



OVERVIEW

Connecting to Thrive

Challenges and Opportunities of Transport Integration in Eastern South Asia

Matías Herrera Dappe and Charles Kunaka, Editors



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INTERNATIONAL DEVELOPMENT IN FOCUS

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Challenges and Opportunities of Transport Integration in Eastern South Asia

MATÍAS HERRERA DAPPE AND CHARLES KUNAKA, EDITORS

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Foreword

Intraregional trade accounts for barely 5 percent of South Asia's total trade—just a fraction of the 25 percent for the Association of Southeast Asian Nations (ASEAN) region. Bilateral trade between Bangladesh and India, the two largest economies in eastern South Asia, represents about 10 percent of Bangladesh's trade and 1 percent of India's trade.

Transport and trade challenges in South Asia mean that it is about 15–20 percent less expensive for a company in India to trade with a company in Brazil or Germany than with a company in Bangladesh. Several factors account for the high cost of trade between Bangladesh and India. They include inadequate transport infrastructure, protective tariffs and nontariff barriers, and a broad trust deficit throughout the region. In the case of Bangladesh and India, the low level of trust is reflected in the fact that vehicles from one country are banned from plying the roads of the other. Removing these constraints and integrating South Asia have the potential of delivering significant economic gains.

The World Bank is helping governments in the region improve highways, inland waterways, border posts, and ports along key regional corridors, as well as related logistics services. Even more important than these efforts are activities that support dialogue to build consensus toward one integrated and prosperous South Asia. The World Bank works with a number of partners to provide analyses and technical assistance to strengthen transport and trade links.

This publication is one such initiative, with financial support from Australia's Department of Foreign Affairs and Trade through the South Asia Regional Trade Facilitation Program. It presents innovative analyses of some of the building blocks for effective seamless regional connectivity. The report analyzes the Bangladesh-Bhutan-India-Nepal Motor Vehicles Agreement (MVA) and compares it with international best practices to identify its strength as well as areas where improvements would lead to seamless regional connectivity. It is the first such analysis of the MVA. The report shows that if it is strengthened, the agreement could transform regional transportation in eastern South Asia and bring significant economic gains to Bangladesh and India. The report discusses regional policy actions countries could take to strengthen the MVA and identifies infrastructure investments that could help countries realize its benefits.

Bringing economic opportunities to rural communities along the regional corridors the MVA will open, particularly to women in those communities, requires more than opening the transport network to vehicles from a neighboring country. Unleashing income gains in rural areas requires that farmers and agricultural enterprises have access to the corridors, to transport, to logistics services, and to know-how and technologies to increase production and sales and move up agricultural value chains. The report shows that interventions to remove gender-related challenges at the macro, meso, and household level are needed to improve women's participation in export-oriented agricultural value chains, which would increase inclusive development.

The analysis presented in this report should help policy makers in South Asia create an environment that is conducive to seamless regional connectivity. Such connectivity would allow deeper integration of regional markets, which would increase prosperity in South Asia.

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Abbreviations

BBIN	Bangladesh, Bhutan, India, and Nepal
CMR	Contract for the International Carriage of Goods by Road
CBTA	Cross-Border Transport Agreement
ECMT	European Conference of Ministers of Transport
GATT	General Agreement on Tariffs and Trade
GATS	General Agreement on Trade in Services
GDP	Gross Domestic Product
IT	Information technology
ALADI	Latin American Integration Association
MVA	Motor Vehicles Agreement
PIWTT	Protocol on Inland Water Transit and Trade
RSTA	Road Safety and Transport Authority
SATCC	Southern African Transport and Communication Commission
SECI	South-East European Cooperation Initiative
TIR	Transports Internationaux Routiers

Overview

MATÍAS HERRERA DAPPE AND CHARLES KUNAKA

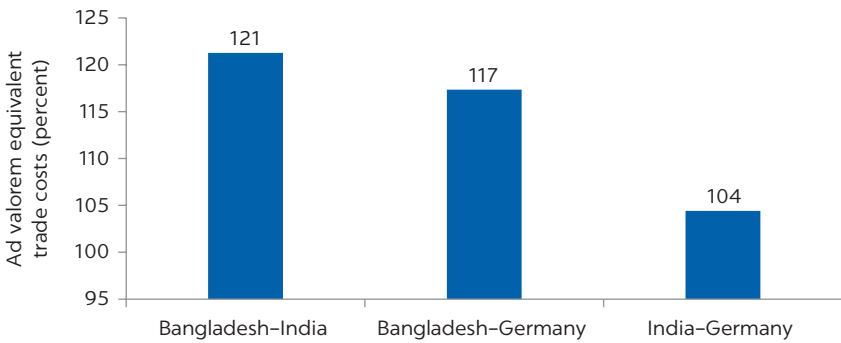
The Bangladesh–India border is the fifth-longest border in the world, and it is a thick border. It is more costly for Bangladesh and India to trade with each other than for either of them to trade with Germany (figure O.1). As a result of the thick border, bilateral trade represents about 10 percent of Bangladesh’s trade and 1 percent of India’s trade. These figures compare poorly with East Asian and Sub-Saharan African economies, where intraregional trade accounts for 50 percent and 22 percent of total trade, respectively.

