

Multi-Modal Transport Connectivity in Greater Mekong Sub-Region through Railways Network *Lessons for BBIN*



Joining Dots • Connecting People • Shared Prosperity

“Connectivity is vital. It does more than enhance trade and prosperity. It unites a region.”

- Indian Prime Minister Narendra Modi
Shangri La Dialogue, Singapore, 2018¹

The objective of this Working Note is to describe the current situation regarding regional railways networks used in the transportation of goods and passengers in the Greater Mekong Sub-region (GMS). The note aims to assess the lessons for Bangladesh, Bhutan, India and Nepal (BBIN) sub-region to increase transportation for exporting of products using the pre-identified and potential multi-modal connectivity routes.

The selection of a multi-modal route and its processes² for transporting goods is considered to be a strategic part of a robust transport network, especially for firms engaged in logistics and export-related activities. Ease of processes and selection of a potentially viable multi-modal route can minimise the transportation costs that are currently a major share of total logistics costs.

GMS is a geographical and economic sub-region under the Mekong River Basin in Southeast Asia. It covers six countries of the Mekong River basin – Cambodia, Lao People’s

Democratic Republic (Lao PDR), Myanmar, Thailand, Vietnam, and the People’s Republic of China (mainly Yunnan province and Guangxi Zhuang Autonomous Region).

The term became popular with the launch of South Asia Sub-regional Economic Cooperation (SASEC) programme in 1992 by the Asian Development Bank (ADB) for economic development, regional connectivity and improvement in economic relations of some of the isolated countries of this River basin (ADB, 2019).

The success of the GMS initiative has also inspired other sub-regions to focus more on transport connectivity and regional integration. Unilateral policy reforms in this sub-region have led to increased trade and positive investment growth.

At a time when East Asia & Pacific as a whole rank on the 103rd position on World Bank’s Trading across Border ranking, some of the countries in the GMS have been performing

comparatively better than this. For example, Lao PDR ranked in 2019-20 on 78th, China on 56th, and Thailand on 62nd.³

Similarly, on the World Bank's Logistics Performance Index, some of the GMS countries have performed very well. For example, in 2019-20 Thailand 3.14 and Vietnam 3.01 have performed very well in comparison to India (2.91).⁴

The GMS programme involves consultations, dialogues and implementation of development and infrastructure projects in the following areas: urban development, transport and trade facilitation, tourism, information and communication technology, health and human resource development, environment, energy and agriculture.

ADB headquarters in Manila, Philippines provides official secretariat support for the coordination with national level secretariats in the countries of GMS. The institutional structure comprises three layers: (i) the leaders' summit, (ii) the ministerial conference, and (iii) the working groups and forums in the specific sectors (GMS Secretariat, 2019).

The countries of GMS approved the GMS Transport Sector Strategy Study (TSSS) in October 2004 and endorsed it in July 2005 for further improvement and integration of the transportation sector in the GMS.

The TSSS recommended that there is a strong need for widening the transport sector of the sub-region including roads, railways and other modes of transportation. In March 2008, GMS Summit it was decided that the GMS railways system will be developed by constructing new railway connections and interconnecting the countries (ADB, 2010).

Thus, the GMS countries started coordination for a cross-border rail system to "*develop an*

efficient and interconnected railway network" by the year 2020 to promote sub-regional trade, address issues related to environment and climate change and counter the fluctuations of fuel prices (GMS Secretariat, 2019).⁵

This required some steps: (i) convergence in national technical standards and operational procedures, for example, axle change at the borders, (ii) development of new common procedures, for instance, related to ticketing and revenue sharing, (iii) compatibility on costs and timing, (iv) upgradation and modernisation of existing systems, and (v) cross-border transport agreement covering various modes of transport including railways for seamless movement of freight and passengers (for example, mutually recognised immigration, customs and health clearances etc.) (ADB, 2010).

The GMS Railways Association (GMSRA) was established with the support of ADB consisting of representatives of each railway body. It was estimated in 2015 that railways represented the share of only 0.94 per cent in inter-country freight tonne movement made per day.

Road network comprised 99.02 per cent while inland waterways and coastal shipping had a share of only 0.04 per cent. This is primarily because of major challenges on how to link the rail systems when rail gauges and lines are different and old.

A technical assessment study conducted in 2018 identified that future work for cross-border railways would require: (i) updating of subregional transport demand model, (ii) updating of subregional railway strategy, and (iii) for GMSRA - an operational readiness plan, and an organisational structure (ADB, 2018).

