EXECUTIVE SUMMARY

1. INTRODUCTION

Economic Research Institute for ASEAN and East Asia (ERIA) submitted the Comprehensive Asia Development Plan (CADP) to the 5th East Asia Summit in October 2010, as a grand spatial design for infrastructure development in East Asia. The conceptual framework of the CADP, which was elaborated based on new waves of international trade theory namely the fragmentation theory and new economic geography, demonstrated how the region can pursue deepening economic integration as well as narrowing development gaps. This claim was supported by simulation analyses on the impacts of logistic enhancement to the region using the Geographical Simulation Model (GSM). CADP also provided a long list of prospective infrastructure projects which would be important to realize the policy recommendation of the CADP.

During the same series of summit meetings, the 17th ASEAN Summit adopted the Master Plan on ASEAN Connectivity (MPAC) as an umbrella master plan to expedite the establishment of the ASEAN Community, during the drafting process of which ERIA also provided intellectual contribution based on the conceptual framework of the CADP. The MPAC defined three modes of connectivity, namely physical connectivity, institutional connectivity, and people-to-people connectivity, as the keys for the successful establishment of the ASEAN Community. The MPAC and the CADP share a common philosophy in the sense that both stress the importance of physical and institutional connectivity in deepening economic integration and narrowing development gaps. Although the MPAC is a plan of ASEAN, it also emphasizes the

importance of the connectivity with neighboring countries including EAS member countries.

Although the CADP successfully fulfilled its initial mission[1], there still remain a number of issues to address, of the primal importance of which is the implementation of infrastructure projects and policy measures recommended in the CADP. This executive summary will summarize the current implementation status of the infrastructure projects listed in the CADP as a follow-up, and another set of prospective infrastructure projects to enhance ASEAN-India connectivity will be presented, together with key findings and policy recommendations from the second phase of an ERIA research project on the CADP.

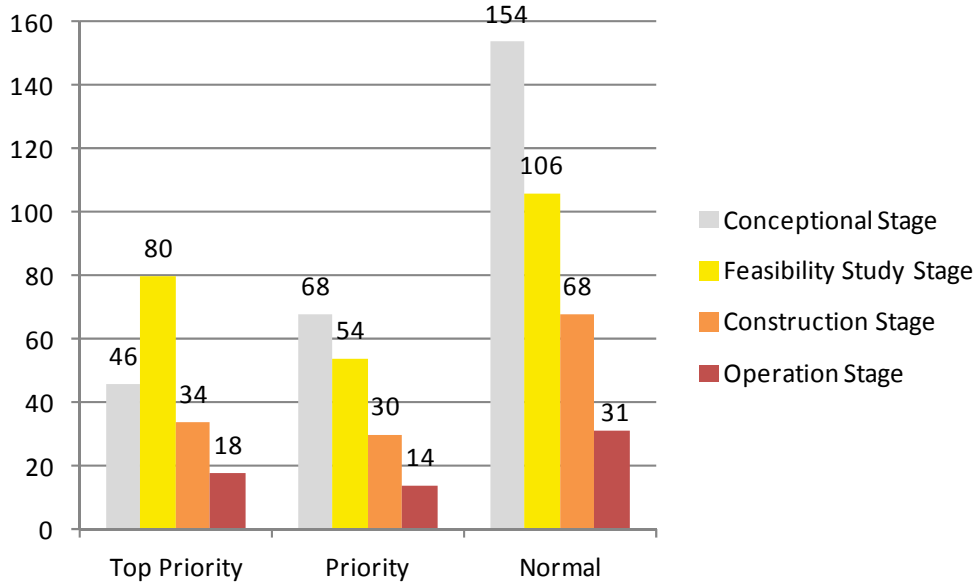
2. IMPLEMENTATION STATUS OF INFRASTRUCTURE PROJECTS LISTED IN THE CADP

Figure 1 shows current implementation status of the prospective infrastructure projects provided in the long list of the CADP. The conceptional stage means projects have only conceptual design or proposals. The feasibility study stage includes preliminary feasibility studies, bankable feasibility studies, and contract stages. The construction stage takes account of the projects under construction and the projects completed but waiting for operation. We can see more than 60% of the projects have reached at least the feasibility study stage.

[1] Chairman's Statement of the East Asia Summit (EAS), Ha Noi, 30 October 2010. "13. We commended the Economic Research Institute for ASEAN and East Asia (ERIA) for its effective contributions in enhancing regional economic integration, bridging development gaps and promoting connectivity for both ASEAN and EAS countries, including its intellectual contribution to developing the ASEAN Connectivity Master Plan. We noted the Statement of the ERIA's 3rd Governing Board Meeting and its study identifying its future contribution to regional integration. We appreciated the completion of the Comprehensive Asia Development Plan (CADP) by ERIA in collaboration with the ADB and the ASEAN Secretariat."

