

Chapter 2

Progress in Fiscal Year 2015-2018

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Chapter 2

Progress in FY2015–FY2018

Progress of All Comprehensive Asian Development Plan Infrastructure Projects

The Economic Research Institute for ASEAN and East Asia investigated 3 years of progress (2015–2018) of the 761 infrastructure projects chosen for the CADP 2.0 research initiative. In considering the status of these infrastructure projects, we discuss progress by region, country, tier, and sector.

1. Overall Progress

In 2015, the CADP 2.0 identified 761 infrastructure projects contributing to the development of connectivity and innovation. These projects focus on physical and economic infrastructure including roads, railways, ports, airports, power (generation and transmission), communication facilities, and industrial estates and SEZs. The report also includes the tracking of maintenance projects for water and sewage, medical, and educational infrastructure. These projects are vital for the development of both rural and urban development.

When selecting a project for evaluation, we considered the following points:

- (i) impact on the project area;
- (ii) the medium- and long-term plans of each country, priority projects, and projects related to neighboring countries; and
- (iii) the project's feasibility and ability to implement and/or construct the project.

Project progress has been classified into four stages: conceptual, feasibility study, construction, and operation. These classifications have been utilized each year since FY2015. The progress of each project was determined by interviews with government officials, researchers' reports, consultant analyses, and inspections of the project site in accordance with various media reports within each country. Figure 2.1 shows the progress of the 761 CADP 2.0 projects.

Although the CADP 2.0 covers projects in 11 sectors, progress can be tracked primarily within four major sectors: roads, SEZs, railways, and power. Compared with the road sector, which is steadily progressing to the construction and operation stages, progress in the railway sector requires more time for land acquisition and financing. Moreover, railway infrastructure takes longer to construct and often stagnates at the feasibility study stage. The progress of power-

generation projects and projects to develop SEZs has been focused on private enterprises. All seven projects in the SEZ sector are private enterprise projects, and all are at the operation stage. In addition, 43 projects in the power sector are at the operation stage, and 19 of the 30 power-generation projects are private or under public–private partnerships (projects that incorporate an element of private funding are considered private finance incentives).

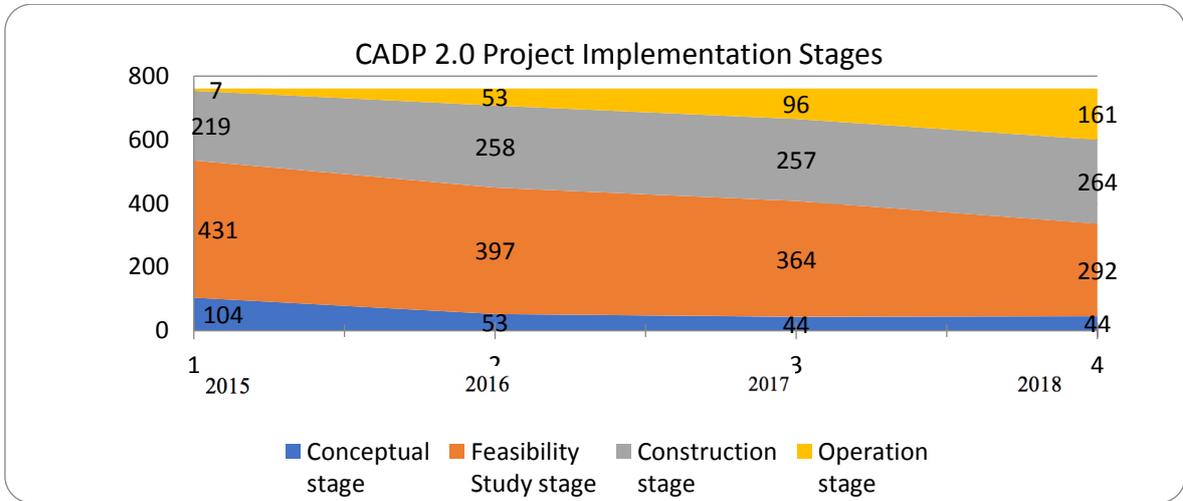
The number of operation-stage projects increased from 7 (1% of all projects) in 2015 to 161 (21%) in 2018, while that of projects in the construction stage increased from 219 (29%) in 2015 to 264 (35%) in 2018. Conversely, the total number of projects in the feasibility study stage decreased from 431 (57%) in 2015 to 292 (38%) in 2018, and that of projects in the conceptual stage decreased from 104 (14%) in 2015 to 44 (6%) in 2018 (this includes no change during FY2016–FY2018). Most conceptual-stage projects are unlikely to progress to the feasibility study stage.