The GMS initiative also tries to promote the free flow of cargo and the easy transportation of passengers between countries and within

countries. That is why some multi-lateral agreements and treaties related to transport facilitation and cross-border processes have been implemented.

Linkages with Other Modes

The GMS railway system, together with the implementation of the Cross-Border Transport Facilitation Agreement⁶ (CBTA), aims to achieve a seamless network of transport services for the sub-region (ADB, 2011). This aim of integrated transport services is based on the notion of a completely integrated multimodal transport network covering all the six participating countries.

The North-South Economic Corridor connects Kunming, Yunnan Province to Vietnam, Lao PDR to Bangkok. The East-West Economic Corridor connects Vietnam, Lao PDR, Thailand and Myanmar. The Southern Economic Corridor connects Bangkok, Cambodia, Vietnam and Lao PDR to Vietnam (GMS Secretariat, 2019a).

Road transport is still a dominant mode of transportation for internal connectivity and sea transport for international trade including for intra-ASEAN trade.⁷ Since the Mekong River is not fully navigable and the rail network is still developing, plans are there to expand the scope of transportation for incorporating all the major modes of transportation.

For the ease of identifying linkages between supply and demand of freight and passengers, the multi-modal Mekong Sub-regional Transport Model (MRTM) was developed. MRTM's master transport network includes all major transport modes for freight transport – rail, road, inland waterways and coastal shipping while for passenger movement it includes rail, bus, car, inland waterways and air.

The MRTM provides projections for 2025 and 2050 and thus missing links in the GMS railways and other modes of transportation will be

filled subsequently (ADB, 2018). Moving ahead from the Phase 1 initiative under MRTM, the ADB in cooperation and coordination with other stakeholders kick-started Phase-2 of this initiative.

Connecting the railways of the GMS (Phase 2) focuses more on – strengthening governance and institutional capacity and fostering regional cooperation and integration under the broader umbrella of Sustainable Development Goal 9.1 (SDG 9.1).⁸

Socio-economic Impact

Although increased transportation connectivity, particularly through roads and railways, gives a boost to regional trade and economy, it also leads to an increase in migration from hinterlands to developed areas. Due to cheap and easy transportation migrant workers move from remote areas where they are more vulnerable to diseases and thus expanding the risk of spreading transmission diseases, such as malaria.

It has been found that mega infrastructure projects change the forestry and agriculture patterns and lead to unknown consequences of various diseases and hazard threats. For example, it was found in a study that due to increased transportation connectivity in the GMS, there was a change in vector behaviour for malaria transmission (TO, 2013).

However, the changes in economic welfare have been measured as positive in all the GMS countries after the initiation of regional connectivity initiatives and transport facilitation except for Cambodia and Lao PDR primarily because of low competitiveness and having fewer resources, while in Vietnam poverty headcount has substantially declined.

Apart from this, an increase in human trafficking and illegal trade of narcotics substances are some other major areas that

need to be dealt with, on account of the increased transportation facilitation (Stone, Strutt, & Hertel, 2010).

Environmental Impact

The sustainability and environment-friendly aspect of the transport sector have been a prerequisite under the SDGs (mainly SDG 7, 9, 11, and 17) and also under the ASEAN Community vision.

A study in 2015 estimated that the transport sector in the East Asian region approximately consumes one quarter of final energy consumption and other related CO₂ emissions (Stefan Bakker, Mark Major, Alvin Mejia and Ruth Banomyong, 2017). Thus, the environmental impact of regional connectivity and transportation systems cannot be ignored.

There is a need for: (a) increased awareness about the sustainable transport mechanism and system, (b) institutional development and collaboration between environmental groups, organisations and transport sector entities, (c) creation of environmental and sustainable transport indicators at various level and their integration in major plans and strategies, and (d) financial support to successful implementation of best practices, action plans by the environmental groups, NGOs and international organisations.

Lessons to be Learned

Multiple lessons can be learned from multi-modal connectivity initiatives in the GMS, in general, and GMS railways networks, in particular.

Revival of the old railway network

Firstly, both the sub-regions do not have rail connectivity between their member countries, on one hand, and between the two sub-regions on the other. Even if there are some old railway lines or tracks the links are missing and a

systematic effort at the sub-regional level to connect those missing or old links never happened.

Further growth in the transport sector can only be managed by creating high-performance transport corridors and increasing the use of intermodal, multimodal integrated routes and transport chains. But promoting measures across all transport modes for optimal linking of the individual modes of transport has its challenges.