Figures 2, 3 and 4 illustrate the current implementation status of the selected infrastructure projects in the Mekong sub-region, the Indonesia-Malaysia-Thailand Growth Triangle Plus (IMT+) sub-region, and the Brunei Darussalam-Indonesia-Malaysia-Philippines East ASEAN Growth Area Plus (BIMP+) sub-region, respectively[2]. Apparent positive trends in the Mekong sub-region can be seen compared with IMT+ and BIMP+, although there remains a significant missing link in the Myanmar section of the Mekong India Economic Corridor (MIEC) which needs to be connected by a number of infrastructure projects in Dawei, such as a deep sea port and a highway from Dawei to Thai border along the ASEAN Highway No.123. This issue has been further elaborated in the second phase of the CADP project and will be discussed in the next section.

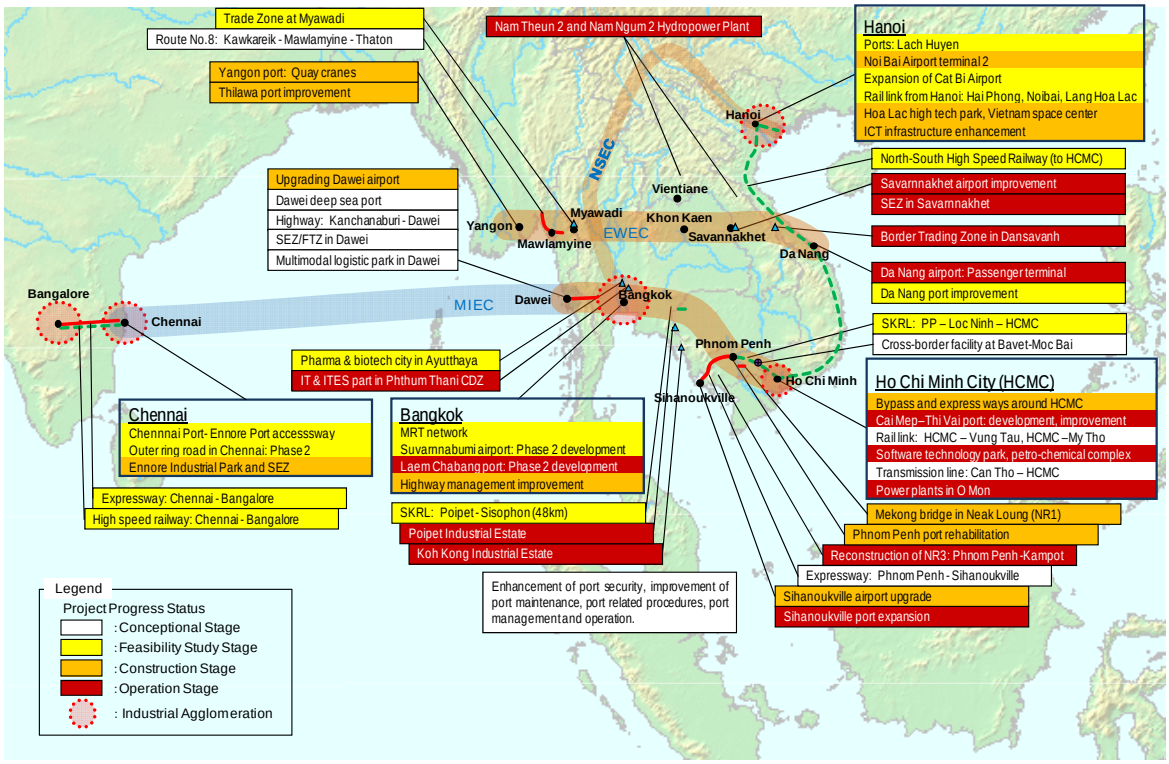
Figure 1: Implementation Status of the Infrastructure Projects Listed in the CADP (as of October 2011)



Source: ERIA.

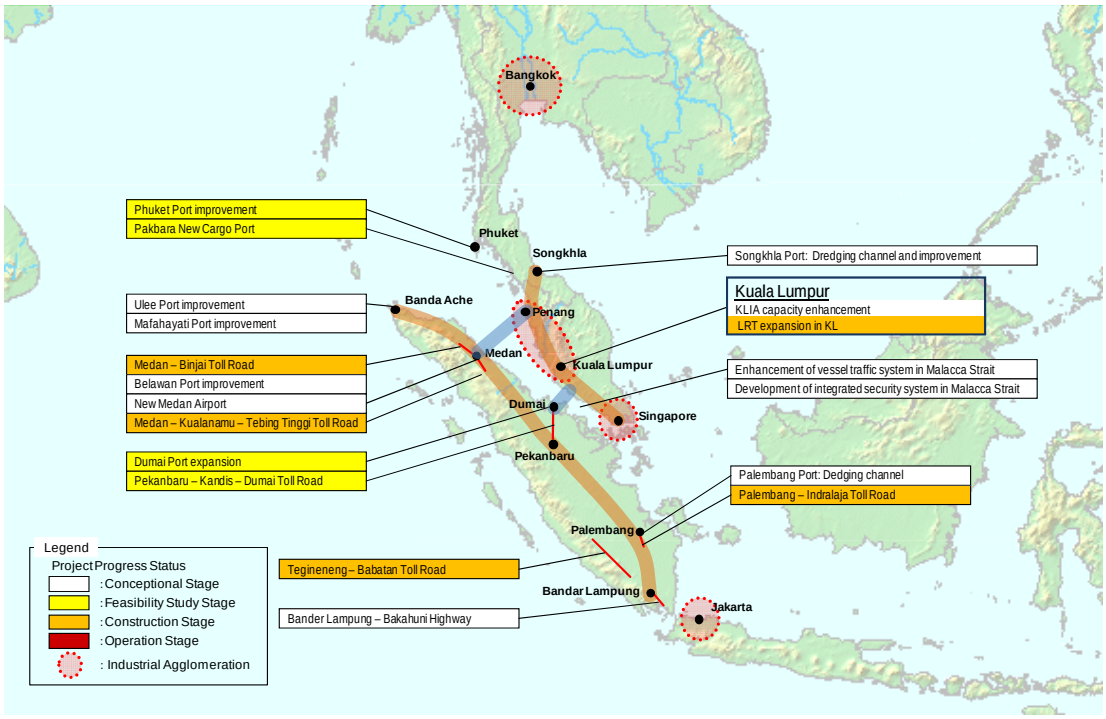
[2] IMT+ and BIMP+ are new concepts extended from the original IMT-GT and BIMP-EAGA concepts. See the CADP report for details.