In addition, as of 2018, 24 projects have been discontinued or postponed: seven in Indonesia, three in Malaysia, six in Myanmar, six in Thailand, and two in Viet Nam. By tier, these projects comprise 5 Tier 1 cases, 16 Tier 2 cases, and 3 Tier 3 cases. By sector, 3 of the projects concern roads, 4 ports, 2 airports, 13 power, 1 urban development, and 1 the water supply. The power sector, which accounts for the largest number of cancelled projects, included five thermal power projects in Myanmar; three hydropower projects, one transmission line project, and two nuclear power projects in Viet Nam; and two hydropower projects in Malaysia.

Currently, 70 projects (9% of the total, including 46 projects in the conceptual stage that have not been advanced) have no prospect of execution. Land acquisition and finance composition are the most important factors in determining when construction can begin on a project. Land acquisition often poses the most trouble due to higher land prices than initially anticipated, budget shortages due to price increases (including wages), and local regulatory barriers. In addition, events such as construction interruption due to payment delays from the order side have also occurred. However, although some projects have stagnated or been discontinued or postponed, development has begun for many of the projects (161) that conducted a feasibility study during 2015–2018. Currently, 425 projects (56%) have been completed or are moving toward realisation, and some are under construction.

Countries across the region have determined the need for infrastructure development as the foundation for other policies. To this end, the CADP captures that countries in Asia are actively implementing development frameworks in line with infrastructure-driven economic growth goals.

Figure 2.1: Comprehensive Asian Development Plan Progress 2015–2018



CADP = Comprehensive Asian Development Plan.

Source: Authors.

2. Progress by Subregion

The CADP 2.0 infrastructure projects have been classified into three subregions: Mekong, Brunei Darussalam-Indonesia-Malaysia-Philippines+ (BIMP+), and Indonesia-Malaysia-Thailand+ (IMT+).

2.1 Greater Mekong Subregion

There are 517 infrastructure projects in the Greater Mekong Subregion (GMS), accounting for about 68% of all projects. During 2015–2018, the number of projects in the operation stage increased from 1 (0% of all projects) to 107 (21%), while that of projects in the construction stage also increased from 149 (29%) to 172 (33%). Conversely, the number of projects in the feasibility study stage decreased from 297 (57%) to 214 (41%), and that of projects in the conceptual stage decreased from 70 (14%) to 24 (5%). To strengthen physical and economic connectivity in the GMS, infrastructure development must continue to focus on the South Economic Corridor connecting Ho Chi Minh City to Phnom Penh, Bangkok, and Dawei. Development of the South Economic Corridor road in Cambodia has been progressing smoothly, but that of Dawei, the gateway to the Indian Ocean in Myanmar, has not progressed. In addition to the number of projects planned for the South Economic Corridor, several developments have been planned for the East–West Economic Corridor connecting Yangon in Myanmar to Da Nang in central Viet Nam through the Lao People’s Democratic Republic (PDR) and Thailand.

The East–West Economic Corridor includes the development of a port and other facilities in Da Nang, which will act as the gateway to the Viet Nam side of the border. This project will be advanced in conjunction with the development of National Road No. 9 crossing the Lao PDR, and the Friendship Bridge across the Mekong River to Thailand. Single-stop and single-window operations have begun across several of these border crossings to reduce non-tariff barriers. On the Myanmar side, the Second Thai–Myanmar Friendship Bridge with Thailand was completed in 2018, and the road from Thailand to Yangon has also been improved. Construction of the Thilawa Industrial Park and other areas near Yangon have also been completed, indicating that preparations for industrial development centred on the East–West Economic Corridor are in place. In 2017, the Long Binh (Long An)–Chory Thom Bridge over the Mekong River between Viet Nam and Cambodia opened with the cooperation of both countries. The construction of the Fifth Friendship Bridge between Thailand and the Lao PDR will also be completed soon as it is currently in the final stages of construction.

There are still several unfinished plans for infrastructure development in the GMS to continue to promote economic revitalisation in the future. These plans include evaluating high-standard roads from Vientiane in the Lao PDR to Hanoi in Viet Nam, and the consistent development of the international power grid to make it possible to share power generated in the Lao PDR across the region economically. Thus far, these developments have been primarily supported by neighbouring countries based on bilateral contracts, to further encourage Thailand, Viet Nam, and Cambodia to import energy from the Lao PDR.