High tariffs, paratariffs, and nontariff barriers are part of the problem. Simple average tariffs in Bangladesh and India are more than twice the world average. And in Bangladesh the average tariff almost doubles if paratariffs—taxes levied on imports but not on domestic output—are taken into account (Kathuria 2018). Complicated and nontransparent nontariff measures—that is, policy measures other than tariffs that affect the free flow of goods and services across borders—add to the high trade costs.

Lack of transport integration is another important contributor to the thickness of the border. Trucks are not allowed to cross borders. As a result, cargo must be transloaded, adding to transport and trade costs. On average, crossing the India–Bangladesh border at Petrapole–Benapole, the most important border post between the two countries, takes 138 hours, including 28 hours spent transloading cargo. In contrast, the time to cross borders handling similar volumes of traffic in other regions of the world, including East Africa, is less than six hours. Cargo transported by rail also has to be transloaded at the border, because of restrictions on the use of freight wagons on foreign railways. Cargo shipped between Bangladesh and India in seagoing vessels has to be transshipped in Colombo or ports in East Asia, such as Singapore and Port Klang. Deficits also exist in transport and trade infrastructure, but the main drivers of the high costs are policy and regulatory barriers.

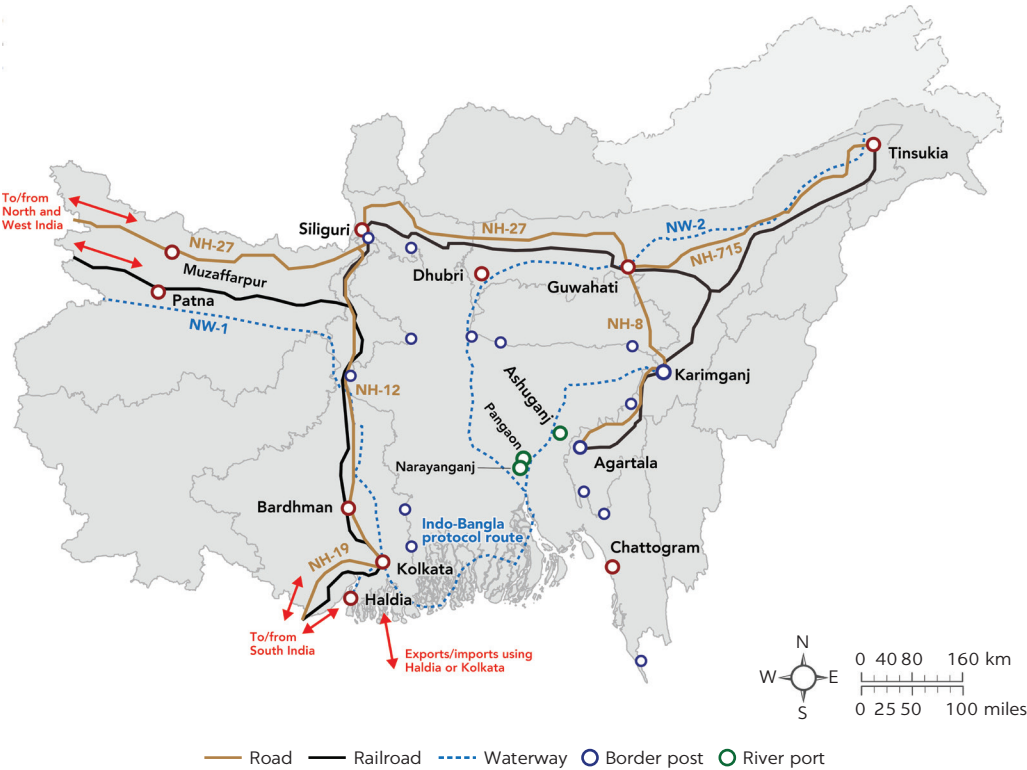
Lack of transport integration between Bangladesh and India also means that Indian trucks are not allowed to transit through Bangladesh. As a result, India’s northeast states are connected with the rest of India only through the Siliguri corridor, a 27-kilometer wide tract of land commonly known as the “chicken’s neck” (map O.1). The transit restriction leads to long and costly routes between northeast India and the rest of India and the world. Goods from Agartala, for

FIGURE O.1
Average trade costs between Bangladesh and India, and between each country and Germany in 2010–17



Source: Based on data from <http://www.unescap.org/resources/escap-world-bank-trade-cost-database>.
Note: Average trade costs are simple averages for 2010–17.

MAP O.1
Connectivity network in northeast India



Source: World Bank.

example, travel 1,600 kilometers through the Siliguri corridor to reach Kolkata Port instead of 450 kilometers through Bangladesh. If the border were open to Indian trucks, goods from Agartala would have to travel just 200 kilometers to the Chattogram Port in Bangladesh, and the transport costs to the port would be 80 percent lower.