Figure 2: Selected Infrastructure Projects in the Mekong Sub-region



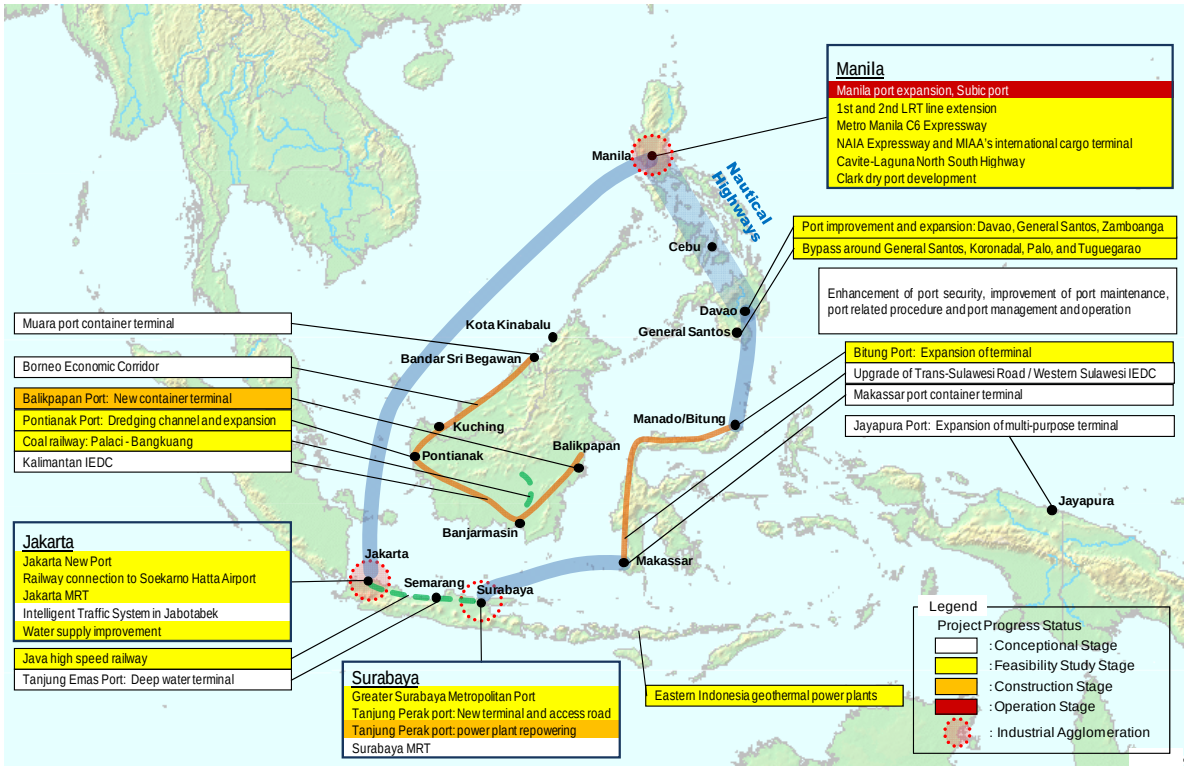
Source: ERIA.

Figure 3: Selected Infrastructure Projects in the IMT+ Sub-region



Source: ERIA.

Figure 4: Selected Infrastructure Projects in the BIMP+ Sub-region



Source: ERIA.

