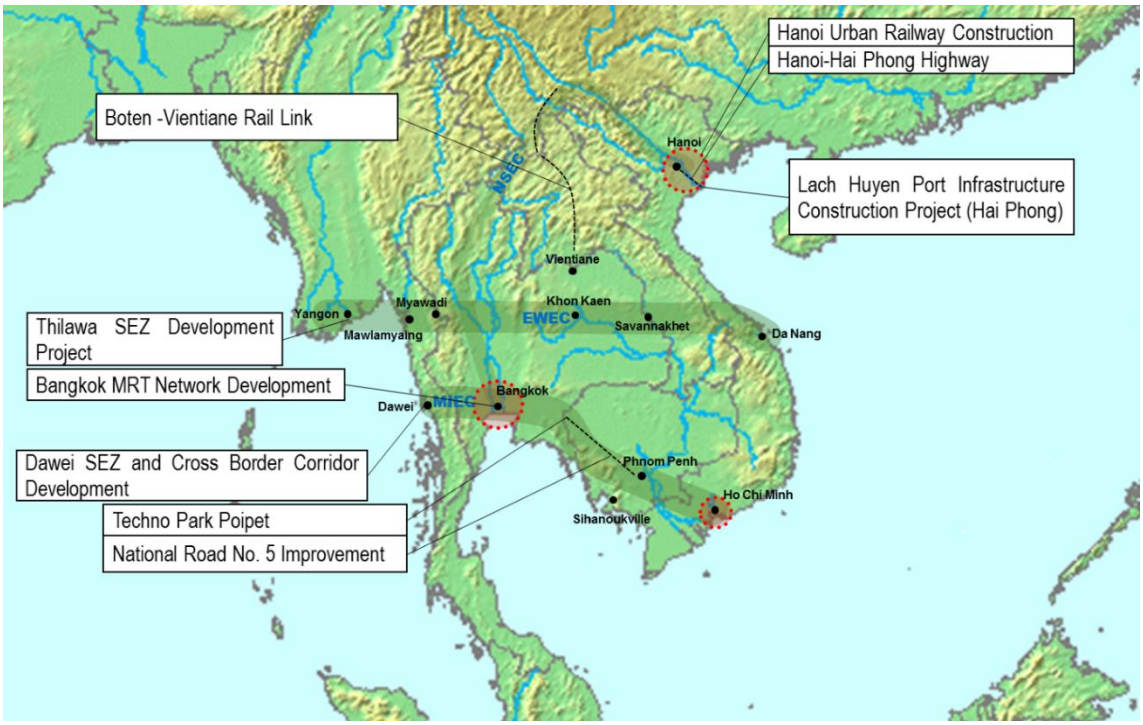
Appendix 2. Progress in Operational Stage