Northeast India lags behind the rest of India. The seven northeast Indian states contribute only 2.8 percent to India’s GDP and about 1.5 percent of the

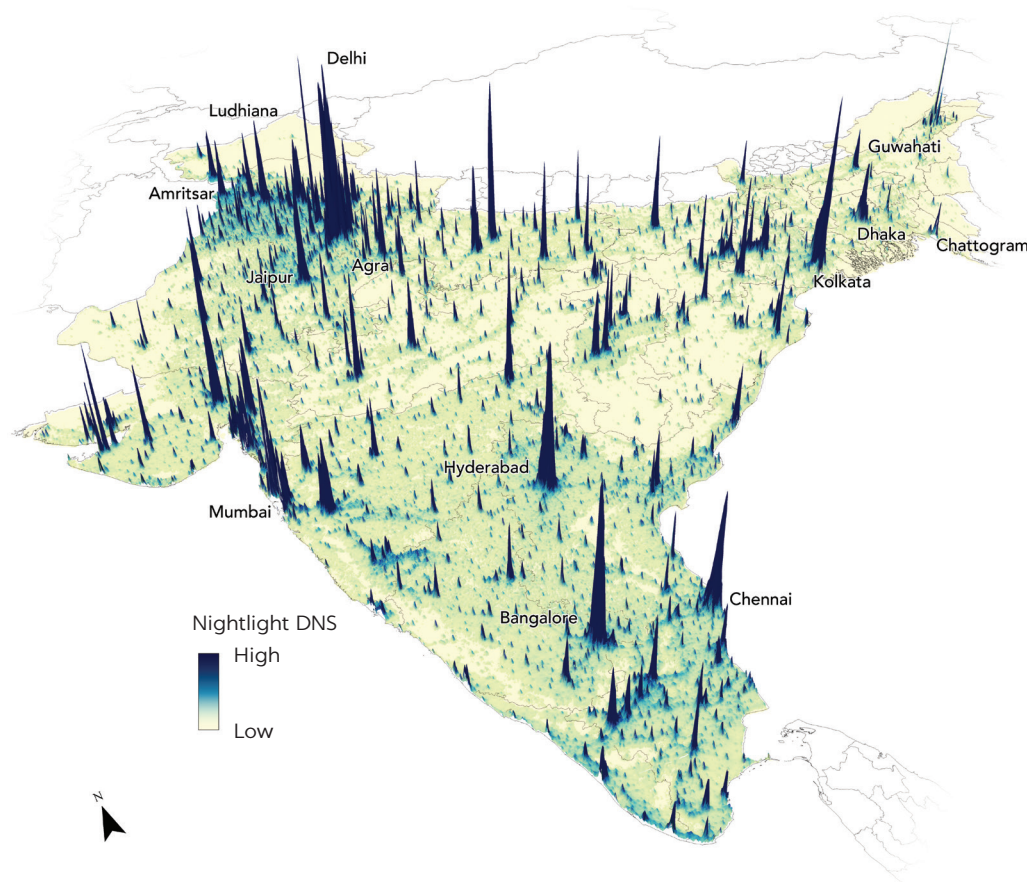
GDP contributed by manufacturing activities. The distribution within the region is highly skewed, with Assam contributing about 61 percent of the region's GDP, followed by Tripura (9 percent) and Meghalaya (7 percent) (Reserve Bank of India 2019).

Nighttime light intensity per capita—a proxy for income per capita—shows that Guwahati, in Assam, is the main economic center in northeast India, with the rest of the northeast lagging significantly behind (map O.2). But even in Guwahati, nighttime light intensity per capita is markedly lower than in all major economic centers in India, such as Delhi, Mumbai, Bangalore, and Kolkata. Poverty in northeast India is higher than in India as a whole or in other mountain states, and the rate of poverty reduction has been lower in the northeast—a fifth of the rate for India as a whole over 2005–12 (Srinivasan 2020).

Northeast Indian states lag behind other states partly because of the long distances to the rest of India and the world. Because of increasing returns to scale and transport costs, firms have an incentive to concentrate production close to large markets, which results in greater production and higher wages and prices

MAP O.2

Nighttime light intensity per capita in India and Bangladesh



of production factors (Redding and Venables 2004; Hanson 2005; Breinlich 2006; Head and Mayer 2006; Mayer 2008; Redding 2010; Donaldson and Hornbeck 2016). Market access is strongly correlated with income in India (Alder, Roberts, and Tewari 2018), and northeast states tend to have more limited access to markets than other states, because of their remoteness (Roberts 2016).

Economic activity in Bangladesh is concentrated in Dhaka and Chattogram; border and poorly connected districts lag behind. Nighttime light intensity per capita across the country highlights the concentration of economic activity around the capital (see map O.2). Traditionally, the districts between the western border with India and the Jamuna River have lagged the eastern part of the country, largely because of their limited connectivity and, hence, limited market access. On one side, because of the Jamuna River, which is crossable via only a single bridge, the western districts are far away from the capital city of Dhaka and the main seaport (Chattogram). On the other side, because of the thick border with India, the western districts' access to Indian markets is very limited, even though they are only a short distance from Kolkata. As a result, poverty in southwest Bangladesh is higher than in most eastern districts.