For example, currently, all countries in the GMS and also in BBIN do not use the same gauge (e.g. broad, narrow, metre, standard). It differs in various locations. Each country has different technical standards and interoperability is a major problem.

However, similar to GMS, BBIN countries can solve such issues by pilot schemes and initiatives on selected routes and stretches. Results from these pilots can be instrumental in convincing stakeholders and governments about the potential cost and benefits of such initiatives.

Link existing dormant routes with new ones

Secondly, it must be noted that connecting all the countries with one mode of transportation will not only be highly costly but also create hindrances in implementation. Thus, connecting all the BBIN countries is possible by utilising existing routes and linking them with new feasible routes through various modes of transportation – roads, railways, inland waterways, coastal shipping (Exim Bank, 2015).

For example, connecting Nepal's busiest land crossings (Birgunj, Bhairawa and Biratnagar) with India through broad gauge railway⁹ on the roll-on-roll-off basis and then linking it with Sahibganj Multi-modal Inland Waterways Port/Terminal on the Ganges River in Jharkhand

state followed by Haldia/Kolkata ports or to South East Asia through Kolkata-Dhaka-Myanmar Corridor or Chittagong Rail Corridor.

Regional/sub-regional formal agreements

To institutionalise the process of regional economic cooperation through multi-modal connectivity bilateral, tri-lateral and regional agreements related to transportation, logistics, insurance and trade must be created, signed and ratified. Without proper agreements and treaties, countries show tendencies to withdraw from time to time.¹⁰

Similarly, sub-regional transport arrangements must have the flexibility to incorporate and evolve in the future to include other related regions, for example, BBIN multi-modal connectivity initiative must take into account the developments in the ASEAN model and the GMS system.

Long-term intra-regional connectivity

It should be noted that a major objective of India's Act East Policy is to reach the ports of South-East Asia such as Laem Chabang in Thailand and Ha Noi and Ho Chi Minh City in Vietnam. Similar attempts can be made on the India-Bhutan border side where it is estimated that by 2040, the Thimphu-Phuentsholing link will handle around 7500 vehicles per day and a rail link will help in increasing speed, reduce costs and improve profitability.

Improvement of infrastructure and linking them with GMS can be done at the following locations in the future: Looksan, Nagrakata, Birpara, Upper Khogla and Rangapani (UNCRD, 2018).

Develop economically viable routes

Another lesson can be learned from China's selective approach in GMS regional structure, for example, Yunnan province and Guangxi Zhuang Autonomous Region are part of GMS initiatives instead of entire China.

Similarly, India's select northeastern or eastern states can be part of sub-regional initiatives instead of pushing the whole of India. Other Indian states and initiatives in other parts of the country can be linked at a later stage.

Apart from this, ADB could also play a catalyst role in developing a multi-modal connectivity strategy and Multi-Modal BBIN Sub-regional Transport Model (MMBSTM) for the BBIN sub-region similar to GMS and MRTM.

It is evident from the GMS connectivity initiatives that infrastructure development is happening not just for political reasons but based on economic factors. For example, MRTM estimates the demand for various modes of transportation in different time frames.

Thus, BBIN countries also need to first calculate the demand for passenger, goods and transit cargo in different periods and scenarios, only then supply-side interventions should be made. Otherwise, mega infrastructure projects will become economically non-viable in the long term.

Local and national political challenges

This leads to an inter-related political-economy and contemporary governance-related issue of our time.¹¹ For example, the impact and the extent of the impact of the recently implemented Citizenship Amendment Act (CAA) by the Union Government of India on the Centre-State relations in the long term in India's Northeast states where all the major infrastructure projects are underway and its effect on the Act East Policy are matters to take into consideration.

This political chaos can lead to a decline in investment in India's Northeastern states, leading to a weakening in export and regional connectivity initiatives.¹²

A reference point for easy coordination

GMS countries have established GMSRA where a representative of each country is appointed as a nodal person. This representative, in close coordination with ADB and other country representatives, acts as a medium to communicate between the countries and represent their case.

Similar exercise can be replicated in BBIN where these countries can appoint a nodal person who could act as the prime face of that country for further negotiations and references.

In conclusion, it can be argued that firms involved in logistics and export-related activities in any region whether it is GMS or BBIN require efficient transportation and logistics services that can move their products to the right destinations, at the correct time, in good condition and at lower costs.

It is, therefore, necessary to make regional and sub-regional linkages among neighbouring countries to facilitate trade and develop logistics networks (e.g. multi-modal or inter-modal) for greater opportunities in external markets.