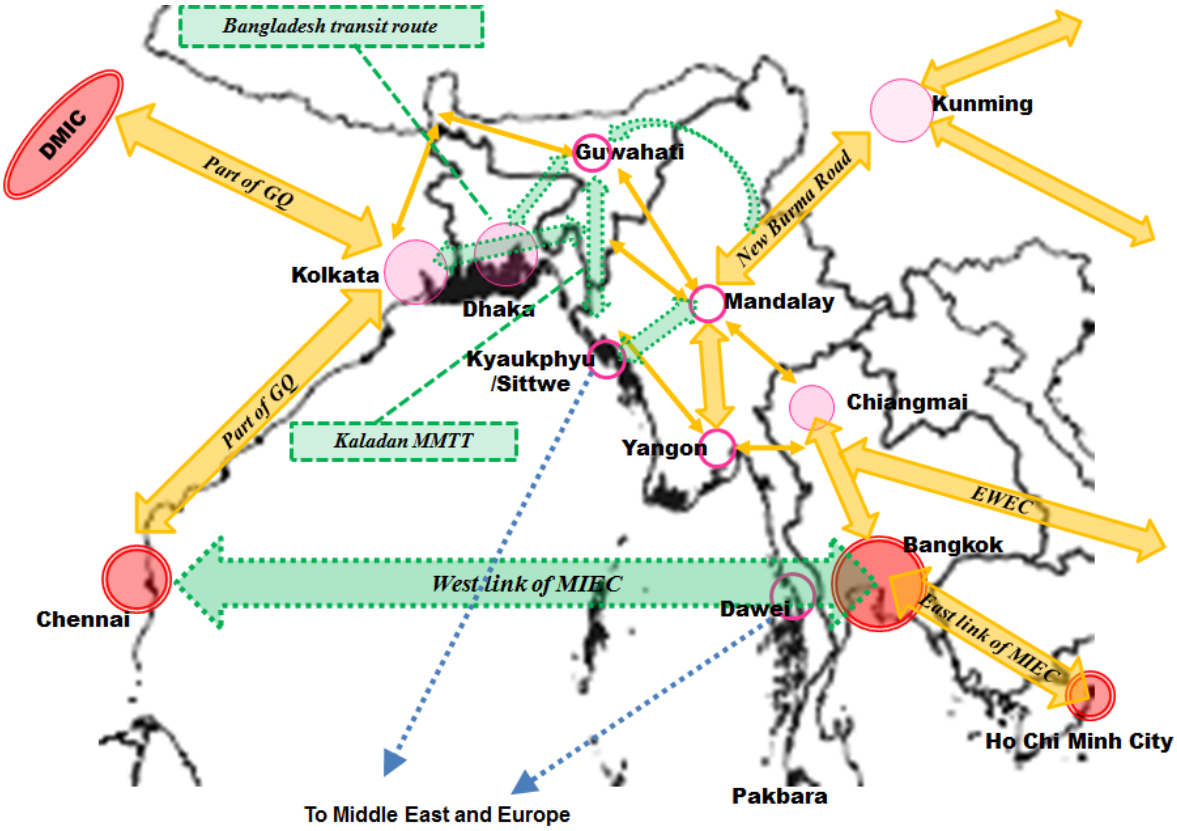
3. ASEAN-INDIA CONNECTIVITY

Although the CADP successfully fulfilled its initial mission, there still remain a number of issues which require further intensive studies. Out of these outstanding issues, ASEAN-India connectivity is selected as the main theme of the second of the CADP (CADP2), because of the growing importance of the issue amidst the ongoing restructuring of economic activities. Both the CADP and the MPAC emphasize the importance of the connectivity with the neighboring countries including China, India, and other EAS member countries. Though both China and India are the emerging economic superpowers in the region as well as the immediate neighbors to ASEAN, the exposure of India in ASEAN is still limited compared with China, reflecting the

differences in the historical relationships and the weaker physical connectivity with ASEAN. Therefore, it is highly important to develop a basic strategy to enhance the connectivity between ASEAN and India, because there are huge potential benefits.

Figure 5 provides a regional framework to enhance connectivity between ASEAN and India. There are two main routes, the sea route, as the west link of the Mekong-India Economic Corridor (MIEC), and the land routes, with various optional routes, along the trilateral highway between Thailand, Myanmar, and India.

Figure 5: A Regional Framework to Enhance ASEAN-India Connectivity



3-1. Mekong-India Economic Corridor (MIEC)

While the validity of MIEC was also demonstrated in the CADP, there remain

significant missing links, including the lack of a Mekong bridge in Neak Leoung (Cambodia) and the lack of the gateway port in Dawei (Myanmar). As often discussed, an economic corridor is only as strong as its weakest link. In addition, the connectivity between Thailand and Myanmar should be enhanced through the construction of a highway between Dawei and Thai border (physical connectivity) and various trade and transport facilitation measures (institutional connectivity). It is important to pinpoint the challenges ahead of the development of MIEC through an updated review of the progress of these projects.

ERIA conducts a series of simulation analyses using the 4th version of the Geographical Simulation Model (GSM), and their findings are summarized as follows: (1) MIEC has the largest impacts on Cambodia, followed by Myanmar, Thailand, and Lao PDR; (2) Taninthayi, where the capital city is Dawei, enjoys the largest impact, equivalent to 9.5% vis-a-vis the GDP in 2030 in the baseline scenario; (3) allowing the transit transport in Myanmar is critical for countries other than Myanmar, especially for Thailand; (4) Dawei project in Myanmar has larger impact than Pak Bara project in Thailand even for Thailand, and there is almost no additional impact when we compare Dawei project only and both Dawei and Pak Bara projects, because most benefit from connecting to India or EU can be achieved by Dawei project only; (5) West Bengal and Tamil Nadu have slight positive impacts while others see slight negative impacts and in total in India there is almost no impact, mainly due to the fact that India has higher preference for domestic products. It reflects India's least participation in the production networks in Asia. It suggests the need for greater integration with the production networks through improved institutional connectivity.