Limited connectivity leads to inefficient allocation of production inputs across sectors, firms, and regions. Misallocation of resources across firms is one of the main sources of differences in productivity and economic activity across countries. Differences between the marginal products of factors caused by misallocation may account for up to 60 percent of the total factor productivity gap between India and the United States (Hsieh and Klenow 2009). The highway investment along the Golden Quadrilateral in India led to real income gains of 2.7 percent, with the better allocation of factors accounting for 7.4 percent of those gains (Asturias, García-Santana, and Ramos Magdaleno 2018). High transport costs prevent firms from choosing optimal locations and keep production factors from being optimally allocated across sectors and regions.

MAKING THE BORDER IRRELEVANT CAN DELIVER SIGNIFICANT GAINS

The Bangladesh–India border could be made irrelevant from a trade perspective by removing trade barriers. De, Raihan, and Kathuria (2012) estimate that Bangladesh's exports to India could increase by 182 percent and India's exports to Bangladesh by 126 percent if the countries signed a free trade agreement. Improving transport connectivity between the two countries could increase exports even further, yielding a 297 percent increase in Bangladesh's exports to India and a 172 percent increase in India's exports to Bangladesh.

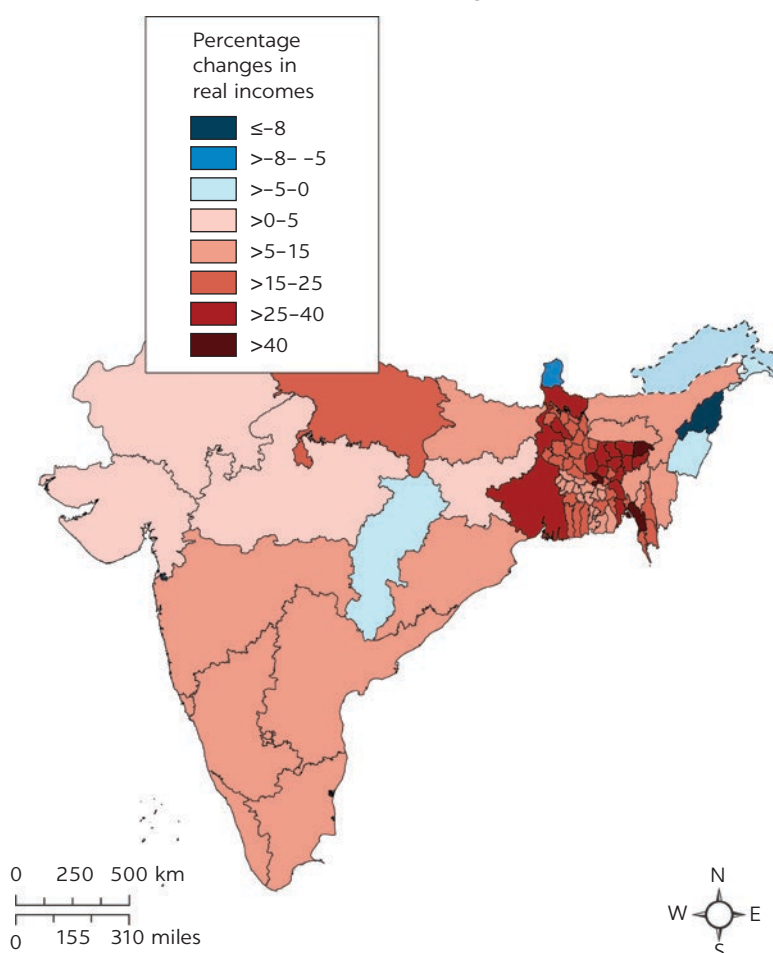
Removing all border frictions to the movement of trucks between Bangladesh and India could deliver significant economic benefits to both countries. Full transport integration between the two countries would allow trucks from each country to transit through the other, delivering exports and picking up imports, using any border post. Under full integration, exports and imports would be cleared at the destination, obviating the need even to stop at the border. Under full integration, income would increase by 16.6 percent in Bangladesh and 7.6 percent in India, as chapter 3 of this report shows.

The effects of full integration would differ across regions in each country, with some regions gaining more than others—and some potentially losing out—because of differences in the nature of the economic shocks on India and Bangladesh. Indian states experience both a decrease in trade costs to reach markets in other Indian states and an improvement in access to Bangladeshi markets. Bangladeshi districts benefit only from improved access to Indian markets; domestic transport costs do not change in Bangladesh. Reductions in transport costs and therefore prices increase the competitiveness of some regions. Workers and economic activities move toward the regions that gain more from integration.

The overall benefit from the opening of new transit routes for Indian trucks and improved connectivity for bilateral trade would be distributed across India. The main driver of the benefits for Indian states would be improved access to Bangladesh. The states seeing the largest increases in real income would be just west of Bangladesh, such as West Bengal, Uttar Pradesh, and Maharashtra (map 0.3). West Bengal would benefit from its prime location. Uttar Pradesh would also benefit from its relatively short distance to Bangladesh but particularly from its large labor force and low wages. Maharashtra would

MAP 0.3

Predicted percentage changes in real income in Bangladeshi districts and Indian states under full transport integration



Source: World Bank analysis.

leverage its comparative advantage as India's leading industrial state. In north-east India, the overall benefits from integration would be greatest in Assam, Meghalaya, Mizoram, and Tripura, largely because of their proximity to Bangladesh. As easternmost states experience greater competition from western states and Bangladesh, some of their economic activity would move to more competitive states.