Develop BBIN Transport Plan

Key research organisations such as the Economic Research Institute for ASEAN and East Asia (ERIA) in collaboration drafted comprehensive Development Plans for the regions transport connectivity based on geographical simulation modelling.

Efforts similar to this also resulted in the implementation framework of the ASEAN Framework Agreement on Multimodal Transport (AFAMT). The AFAMT has to be implemented and ratified in phases from 2020-2025.

The regional action plan for the implementation of AFAMT includes: (i) ratification (2020-2022), (ii) legal framework (2020-2022), (iii) institutional framework (2020-2022), (iv) economic impact (2020 and beyond), (v) logistics performance (2020 and beyond), (vi) capacity building (2020 and beyond), and (vii) administrative procedures (2020-2025).¹³

In this context, the national governments of the BBIN countries must also coordinate with premier think-tanks and international organisations working on regional connectivity-related issues to jointly develop comprehensive plans for regional connectivity and transportation.

This can be followed by specific geographical simulation modelling and country-specific studies assigned to different organisations. These exercises will kick-start traction on the debate, discussion and consultative process on this issue and assist these countries to fine-tune their respective transport strategies and plans.

It will also lead to the creation of communication and coordination platforms and mechanisms between participating countries, governments, private firms and different stakeholders, etc.

Such a communication and coordination platform would enable countries and stakeholders to align their priorities with each other and build a well-connected multi-modal network and operational practices.

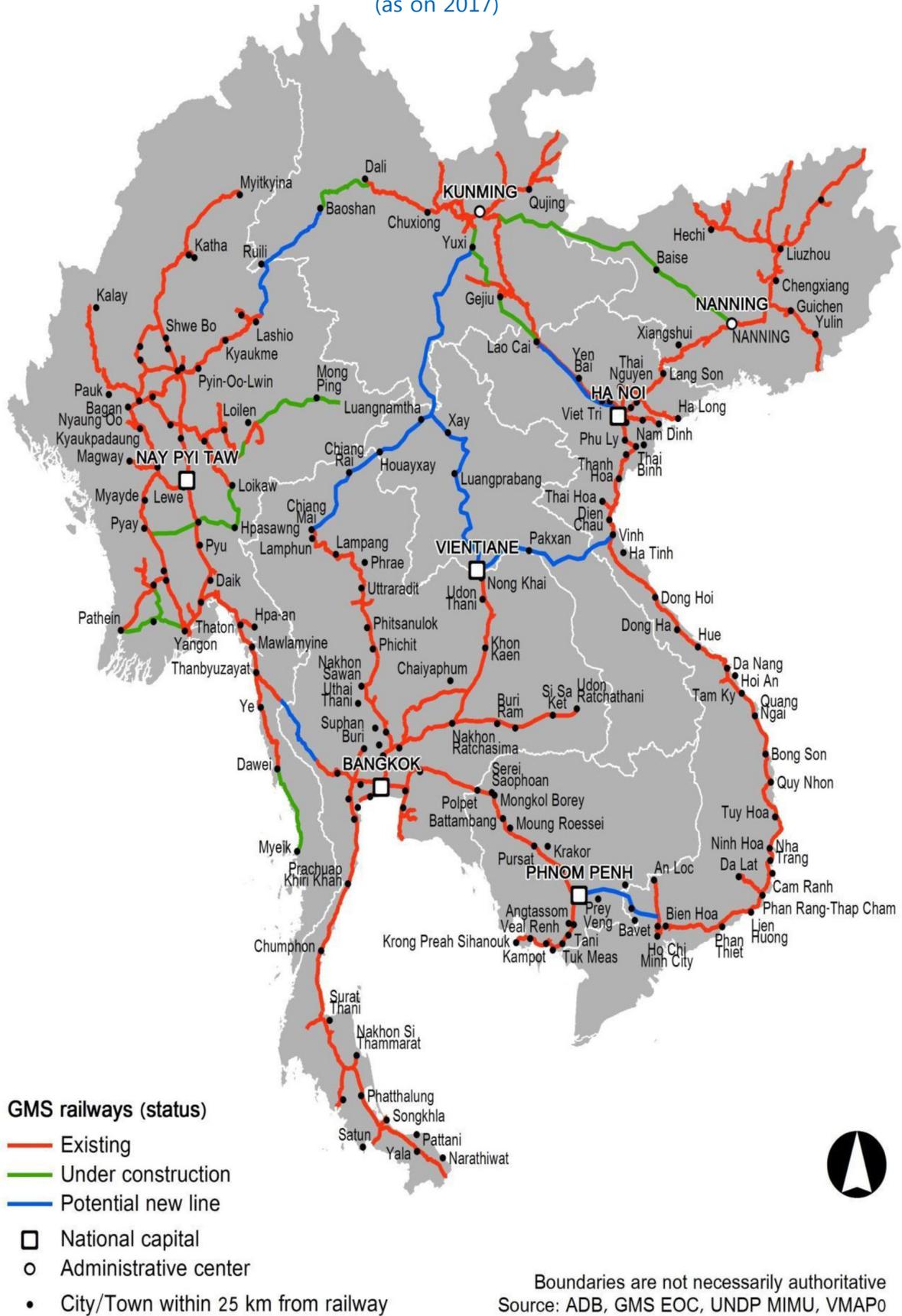
In the long run, this would lead to meeting the sustainability milestone by addressing the strong demand to convert investments into sustainable economic and social development in the BBIN sub-region.