3-2. The Trilateral Highway Connecting Thailand, Myanmar, and India

Another major route to enhance ASEAN-India connectivity can be developed by upgrading road infrastructure of the Thailand-Myanmar-India section of Asian Highway No.1, which has also been identified as the Trilateral Highway in the cooperation among these three countries[3]. As the road infrastructure in Thailand is already well developed, the remaining issues are the sections in Myanmar and the Northeast India. More importantly, trade and transport facilitation across two national borders between Thailand and Myanmar, and Myanmar and India needs to be addressed with strong political commitment, although there is no trade and transport facilitation initiative between Myanmar and India as of today. Actually, Myanmar locates on the west end of ASEAN, having China on the north, and is the lowest income country in ASEAN with the weakest connectivity with other ASEAN Member States. Similarly, Northeast India locates on the northeast end of India, having China on the northeast beyond Myanmar the immediate neighbor, and is among the poorest regions in India with the weakest connectivity with other parts of India. Myanmar and Northeast India, surrounded by all three of the most vigorous economies in the world, namely, China, India, and (other part of) ASEAN, are expected to play a very important role as the connecting nodes to physically connect these economies. In this broader perspective, Myanmar and Northeast India are no longer at one end of the region they belongs to. Taking this strategic role into consideration, development strategies for Myanmar and Northeast India can be the core of the regional strategy to enhance ASEAN-India connectivity.

[3] The identified route is Bangkok – Nakhon Sawan – Tak – Mae Sot//Myawadi – Thaton – Payagyi– Gangaw – Kaleymyo – Tamu//Moleh – Imphal – Kohima.

3-3. A Regional Framework

A regional framework strategy for the enhancement of ASEAN-India connectivity needs to be designed based on a multi-modal approach, a multi-functional approach, and a multi-tier approach.

First, it is obvious that regional connectivity cannot be completed with a single mode of transportation, implying a need to take a multi-modal approach. As discussed in detail in the last section, a number of infrastructure projects and have been proposed and being implemented in all modes of transportation, namely, land (including road and railways), maritime (including inland waterway transport), and air. In land transport, the completion of the ASEAN Highway Network (AHN), including the upgrading of the weak link along the EWEC between Thingannyinaung and Kawkareik (AH1), and other AHN sections in Myanmar such as Dawei-Kawthaung (AH112), Dawei-Maesameepass (AH123)[4], Chaun U-Kalay (AH1), and Kengtong-Taunggyi (AH2), was adopted as one of the prioritised strategies in the MPAC. The abovementioned sections on AH1 in Myanmar are also identified as integral parts of the trilateral highway connecting Thailand, Myanmar, and India. In addition to the long-waited completion of the Singapore Kunming Rail Link (SKRL), which is also a prioritised project in the MPAC, there is another ambitious plan to establish a rail link from India to Ho Chi Minh City crossing the Indochina Peninsular. In maritime transport, the construction of new ports in Dawei, Kyaukphyu, and Pakbara are in the pipeline, and the expansion or upgrading of existing ports, such as Yangon, Sittwe, and Chennai, are identified. Inland waterways along the Kaladan River and Ganga are also expected to play important roles in enhancing the connectivity between the mainland and Northeast India via Myanmar

[4] This section is an integral part of MIEC, connecting Dawei and Thai border near Kanchanaburi.

and Bangladesh respectively. In air transport, there are plans to construct or upgrade airports in Chennai and Dawei. Although this is beyond the scope of this report, air transport network is expected to be enhanced by the ongoing initiatives to establish the ASEAN Single Aviation Market (ASAM) and the ASEAN's air transport agreements with its Dialogue Partners including India, China, and Korea. Although all these initiatives are important on their own, it is of crucial importance to pay enough attention to the connectivity between these different modes of transportation.

Second, in order to explore the full potentials of enhanced regional connectivity, physical infrastructure alone is not sufficient enough, indicating a need for a multi-functional approach. Infrastructure for physical connectivity, such as roads, ports, airports, gas pipelines, and power grids, are of course important as necessary conditions. As discussed in the last section, for example, the connectivity between Myanmar and Northeast India has been limited not only by the lack of adequate physical infrastructure but also by the restrictive institutional arrangement between Myanmar and India, namely the restrictions on the tradable items and the mode of settlement. In order for the success of the comprehensive development plan in Dawei, as the crucial link in MIEC, the timely implementation of transport facilitation agreement in ASEAN is highly important and it was also agreed by ASEAN Leaders as one of the prioritised strategy in the MPAC. A proper enforcement of regional transport agreement would enable logistic service providers to reduce significantly the cost to cross national borders, by saving the money and time for unloading and reloading. In addition, the connectivity of people can be a facilitating factor particularly in the case of border trade. For example, there are various ethnic groups along the border between Myanmar and Northeast India, and some of them share a same

language and maintain a strong cultural tie, including trade relationship whichever it is formal or informal. Although they could be sometimes recognized as a discouraging factor for insurgency problems in the border areas, their existing economic relationship can be the basis to expand bilateral trade in the future.