All districts in Bangladesh would benefit from integration, with the eastern districts enjoying larger gains in real income. Bangladeshi districts would see reductions in the prices of goods and inputs from India and receive higher prices, net of transport costs, for their exports, becoming more competitive. The eastern districts would benefit the most, because of their comparative advantage, which would lead workers in southwest Bangladesh to migrate to the north and east of the country, where real wages would increase by as much as 37 percent.

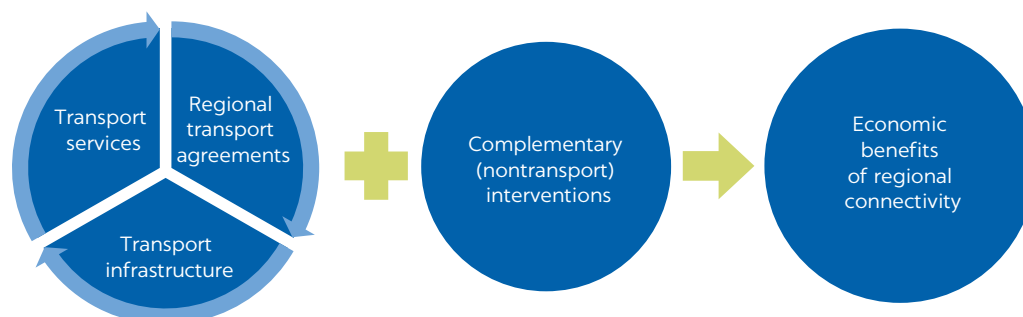
REGIONAL AND DOMESTIC BUILDING BLOCKS ARE NEEDED TO ACHIEVE EFFECTIVE SEAMLESS REGIONAL CONNECTIVITY

Achieving seamless regional freight connectivity and reaping its benefits requires a set of regional and domestic building blocks (figure O.2). Effective regional integration agreements are the foundation of seamless connectivity. Policies that ensure that transport service markets are competitive are also important. Agreements can remove policy constraints for the integration of transport service markets, but non-policy-related entry barriers and market distortions may also preclude the provision of cost-effective and high-quality regional transport services. Seamless regional connectivity requires an integrated transport network capable of handling demand efficiently. It requires road, rail, and inland water corridors and land, river, and seaports that can handle current and future freight volumes in a timely and cost-effective manner.

Transport integration agreements can increase the use—and hence the potential—of existing regional corridors and open new regional corridors. Corridors can generate wider economic benefits, such as growth of income and consumption, the creation of new jobs, and greater equity. The impacts work through agglomeration effects, increased trade and migration, and changes in the local economic structure, among other channels (ADB and others 2018).

FIGURE O.2

Building blocks for effective seamless regional connectivity



Source: World Bank.

Unleashing wider economic benefits at the local level requires that economic agents located along or near corridors have access to the corridors and to transport and logistics services to reach local, regional, and global markets. Such access is limited in rural areas, where transport infrastructure tends to be neglected and agricultural enterprises tend to suffer from inefficiencies, because of their small scale. Hence, policies that improve rural connectivity and access to logistics services are important to leverage the improved connectivity provided by regional corridors.

Wider economic benefits can be heterogeneous, with some regions or population groups gaining more than others—and some even losing. Wider economic benefits could be amplified and more fairly distributed with the help of complementary interventions that remove the most binding constraints, which can be caused by market imperfections, institutional failures, and socioreligious norms. Complementary interventions could aim to improve education and access to finance, increase women's empowerment, and remove land use constraints, among other goals.

This report presents innovative analyses of selected policy-relevant aspects of the building blocks for effective seamless regional connectivity. The report does not provide an exhaustive analysis of all policy areas needed to achieve effective seamless regional connectivity. It presents a collection of in-depth and innovative technical analyses that fill key knowledge gaps in areas that are important for taking forward the policy discussion on regional connectivity in South Asia, particularly between Bangladesh and India.

EXPERIENCE WITH TRANSPORT INTEGRATION AGREEMENTS YIELDS VALUABLE LESSONS

International transport agreements are concluded to achieve various objectives, some political, others economic. Politically, transport agreements can be used to signal the closeness of the relationship between a pair or group of countries. Even when the objective is political, however, the justification for an agreement is often economic. The main economic motivation is typically to facilitate trade in goods and services between the participating countries. Agreements can also help unlock latent demand that can be used to underpin large-scale infrastructure improvements.

International experience

As infrastructure has improved across most of the developing world, attention has shifted to the need to make sure that regulatory and procedural environments are conducive to efficient transport and logistics operations. International, regional, and bilateral agreements on transport are the main tools used to reduce if not eliminate regulatory and procedural constraints on the cross-border movement of traffic.