2.1.1 Cambodia

As of 2018, of the 68 projects in Cambodia, 26 (38%) are in the operation stage and 19 (28%) are in the construction stage. These projects focus on the Thailand-Plus-One Strategy for economic development, involving economic cooperation between Thailand and the other Mekong nations. This has included the improvement of National Roads No. 5 and No. 6 of the Southern Economic Corridor, as well as the development of border cities outside Thailand but near the border, such as the installation of industrial parks in Poipet, and the resurgence of railway networks. This allows Thailand to take advantage of cheaper labour, and neighbouring nations to take advantage of regional development opportunities by increasing the flow of business and capital.

The Cambodia Industrial Development Policy 2015–2025 (enacted in May 2015) prioritises logistical improvements for the South Economic Corridor. In addition, construction is underway on a hydroelectric power plant in Strung Treng (northern Cambodia) and thermal power plant in southern Sihanoukville, as is the development of a transmission line project connecting various parts of the country.

Preparations are being undertaken to solve the issues of power shortages and high power costs, which have bottlenecked Cambodia's economic development. Steady progress in the development of infrastructure, such as roads and electricity, will create a foundation for

industrial development while promoting Cambodia's overall economic growth, primarily centred on the South Economic Corridor.

2.1.2 Lao People's Democratic Republic

As of 2018, of the 61 projects in the Lao PDR, 11 (18%) are in the operation stage and 22 (36%) are in the construction stage. Six projects focusing on road improvement were completed in 2018; however, many projects remain unfinished due to the lengthy wait times to arrange funds, which has resulted in many projects struggling to advance from the feasibility study stage to the construction stage.

The hydroelectric capacity of the Lao PDR, known as the battery of the Indochina peninsula, has reached a total of 20,000 megawatts, and the construction of hydroelectric power plants in the Mekong basin is proceeding steadily. In the 8th National Socioeconomic Development Plan (2015–2020), the Government of the Lao PDR outlined its goal to improve the public works, transport, and power sectors. The development of the power sector focuses on ensuring the stability of the power supply. Of the 25 power projects, 14 involve the construction of hydropower plants; 1 plant has been built, 10 are under construction, and 3 are at the feasibility study stage.

The Tier 2 Lao PDR–China Railway project aims to connect Kunming, China with Vientiane through the border city of Boten in the Lao PDR. This project, which is supported by funds and technology from China, began in FY2016 and is also proceeding quickly; it is scheduled to be completed in December 2021. This will result in an increasingly intertwined economic dynamic between the Lao PDR and China that will require further study.

2.1.3 Myanmar

As of 2018, of the 87 projects in Myanmar, 18 (21%) are in the operation stage and 28 (32%) are in the construction stage. Under the new administration inaugurated in March 2016, the 30-20 National Comprehensive Development Plan 2010–2030 was updated to the Myanmar Sustainable Development Plan in July 2016.

One of the 12 economic policies set out in this plan focuses on advancing the development of roads, ports, and power infrastructure to provide a foundation for economic industrialisation. The new administration introduced five projects for thermal power plants and one for a hydropower plant. Other plans (all of which are classified as Tier 2) include the development of flyovers to mitigate traffic congestion in Yangon City, the introduction of a bus rapid transit system, the improvement of equipment at Myanmar's international airport, the modernisation of equipment for the circle line of the Myanmar National Railway, and the commencement of railway rehabilitation work.

One example of the development of industrial parks and SEZs is the infrastructure development at the Thilawa Industrial Park in the suburbs of Yangon. Efforts to attract foreign companies have

been undertaken through the revision of SEZ laws, and there have been efforts to increase economic cooperation along the East–West Economic Corridor on the border with Thailand. The development of the Friendship Bridge is also underway. In the city of Mandalay, a pipeline connecting the Kyaukpyu Industrial Park (which faces the Indian Ocean) with China has also been completed, and a feasibility study of the railway linking Mandalay with the city of Muse at the Chinese border was completed at the end of 2018.

2.1.4 Thailand

As of 2018, of the 115 projects in Thailand, 13 (11%) are in the operation stage and 51 (44%) are in the construction stage. The reason why so few projects have been completed is that many of the projects are large, and involve lengthy construction periods.