1. Conceptual Stage, 2. Feasibility Study Stage, 3. Construction Stage (2015)→ 4. Operation Stage (2016)

1. Conceptual Stage, 2. Feasibility Study Stage, 3. Construction Stage (2015)→ 4. Operation Stage (2016)		Mekong	BIMP+	IMT+	Brunei Darussalam	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Thailand	Viet Nam	Cross-border	Total
Tier1	①Progress (1,2,3→ 4) project	11	2	4	0	0	1	0	4	0	1	2	8	0	17
	②Total Project	146	55	21	0	1	28	0	20	0	25	47	81	5	222
	③Progress rate(①/②)	8%	4%	19%	-	0%	4%	-	20%	-	4%	4%	10%	0%	8%
Tier2	①Progress (1,2,3→ 4) project	15	3	1	1	3	1	1	0	6	1	3	2	1	19
	②Total Project	319	76	37	4	65	44	29	1	84	46	64	65	20	432
	③Progress rate(①/②)	5%	4%	3%	25%	5%	2%	3%	0%	7%	2%	5%	3%	5%	4%
Tier3	①Progress (1,2,3→ 4) project	6	2	1	0	1	3	1	0	1	0	0	2	0	9
	②Total Project	52	41	14	0	2	44	32	4	3	6	4	6	4	107
	③Progress rate(①/②)	12%	5%	7%	-	50%	7%	3%	0%	33%	0%	0%	33%	0%	8%
Sub-total	①Progress (1,2,3→ 4) project	32	7	6	1	4	5	2	4	7	2	5	12	1	45
	②Total Project	517	172	72	4	68	116	61	25	87	77	115	152	29	761
	③Progress rate(①/②)	6%	4%	8%	25%	6%	4%	3%	16%	8%	3%	4%	8%	3%	6%
Road/Bridge	①Progress (1,2,3→ 4) project	13	2	0	1	1	0	1	0	2	1	1	8	0	15
	②Total Project	163	49	10	3	31	20	20	3	19	30	20	58	10	222
	③Progress rate(①/②)	8%	4%	0%	33%	3%	0%	5%	0%	11%	3%	5%	14%	0%	7%
Railway	①Progress (1,2,3→ 4) project	3	0	2	0	1	1	0	1	0	0	1	1	0	5
	②Total Project	85	22	13	0	10	15	4	3	8	11	39	21	4	120
	③Progress rate(①/②)	4%	0%	15%	-	10%	7%	0%	33%	0%	0%	3%	5%	0%	4%
Port/Maritime	①Progress (1,2,3→ 4) project	1	1	0	0	0	1	0	0	0	0	1	0	0	2
	②Total Project	33	26	14	1	5	28	3	2	9	6	13	5	0	73
	③Progress rate(①/②)	3%	4%	0%	0%	0%	4%	0%	0%	0%	0%	8%	0%	-	3%
Airport	①Progress (1,2,3→ 4) project	2	1	1	0	0	2	0	0	1	0	0	1	0	4
	②Total Project	22	22	8	0	0	13	5	4	4	12	6	7	0	52
	③Progress rate(①/②)	9%	5%	13%	-	-	15%	0%	0%	25%	0%	0%	14%	-	8%
Other Transportation	①Progress (1,2,3→ 4) project	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	②Total Project	5	2	0	0	0	0	0	0	4	2	0	0	0	7
	③Progress rate(①/②)	0%	0%	-	-	-	-	-	-	0%	0%	-	-	-	0%
Industrial Estate/SEZ	①Progress (1,2,3→ 4) project	3	0	0	0	1	0	0	0	1	0	0	0	0	3
	②Total Project	41	1	3	0	2	0	4	0	9	1	11	12	1	45
	③Progress rate(①/②)	7%	0%	0%	-	50%	-	0%	-	11%	0%	0%	0%	0%	7%
Energy/Power	①Progress (1,2,3→ 4) project	10	2	3	0	1	1	1	3	3	0	2	2	1	15
	②Total Project	113	35	21	0	15	30	20	10	24	10	15	28	12	169
	③Progress rate(①/②)	9%	6%	14%	-	7%	3%	5%	30%	13%	0%	13%	7%	8%	9%
Water Supply/Sanitation	①Progress (1,2,3→ 4) project	0	1	0	0	0	0	0	0	0	1	0	0	0	1
	②Total Project	22	12	2	0	0	7	1	2	5	5	5	10	0	36
	③Progress rate(①/②)	0%	8%	0%	-	-	0%	0%	0%	0%	20%	0%	0%	-	3%
Telecommunication	①Progress (1,2,3→ 4) project	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	②Total Project	10	0	0	0	3	0	0	0	3	0	2	1	1	10
	③Progress rate(①/②)	0%	-	-	-	0%	-	-	-	0%	-	0%	0%	0%	0%
Urban Development	①Progress (1,2,3→ 4) project	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	②Total Project	6	2	1	0	1	2	0	1	0	0	2	3	0	9
	③Progress rate(①/②)	0%	0%	0%	-	0%	0%	-	0%	-	-	0%	0%	-	0%
Others	①Progress (1,2,3→ 4) project	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	②Total Project	17	1	0	0	1	1	4	0	2	0	2	7	1	18
	③Progress rate(①/②)	0%	0%	-	-	0%	0%	0%	-	0%	-	0%	0%	0%	0%
Sub-total	①Progress (1,2,3→ 4) project	32	7	6	1	4	5	2	4	7	2	5	12	1	45
	②Total Project	517	172	72	4	68	116	61	25	87	77	115	152	29	761
	③Progress rate(①/②)	6%	4%	8%	25%	6%	4%	3%	16%	8%	3%	4%	8%	3%	6%