Most multilateral international legal instruments on transport and trade facilitation are concluded under global organizations or their specialized agencies (the United Nations, the World Trade Organization, the World Customs Organization, and the International Maritime Organization, among others). Some of the major international legal instruments on road transport include the following, to mention only a few:

- the Convention on the General Agreement on Tariffs and Trade (GATT)
- the General Agreement on Trade in Services (GATS)
- the Contract for the International Carriage of Goods by Road (CMR)
- the Convention on International Transport of Goods under Cover of TIR (Transports Internationaux Routiers) Carnets (the TIR Convention)
- the Vienna Convention on road traffic
- the Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for Such Carriage (ATP).

Agreements and treaties at the global level typically set the minimum provisions that are acceptable to all members of a particular organization, irrespective of their level of development or geographic location. It is then up to pairs or groups of countries to define more specific requirements, which they usually do through bilateral or regional treaties and in some cases domestic legislation. Some agreements can be self-executing, in that they do not need to be adapted through national legislation but become legally enforceable as soon as the agreement is ratified by a participating country.

In most regions of the world, groups of countries have signed road transport agreements (table O.1). Three prominent examples include the following:

- the Cross-Border Transport Agreement (CBTA) signed by the Lao People's Democratic Republic, Thailand, and Vietnam for the facilitation of the cross-border transport of goods and people
- the original tripartite agreement on road transport signed by Kenya, Tanzania, and Uganda, which has since been opened to all member countries of the East African Community (currently six countries in total)
- the Agreement on International Land Transport (Latin American Integration Association [ALADI]), signed by Argentina, Bolivia, Brazil, Chile, Paraguay, Peru, and Uruguay, for the facilitation of the cross-border transport of goods and people.

Regional agreements tend to reflect more explicitly the operating environment of the group of participating countries and offer more pragmatic provisions for those countries than do international agreements. Modern regional agreements on road transport emphasize the importance of focusing on the quality, not the quantity, of services (see, for example, Kunaka and others 2013), because quantity restrictions tend to limit supply, raise prices, and encourage suboptimal operations.

Where regional agreements are not signed, it is common for groups of countries to adopt template agreements that pairs of countries can sign. The idea is that as more and more pairs sign similar agreements, progress toward regional convergence in practices will occur. Examples of template agreements include the model bilateral agreement adopted under the European Conference of Ministers of Transport (ECMT) and the SATCC, which was part of the Southern African Development Community. Template agreements offer sets of provisions that can be accepted by most countries; they do not necessarily need to be best practice. In terms of promoting regional convergence, the ECMT is indirectly supported by a progressive multilateral permit and quota system that allows free access to bilateral, transit, and third-country transport market segments for transport operators in the territory of other ECMT participating states. Evidence abounds that the ECMT system has been successful in developing an efficient European road transport environment that is contested, though with some persisting restrictions (Kunaka and Carruthers 2014).

TABLE O.1 Examples of regional agreements or templates on road transport

REGION	AGREEMENT AND MODEL TITLE	NUMBER OF PARTICIPATING COUNTRIES
Africa	Memorandum of Understanding on Road Transportation in the Common Customs Area Pursuant to the Customs Union Agreement between the Governments of Botswana, Lesotho, South Africa, and Swaziland	4
	Southern African Transport and Communication Commission (SATCC) Model Bilateral Agreement on the Regulation of Cross-Border Freight Road Transport	15
	Tripartite Agreement on Road Transport (Uganda, Kenya, Tanzania)	3 ^a
Black Sea Region	Memorandum of Understanding on the Facilitation of Road Transport of Goods in the Black Sea Economic Cooperation Region and the Agreement on Multilateral Transit Permits	7
Europe (including Caucasus)	Recommended Model Bilateral Agreement on Road Transport between European Conference of Ministers of Transport (ECMT) member countries	45 ^b
	South-East European Cooperation Initiative (SECI) Memorandum of Understanding on the Facilitation of International Road Transport of Goods	10
South America	Agreement on International Land Transport (Latin American Integration Association [ALADI])	7
South Asia	Motor Vehicles Agreement (MVA) for the Regulation of Passenger, Personal, and Cargo Vehicular Traffic between Bangladesh, Bhutan, India, and Nepal	4 ^c
South-East Asia	Agreement between and among the governments of the Lao People's Democratic Republic, the Kingdom of Thailand, and the Socialist Republic of Vietnam for Facilitation of Cross-Border Transport of Goods and People (Cross-Border Transport Agreement [CBTA])	3

Source: Based on Kunaka and others 2013.

a. The provisions of the agreement have since been incorporated in a wider agreement for members of the East African Community.

b. The model has been used by several pairs of countries. The exact number and the extent to which it has been followed is difficult to determine.

c. Four countries signed the MVA (Bangladesh, Bhutan, India, and Nepal). Bhutan pulled out after its parliament failed to ratify it.

Experience in South Asia

For several years, South Asian countries attempted to reach multilateral agreements to create integrated and modern transit systems across the region. These attempts failed, largely because of tensions between India and Pakistan. In response, the eastern South Asian countries—Bangladesh, Bhutan, India, and Nepal—signed multilateral and bilateral agreements.