Figure 1: The Greater Mekong Sub-region



Source: GMS Secretariat, 2019a

Figure 2: Overview of the GMS Railways Network
(as on 2017)



Source: GMS Secretariat, 2019b

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Endnotes

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- 2 For instance, single window and single stop inspection, single window and digital verification of documents and bills, digital tracking and tracing, digital or touchless payment of duties and taxes etc. among others.
- 3 World Bank (2020), Doing Business Indicators, URL: <https://www.doingbusiness.org/en/data/exploretopics/trading-across-borders>
- 4 World Bank (2020), Logistics Performance Indicators, URL: <https://data.worldbank.org/indicator/LP.LPI.INFR.XQ>
- 5 It was pointed out by a stakeholder from Myanmar; during the virtual scoping visit that, "GMS RN is a complementary process". He further stressed that, "a better functioning rail network will shift cargo off the roads improving the quality of road transport for all users".
- 6 Vietnam, Thailand and Lao PDR signed the agreement in 1999, Cambodia in 2001, China in 2002, and Myanmar in 2003 respectively.
- 7 It was pointed out by a stakeholder from Vietnam during the virtual scoping visit that, "GMS RN is a complementary process with respect to road networks. Since railways networks will contribute to promoting trade in the GMS area with better regional connectivity. The increase in trade in the region will benefit both the rail and road transport systems. Thus countries can have more flexible transportation options, with backup transport options to prevent risks. Moreover, businesses can choose multimodal transport to optimise shipping costs and time". The same also goes true for BBIN, where a suitable mix of rail, road, waterways and air network will boost trade.
- 8 ADB (2019), Connecting the Railways of the Greater Mekong Subregion (Phase 2), URL: <https://www.adb.org/sites/default/files/project-documents/42518/42518-025-tar-en.pdf>
- 9 Following new cross-border rail connectivity lines are under development stage – Nepalganj (Nepal) – Babaganj (India) (12km, ₹650 crore), Bhaiawa (Nepal) – Nautanwa (India) (25.1 km, ₹500 crore), Barbidas (Nepal) – Jaynagar (India) (12 km, ₹650 crore), Biratnagar (Nepal) – Jogbani (India) (18.6 km, 374 crore), and Kakarbhitta (Nepal) – New Jalpaiguri (India) (30 km gauge conversion and 15.8 km new line, ₹627 crore) (Katiyar, 2019).
- 10 This was stressed by stakeholders from Vietnam and Myanmar during the virtual scoping visit that, "harmonisation of transport sector rules, procedures, standardisation of logistics related norms and practices are prerequisite before dwelling upon the agreements and regional connectivity initiatives".
- 11 It was pointed out by a stakeholder from Vietnam during the virtual scoping visit that, "it is important to raise awareness in society about the regional multi-modal connectivity since every resources need to prepare well to respond the requirements in all perspectives including employment, the competitiveness of enterprises, new business strategies adapting the new market".
- 12 It was pointed out by a stakeholder from Myanmar during the virtual scoping visit that, "to address social and political challenges, there must be monetary compensations attached to the infrastructure projects for affected people, societies and groups".
- 13 The AFAMT was signed by the 10 ASEAN member countries in 2005 but different aspects and modalities had to be implemented in phased manner with the help of specific sub-action plans such as Kuala Lumpur Transport Strategic Plan (KLTSPP), among others. See: <https://afamt.asean.org/afamt/> and https://asean.org/storage/2019/11/Implementation-Framework-AFAMT_FINAL.pdf

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