Source: East Asia Industrial Corridor (EAIC) Team.

Appendix 3. Selected Infrastructure Projects in the Mekong Subregion

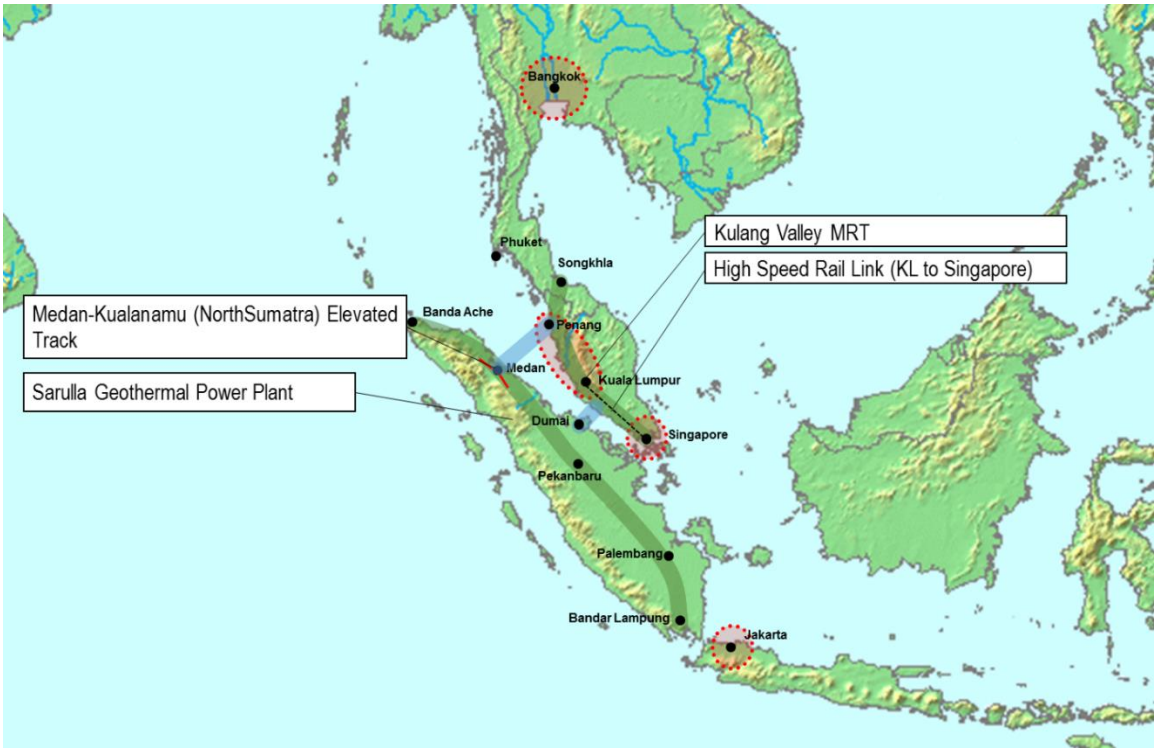


Source: Extract from CADP 2.0, page 90

Appendix 4. Selected Infrastructure Projects in the BIMP+ Subregion

Source: Extract from CADP 2.0, page 91.

Appendix 5. Selected Infrastructure Projects in the IMT+ Subregion



Source: Extract from CADP 2.0, page 91.