Of these 115 projects, 39 are railway projects, including high-speed railways (Tier 1), mass rapid transit (MRT) systems based on those in Bangkok, and single to double track projects (Tier 2) connecting local cities. The purple line (Tier 1) was completed in 2016, and the dark green line extension (Tier 1) was completed in 2018. These MRT projects are contributing to Bangkok's growing ability to innovate. It is also important to note that 9 of the 21 rail projects contributing to the MRT construction in Bangkok will utilise private–public partnership agreements.

The Government of Thailand is planning to connect the two international airports in Bangkok with the U-Tapao Airport in Rayong by the Bangkok–Rayong high-speed railway. The bidding stage of this project was completed in 2018. The goal of this expansion is to realise the development strategy of the Eastern Economic Corridor within the Thailand 4.0 strategy.

Construction of the high-speed railway (Tier 1) from Bangkok to Nakhon Ratchasima in the northeast of Thailand and Vientiane in the Lao PDR began in 2018 near Nakhon Rachasima, but little progress has been made. With regard to the section stretching from Nakhon Rachasima to the Lao PDR border town of Nong Khai, negotiations with the Chinese side have been prolonged, and the specific completion date is unclear. No progress has been made on the high-speed railway line connecting Bangkok and Chiang Mai given the lack of coordination with the Government of Japan in terms of funding.

2.1.5 Viet Nam

As of 2018, there are 152 projects in Viet Nam, the largest portfolio of projects in the GMS. Of these projects, 28 (18%) are in the operation stage and 45 (30%) are in the construction stage. The Social and Economic Development Ten-Year Strategy adopted in 2011 identifies ‘maintenance of transportation and urban infrastructure’ as one of the breakthroughs in economic development that the Government of Viet Nam is striving to achieve. Infrastructure development at a consistent pace has been concentrated on Tier 1 investments in Hanoi and Ho Chi Minh.

Notable progress is taking place in the Hai Phong area, a suburb of Hanoi. The port city of Hai Phong acts as a gateway to northern Viet Nam and is a strategic hub in Viet Nam’s economic development. The opening of the Lach Huyen Port (Tier 1) in 2018 further supported this development, as did the completion of an expressway network (Tier 1) connecting Hai Phong with Hanoi and the construction of an industrial agglomeration near Hanoi.

The city of Da Nang will also continue to abide by the Asia-Pacific Economic Cooperation Summit’s vision from November 2017 by expanding and modernising Da Nang International Airport. With regard to Tier 1 projects, high-technology parks have also been completed, and port repair work has begun.

Da Nang, which is located at the eastern end of the East–West Economic Corridor, is promoting the installation of roads, ports, and industrial parks aimed at distribution bases. Da Nang will increase the number of enterprises in the city from approximately 21,000 companies (98% of which are small and medium-sized enterprises) to 30,000 companies by 2020, focusing on tourism, trade, high-technology, and information and communications technology companies. Viet Nam is aiming to achieve its own development and establish Da Nang as an economic halfway point between north and south Viet Nam, with the aim of equipping the city to act as the central location along the east end of the East–West Economic Corridor.

2.2 Brunei Darussalam-Indonesia-Myanmar-Philippines+

There are 172 infrastructure projects in the BIMP+ region: 82 in Indonesia and 77 in the Philippines. From 2015 to 2018 these projects advanced as follows: the number of projects in the operation stage increased from 6 (3% of the total) to 34 (20%); that of projects in the construction stage increased from 47 (27%) to 64 (37%); that of projects in the feasibility study stage decreased from 97 (56%) to 65 (38%); and that of projects in the conceptual stage decreased from 22 (13%) to 9 (5%). Among the BIMP+ countries, Indonesia’s achievements are remarkable, and as of 2018 the country had a total of 60 projects (73%) in either the operation or construction stage: 23 (28%) in the operation stage, and 37 (45%) in the construction stage.

2.2.1 Indonesia

In view of the April 2019 presidential election, the current administration under President Joko Widodo (Jokowi) developed Java's highway network (a Tier 2 project) to gain public support by implementing domestic infrastructure development. The Jakarta MRT was opened in March, building on a successful history of railway infrastructure advancements starting with the airport railway (a Tier 1 project), which was completed in 2017. In addition, seven SEZs (Kawasan Ekonomi Khusus) and 17 industrial estate (Kawasan Industri) measures have been launched to attract foreign capital actively.