Third, as claimed in the CADP, it is of crucial importance to consider the interactions among the regions in different development stages. In the geographical coverage of this report, there are existing industrial agglomerations such as Bangkok and Chennai (Tier 1). These agglomerations are expected to lead the regional economy by providing large markets of final and intermediate goods and raw materials for neighbouring Tier 2 and Tier 3 regions, and by continuously upgrading themselves to be more innovative to expand the frontiers of economic activities in the region as a whole.

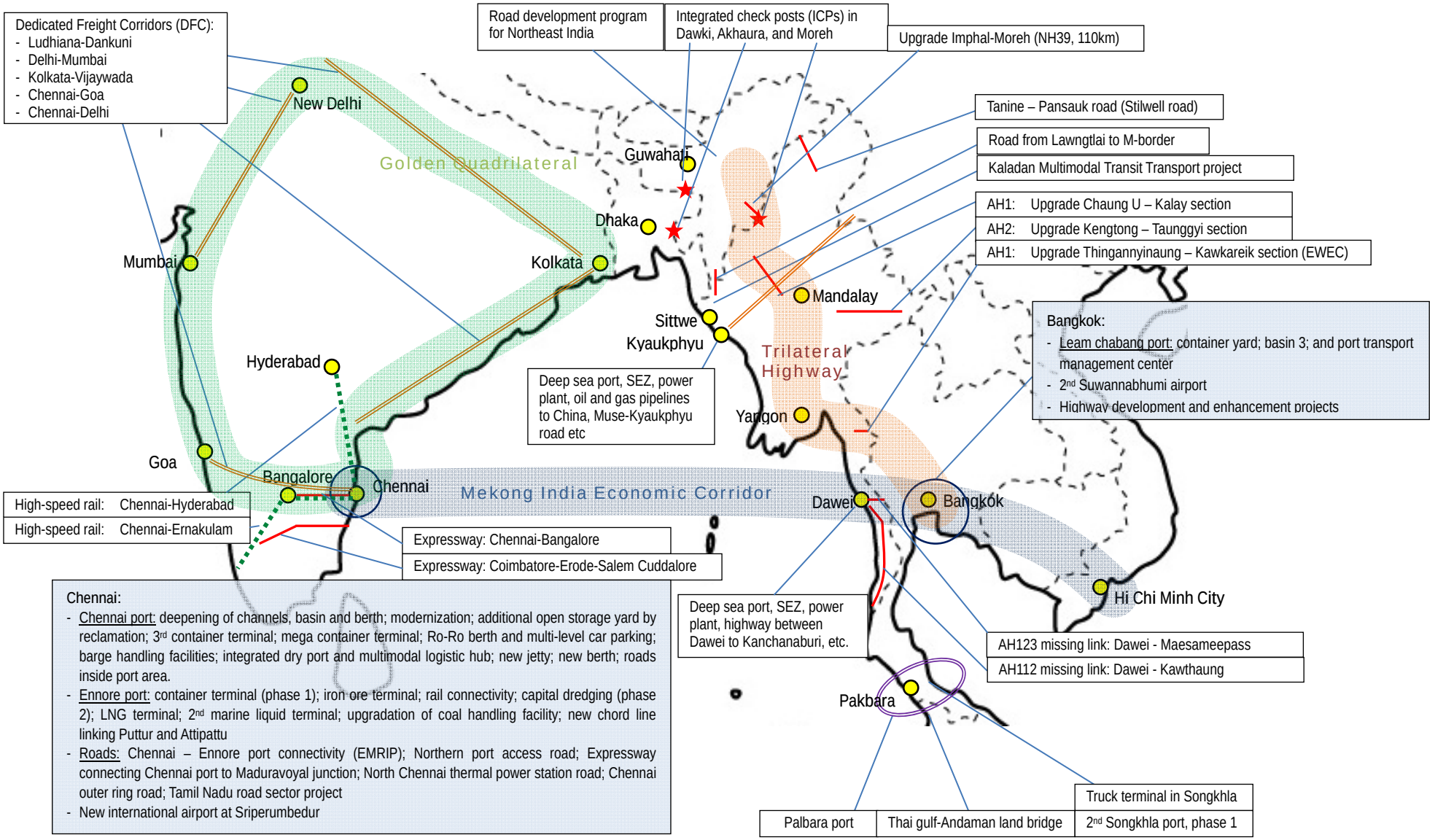
Considering the size and their roles in regional production networks, Chiang Mai, Kolkata, Dhaka, and Kunming can be regarded as existing Tier 2 regions, followed by emerging Tier 2 regions such as Yangon and Mandalay. In addition, taking account of the ongoing development plans and geographical location, Dawei, Kyaukphyu, and some cities in Northeast India such as Guwahati are also expected to join into the regional production network as new connecting nodes of regional production networks. The major role of Tier 2 is to be the sources of economic dynamism in the region by attracting production processes from neighbouring Tier 1 or other places through fragmentation, which are suitable to the location advantage of the region. This process of fragmentation would benefit not only Tier 2 by providing new economic activities which includes new employment opportunities, but also Tier 1 by allowing them to focus more on innovative economic activities.