The Motor Vehicles Agreement (MVA) between Bangladesh, Bhutan, India, and Nepal (known as the BBIN countries), signed in 2015, seeks to facilitate the unrestricted cross-border movement of cargo, passenger, and personal vehicles between BBIN countries. Under the agreement, trucks carrying export-import or transit cargo can move inside the territories of other countries without transshipping to local trucks at border land ports.

Implementation of the MVA has been delayed as the countries work to clarify some of the provisions that are supposed to be elaborated in protocols. The MVA is a framework agreement; legal instruments and operating procedures still need to be agreed upon by the countries. Some of the countries,

particularly India and Bangladesh, have taken some steps toward implementation. Trial runs have taken place, in which Bangladeshi trucks have delivered exports in the Indian hinterland and Indian trucks and vessels have plied Bangladeshi roads and rivers.

The countries have signed other transport agreements on coastal shipping and inland waterways. In 2015 Bangladesh and India signed the Agreement on Coastal Shipping, which seeks to facilitate the coastal movement of cargo through river-sea vessels directly from ports in India to ports in Bangladesh. Limited direct shipping between the seaports of both countries is taking place, albeit with a restriction on vessel size of 6,000 gross tonnage.¹ Both governments are planning to allow the use of larger vessels in a revision of the agreement scheduled to be signed in 2020. In 2018 the two countries signed an agreement for the use of the Chattogram and Mongla ports for the movement of goods to and from India. It stipulates specific routes to connect both ports with northeast India.

Both Bangladesh and India have extensive networks of navigable rivers that provide an environmentally friendly transport alternative for landlocked north-east India and Bhutan. Consequently, they have signed bilateral agreements to increase use of their inland waterways for regional trade. The Protocol on Inland Water Transit and Trade (PIWTT), signed by India and Bangladesh in 2009 and subsequently amended to add new routes and ports, seeks to facilitate transit cargo movement through Bangladesh's vast inland waterway network. In 2019 Bangladesh and Bhutan signed the standard operating procedure that operationalizes the memorandum of understanding signed in 2017 for bilateral and transit cargo to be transported on inland waterways.

THE MOTOR VEHICLES AGREEMENT IS AN IMPORTANT FIRST STEP THAT CAN BE IMPROVED

The agreement has both strengths and gaps

The MVA was signed in Bhutan on June 15, 2015. It has since been ratified by Bangladesh, India, and Nepal. In 2017 the legislature of Bhutan declined to ratify the agreement, citing gaps and conflicts between the agreement and the national concerns over such areas as immigration, routes and infrastructure, ability to compete, and environmental impacts, among other concerns. Technically, it is possible for Bhutan to ratify the agreement at any moment.

Given the absence of bilateral agreements on road transport between some South Asian countries, the MVA fills a critical void. It addresses many of the essential items that are part of regulating international road transport services. Road transport agreements such as the MVA can enhance operational efficiency, signal the strength of economic and political relations, or achieve other objectives. As such, the MVA is as important for what it covers as for what it excludes.

The MVA includes many important features considered necessary for international agreements of movement on road transport (chapter 1 describes the main features of such agreements). It allows countries to access all territories of the parties and does not limit distance. It allows equal sharing of operator permits by parties. However, permits can be issued for only one year at a time, with a set time limit for authorization by the neighboring country, to avoid

delays in approvals. The MVA offers clarity on the types of traffic the agreement regulates and the way in which taxes are treated in foreign territories. It allows most regular types of traffic to ply on designated routes.

Like similar agreements, the MVA provides for nondiscriminatory treatment of commercial charges on highways. Where fees are payable, the agreement provides that they shall be collected at the point of entry. It explicitly provides that no additional fees shall be payable on the way, especially fees levied by municipal authorities. The agreement also provides for the temporary admission of vehicles free of customs duty. These measures are progressive, consistent with some of the more open agreements.

The agreement has some critical gaps, which could hamper the emergence of a regional integrated and contested market for road transport. Chief among them are the lack of standards for the design of infrastructure on which services are permitted, the absence of rules on the training and issuance of driver's licenses, and the omission of general principles for transit movements. The MVA does not permit triangular traffic movements, which could offer flexibility to operators in how they route trucks across the region. Triangular operations can be important, given the geography of trade flows across the region and the prevalence of unidirectional traffic flows in some corridors. The agreement also provides for operations only on specified routes and through designated border-crossing points, which can be a constraint as trade interactions become more intense and complex. In addition, the agreement places an onerous regulatory burden on truck operators, mandating at least 10 documents that must be carried on each passenger vehicle and 9 on each goods vehicle. The lack of regulation of driver working hours is another important gap in the MVA—one that could compromise safety. The agreement allows participating states to resort to national law in cases of gaps or conflict between regional and domestic requirements—a possible source of uncertainty for operators, as it opens the possibility of countries using their domestic requirements to limit regionally integrated services. These more technical elements can prevent the full realization of the benefits of the liberalization of services that the agreement entails. The BBIN countries clearly recognize the importance of addressing some of the above gaps, and indeed are already working on several of them. However, the point remains valid that unless the various issues are all tackled, then the benefits of the MVA will not be maximized.