2.2.2 Philippines

The Philippines has a total of 77 projects but has struggled to progress these projects. Of these, 30 (39%) are currently in either the operation or construction stage: 9 (12%) are in the operation stage and 21 (27%) are in the construction stage. Of the 30 road projects in and around Manila, where traffic congestion is a major social issue, only 3 have been completed and 11 are incomplete. Of the 11 incomplete projects, 4 are under construction, 6 are in the feasibility study stage, and 1 is in the conceptual stage. The Government of the Philippines regards the 75 infrastructure flagship projects approved by the National Economic Development Agency as fundamental to the nation's future economic growth. The total value of these projects is \$31.6 billion, and they have a set completion date of 2022, while President Rodrigo Duterte is still completing his term in office.

The railway sector accounts for most of the project costs, including the extension and establishment of existing MRT and light rail transit lines crossing the city centre of Manila as measures to reduce traffic congestion in Metro Manila (Tier 1 projects). Japan will also support a commuter railway (Tier 2) project linking the city of Manila with the suburbs, as well as the maintenance of the Philippine National Railways from Legazpi in Albay Province to Manila (a distance of approximately 650 kilometres [km]). The new railway will extend another 100 km from Davao on Mindanao Island to Tagum via Digos, and will be implemented with support from China.

2.3 Indonesia-Malaysia-Thailand+

There are a total of 72 infrastructure projects in the IMT+ region. From 2015 to 2018, the number of projects in the operation stage increased from 0 (0%) to 18 (25%), while that of projects in the construction stage increased from 23 (32%) to 30 (42%). Meanwhile, the number of projects in the feasibility study stage decreased from 37 (51%) to 21 (29%); and that of projects in the conceptual stage decreased from 12 (17%) to 3 (4%). In the IMT+ region, 33 projects (67%) are in either the construction or operation stage, more than in all the other subregions under consideration.

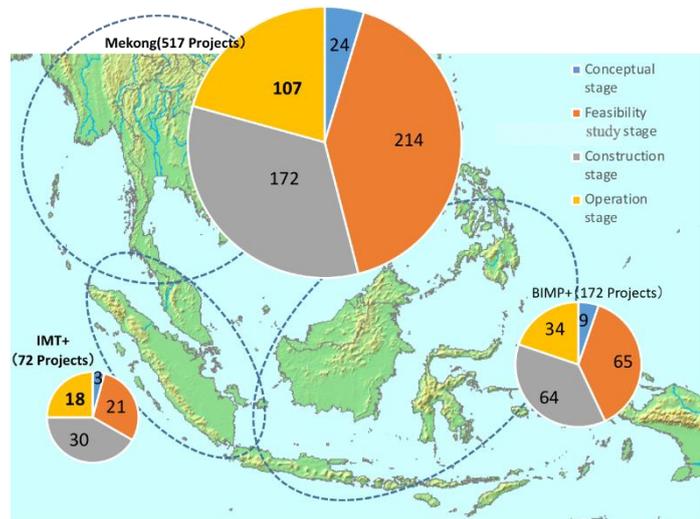
2.3.1 Indonesia

In both the IMT+ and BIMP+ regions, Indonesia (specifically Sumatra Island) has made remarkable progress; as of 2018, 12 projects (35%) were in the operation stage and 13 (38%) in the construction stage, a total of 25 cases (73%). The Jokowi administration advocates a Marine State Initiative based on the development of marine infrastructure, and of the 24 major port expansion plans of the Tol Laut Strategy in the National Medium Term Development Plan 2015–2019, which was announced in 2015, four are in the IMT+ area. Three of these expansion projects have been completed. Moreover, maintenance of the expressway network near Medan, which is part of the Sumatra toll road, the backbone of Sumatra Island, is underway. The main focus of this project is to support the development of marine infrastructure, such as improved access to Belawan Port and Kuala Tanjung international hub port, that will soon be implemented.

2.3.2 Malaysia

Due to financial problems arising from the fiscal changes that occurred in 2018, Malaysia has postponed plans for the high-speed railway between Kuala Lumpur and Singapore until 2021, as well as the multi-pipeline plan supported by China. During April 2019, East Coast Railway stakeholders successfully negotiated with the project’s Chinese stakeholders to reach a new agreement. The contract contents, which were considered extremely disadvantageous to the Malaysian side, were to be substantially changed, and construction is set to resume.

Figure 2.2: Progress by Subregion



Source: Authors.

3. Progress by Tier

The CADP 2.0 infrastructure projects are classified into three tiers, as outlined in Table 2.1 below.