With enhanced connectivity, other regions, conceptually regarded as Tier 3, are expected to expand their economic activities, such as agriculture, mining, and tourism, based on their own location advantages including the endowment of natural and cultural resources, lower wages and rents. Indeed, Myanmar and Northeast India are endowed with natural and mineral resources such as natural gas, oil, coal and limestones, and have potentials as agricultural production base or tourism destination. These opportunities would not be materialized without efficient and reliable connectivity with neighbouring regions.

3-4. Key Infrastructure Projects for ASEAN-India Connectivity

Figure 6 visualizes key infrastructure projects to enhance the connectivity between ASEAN and India. As already discussed, there are two main routes, namely the sea route along MIEC and the land route along the Trilateral Highway. Although the designed route of Trilateral Highway ends at Kohima in Northeast India, it is expected to connect to mainland India through the existing national highway network in India via "chicken neck," through the multimodal transport corridor being developed under the Kaladan Multimodal Transit Transport project, or through Bangladesh using its highway network or inland waterway.

Figure 6: Selected infrastructure projects for ASEAN-India connectivity



As already discussed, development projects in Dawei are of the primal importance for the successful completion of MIEC. Although there is a comprehensive plan including a deep sea port, a special economic zone, highway to Thai border, a power plant, and so on, the actual construction work has just started and will take several years for completion. In addition, there are a lot of challenges to explore the full potentials of the plan, particularly in inviting foreign investment in Dawei. Furthermore, as pointed out by Kumagai and Isono (2011), it is important to establish an effective and efficient institutional arrangement to allow transit transport in Myanmar part of MIEC, that is, between Maesameepass (Thai border) and Dawei. Under the transport cooperation in ASEAN, three framework agreements on transport facilitation are planned to be implemented by the year 2015, with explicit emphasis on the designated transit transport routes (TTRs). Although this route connecting Kanchanaburi and Dawei is identified as a part of ASEAN Highway Network, it is not included in the "designated" TTRs. As the completion of MIEC is already agreed as one of the strategic actions in the MPAC, this route should be included in the designated TTRs in order to explore the full potentials of the plan. Physical connectivity is necessary, but not the sufficient condition for the success. It should be complemented by an institutional connectivity, that is, a proper institutional arrangement to facilitate cross border movement of goods and services. This in turn would contribute in reducing significantly the service link costs connecting Bangkok and Dawei, and Chennai as well, and facilitating fragmentation of manufacturing activities to Dawei.

On the Indian side, Chennai and surrounding areas have a number of infrastructure projects as well, particularly to expand the capacity of ports and airport, and to enhance the road and rail networks connecting Chennai with other parts of India. Indeed, reflecting the rapid growth of Chennai and surrounding areas, the capacity of Chennai port, including the backyard space, and the access to the port have been identified as key bottlenecks for further development of the region. This problem is well addressed by the planned expansion of ports of Ennore as well as Chennai, and the plan to enhance the connectivity between the two ports. In addition, as Chennai is a growing hub of automotive industry, the planned construction of a Ro-Ro (roll-on, roll-off) berth and a multi-level car parking is expected to have a major impact. With all these infrastructure projects, Chennai and surrounding areas will be well prepared as the

gateway connecting ASEAN and India.

In its original design, the identified route of Trilateral Highway is from Bangkok, Nakhon Sawan, Tak, to Mae Sot in Thailand, from Myawaddy, Thaton, Payagyi, Mandalay, Gangaw, Kaleymyo, to Tamu in Myanmar, and from Moleh, Imphal, and to Kohima in India, tracing the Asian (and ASEAN) Highway No.1. As the routes in Thailand and India are already well developed, with an exception that a mountainous section between Moreh and Palel would need moderate repair or upgrading works, the remaining issues are to upgrade physical road infrastructure in Myanmar and to establish effective and efficient institutional arrangement to facilitate cross border trade and transportation.

Along the Trilateral Highway, two sections are highlighted in Figure 6, namely, between Thingannyinaung and Kawkareik (near Thai border), and between Chaung U and Kalay (a section between Mandalay and Indian border). These projects are of urgent importance, not only as integral parts of the Trilateral Highway but also as the trunk route to enhance domestic connectivity in Myanmar. From a regional perspective, in addition to these physical infrastructures, institutional connectivity to facilitate cross border trade and transportation needs to be enhanced under the trilateral cooperation. In this sense, India's plan to establish an Integrated Check Post (ICP) in Moreh is very important.

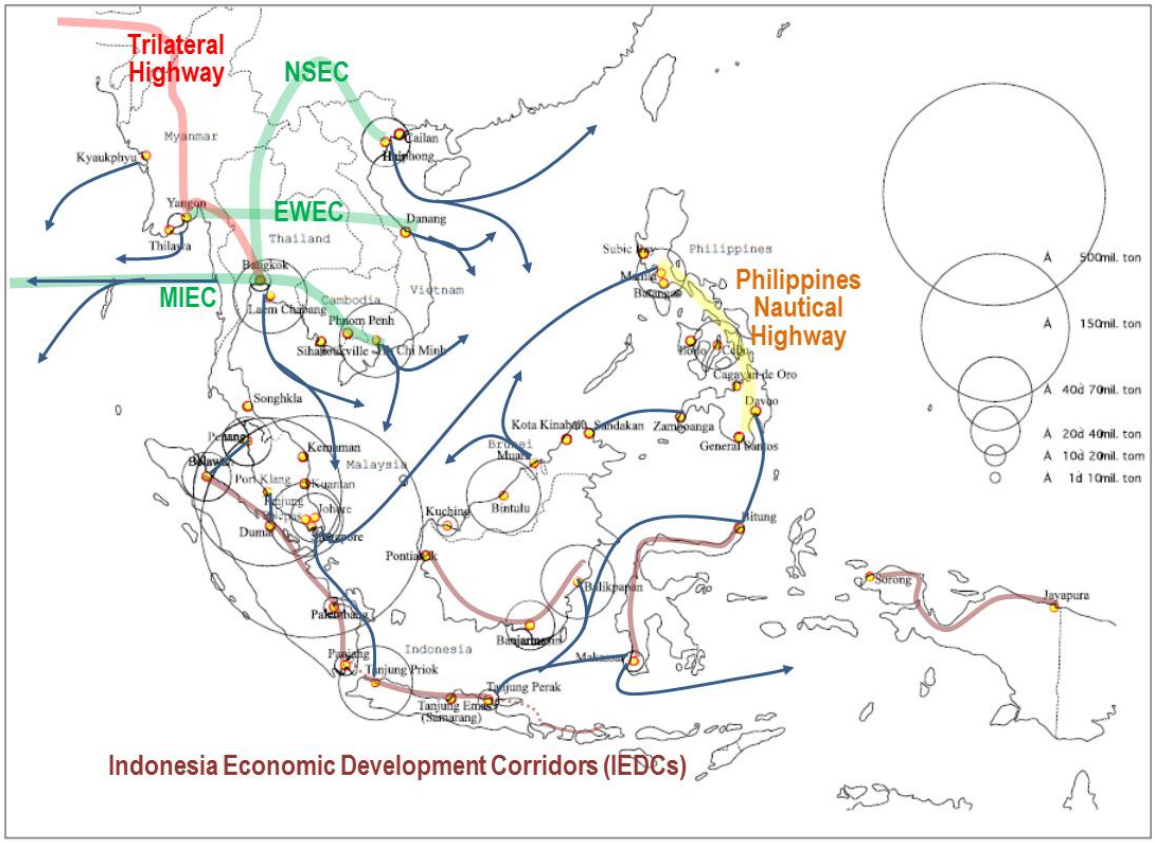
4. THE NEXT STEP: MARITIME CONNECTIVITY IN ASEAN

The concept of economic corridors has been the core of regional development plans in ASEAN and East Asia, as can be seen in the Greater Mekong Subregion (GMS) initiative lead by the Asian Development Bank (ADB) and the CADP as well. In order to explore the full potentials of economic corridors in the region, it is important to enhance the connectivity among the economic corridors by upgrading maritime connectivity. Indeed, as demonstrated in the CADP, the enhancement of maritime connectivity is expected to have larger impacts on economic growth and narrowing of development gaps.

Despite the importance, many ASEAN countries, with the exception of Singapore

and Malaysia, rank poorly relative to China and Hong Kong in the UNCTAD Liner Shipping Connectivity Index. At the same time, most of the gateway ports of the AMSs are already "fairly full" which means that investments in capacity expansion would have to be made in order to meet the growth in trade expected from the deeper economic integration of the AMSs among themselves and with the rest of the world. In addition, a JICA study on 47 designated ports in ASEAN revealed a number of challenges in providing a more efficient shipping network services given the varying levels of port infrastructure development[5].

Figure 7: Economic Corridors, 47 Designated Ports, and Maritime Connectivity



Source: The original map is drawn from JICA Study on Guidelines for Assessing Port Development Priorities 2009.
Note: The size of the circles indicate the cargo throughput of 47 designated ports in 2008.

[5] The recommendations from the JICA study was incorporated in the list of prospective infrastructure projects in the CADP.

In addition to the physical infrastructure, it is also important to make the regional shipping market more efficient and competitive. For this purpose, the MPAC identifies the development of an ASEAN Single Shipping Market (ASSM) as one of the key strategies. ASEAN has started a comprehensive study for ASSM, with a support from Korea, based on the strategic paper on ASSM prepared by Indonesia. In addition, ASEAN decided to conduct a study on the roll-on/roll-off (RoRo) network and short sea shipping as one of the prioritised projects in the MPAC. This study is regarded as a first step in exploring one of the options to enhance the connectivity between archipelagic and mainland ASEAN. The successful case of the Philippines Nautical Highway Network is expected to provide important lessons for ASEAN in establishing international RoRo networks in the region.

Enhanced maritime connectivity in ASEAN will enhance the connectivity among various economic corridors, and thereby promote the integration between archipelagic and mainland ASEAN (Figure 7). This is clearly an integral step for ASEAN to become a single market and production base, as envisaged in the ASEAN Economic Community Blueprint, which in turn will spread the benefits of economic integration to throughout ASEAN and East Asia.