Table 2.1: Progress by Tier

	Tier 1 (222)			
	Conceptual	Feasibility Study	Construction	Operation
2015	29	137	55	1
2016	8	129	67	18
2017	7	114	74	27
2018	7	95	81	39
2015–2018	Δ22	Δ42	Δ26	Δ38
	Tier 2 (432)			
	Conceptual	Feasibility Study	Construction	Operation
2015	58	247	126	1
2016	35	223	153	21
2017	29	203	146	54
2018	26	166	143	97
2015–2018	Δ32	Δ81	Δ17	Δ96
	Tier 3 (107)			
	Conceptual	Feasibility Study	Construction	Operation
2015	17	47	38	5
2016	10	45	38	14
2017	8	47	37	15
2018	8	34	40	25
2015–2018	Δ9	Δ13	Δ2	Δ20

Source: Authors.

3.1 Tier 1

There are 222 Tier 1 infrastructure projects. From 2015 to 2018, the number of projects in the operation stage increased from 1 (0%) to 39 (18%), and that of projects in the construction phase increased from 55 (25%) to 81 (36%). Meanwhile, the number of projects in the feasibility study stage decreased from 137 (62%) to 95 (41%), and that of projects in the conceptual stage decreased from 29 (13%) to 7 (3%).

In Tier 1 urban areas, demand for infrastructure, especially in the transport sector, is increasing in step with economic and population growth, and this is also accelerating the start of construction. Although urban railway projects are an economically effective measure, huge costs of construction, procurement, and land acquisition in urban areas present the largest bottlenecks. With respect to Tier 1, new infrastructure projects are emerging one after another as a result of the relationship between politics and the rapidly changing social situation. Viet Nam is making noticeable progress, with 81 projects (36% of the total) underway, the largest number of ongoing Tier 1 projects in a single country.

In Viet Nam, the construction of ring roads and urban railways in Hanoi and Ho Chi Minh, and of ports, airports, and high-technology parks in Da Nang has reached completion. In Jakarta, terminal expansion works are scheduled to be completed in 2019. These projects include the Tanjung Priok Port, the largest port being constructed among these projects. Under this project, which is currently underway, the port's capacity will be expanded to about 11.5 million 20-foot equivalent units, approximately twice its current capacity. After construction is completed, large container vessels will be able to enter the port, greatly increasing the cargo retention time and reducing logistics costs.

In FY2017, the Tanjung Priok Port Access Expressway led to a reduction in travel time to the Tanjung Priok Port and the industrial parks east of Jakarta. The expressway also alleviated traffic congestion. Another development that has alleviated traffic congestion is the Jakarta MRT, which stretches 15.7 km north–south and can be travelled in 30 minutes. The MRT, which opened on 24 March 2019, has also been framed as an urban amenity that is expected to help innovation blossom, as opposed to a mere transportation method to reduce congestion.

3.2 Tier 2

There are 432 Tier 2 infrastructure projects, accounting for about 57% of all projects. Most projects in Cambodia and Myanmar are classified as Tier 2. From 2015 to 2018, the number of Tier 2 projects in the operation stage increased from 1 (0% of the total) to 97 (22%), and that of projects in the construction stage increased from 126 (29%) to 143 (34%). Meanwhile, the number of projects in the feasibility study stage decreased from 247 (57%) to 166 (38%), and that of projects in the conceptual stage decreased from 58 (13%) to 26 (6%). With respect to Tier 2 projects, Cambodia has made remarkable progress; as of 2018, there were 25 projects (38%) in the operation stage and 19 (29%) in the construction stage. In Myanmar as of 2018, there were 17 projects (20%) in the operation stage and 27 (32%) in the construction stage.

3.3 Tier 3

There are 107 Tier 3 infrastructure projects, including 44 in Indonesia and 32 in the Lao PDR (70% of projects in these countries). From 2015 to 2018, the number of Tier 3 projects in the operation stage increased from 5 (5% of the total) to 25 (23%), and that of projects in the construction phase increased from 38 (36%) to 40 (37%). Meanwhile, the number of projects in the feasibility study stage decreased from 47 (44%) to 34 (32%), while that of projects in the conceptual stage decreased from 17 (16%) to 8 (7%). With respect to Tier 3 projects, similar to the BIMP+ and IMT+ regions, Indonesia has made remarkable progress, with 13 projects (27%) in the operation stage and 20 (45%) in the construction stage. On the other hand, the Lao PDR has seven projects (22%) in the operation stage and 10 (31%) in the construction stage.