Despite gaps, the MVA represents a significant step toward the creation of a cross-border integrated road transport market among BBIN countries. If the agreement is to live up to its promise, the BBIN countries need to negotiate protocols to address some of the missing features. Priority should be placed on the technical aspects of transport services, requirements for goods carriage, and driver qualifications and licensing.

Routes and modes that are not based on the preferences of shippers and carriers can lead to inefficiencies

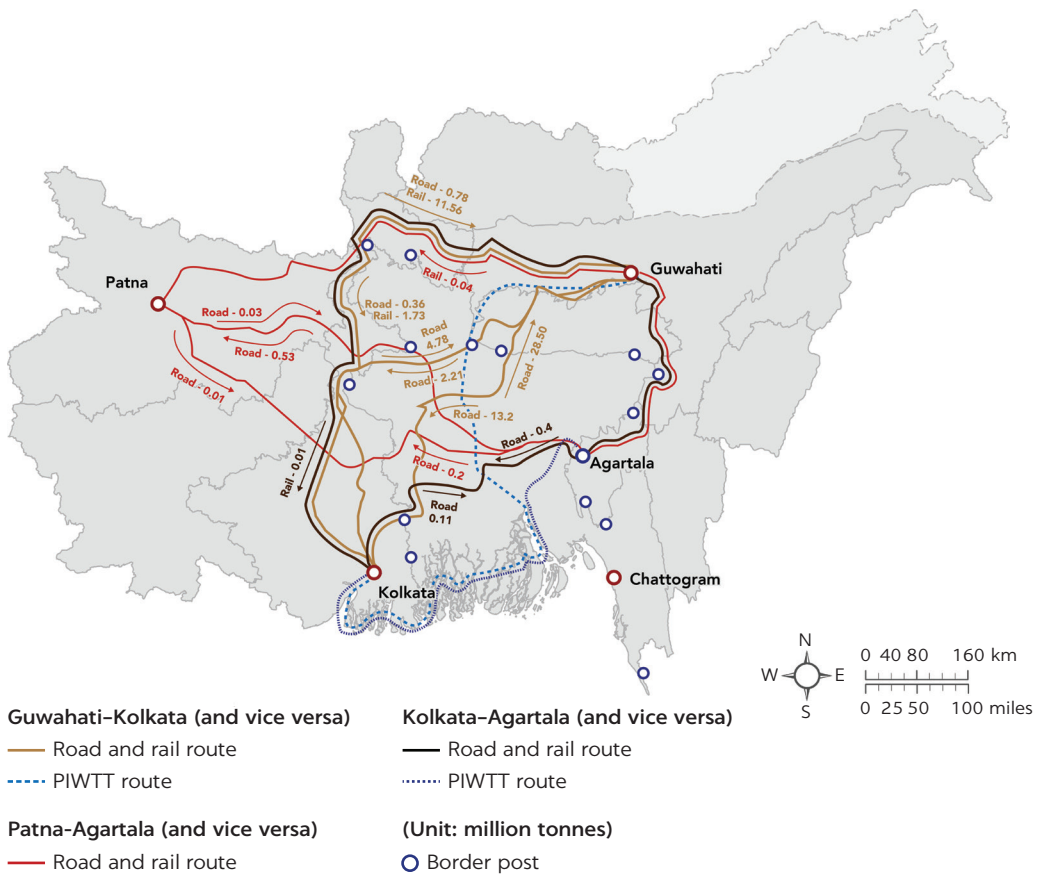
Ideally, countries should not prescribe the routes and modes to be used for freight transport, leaving that decision to shippers and carriers unless there are important safety, security, or environmental reasons to limit the volume of traffic in certain areas. If countries do prescribe the routes and border posts to be used, as the MVA does, the selection should be based on shippers' and carriers' preferences. If they are not, integration agreements could lead to limited or no changes

in transport costs, patterns, and volumes. Shippers and carriers decide on the routes and modes they use to transport freight based on the level of service of different routes and modes—that is, the time, costs, reliability, probability of cargo damage and theft, number of handlings and transshipments, and efficiency of border crossing along the routes and modes.

A stated-preference analysis of shippers and carriers in Bangladesh and India operating along corridors in eastern South Asia shows that unrestricted transport integration would significantly change freight patterns between northeast India and the rest of India and between Bangladesh and India. The analysis, presented in chapter 2, shows that carriers and shippers in the region have a strong preference for road corridors through Bangladesh and that carriers and shippers engaged in bilateral trade between Bangladesh and India would also make significant use of coastal shipping.

Almost all road-based freight movements between northeast India and the rest of India are expected to go through Bangladesh if the restrictions to free movement of freight are removed. A significant share of freight currently moving on rail through the Siliguri corridor is expected to shift to the road corridors through Bangladesh (map O.4). Even some freight currently traveling between northeast India and the rest of India on inland waterways through Ashuganj is

MAP O.4
Predicted freight traffic between northeast India and rest of India in 2025 under integration



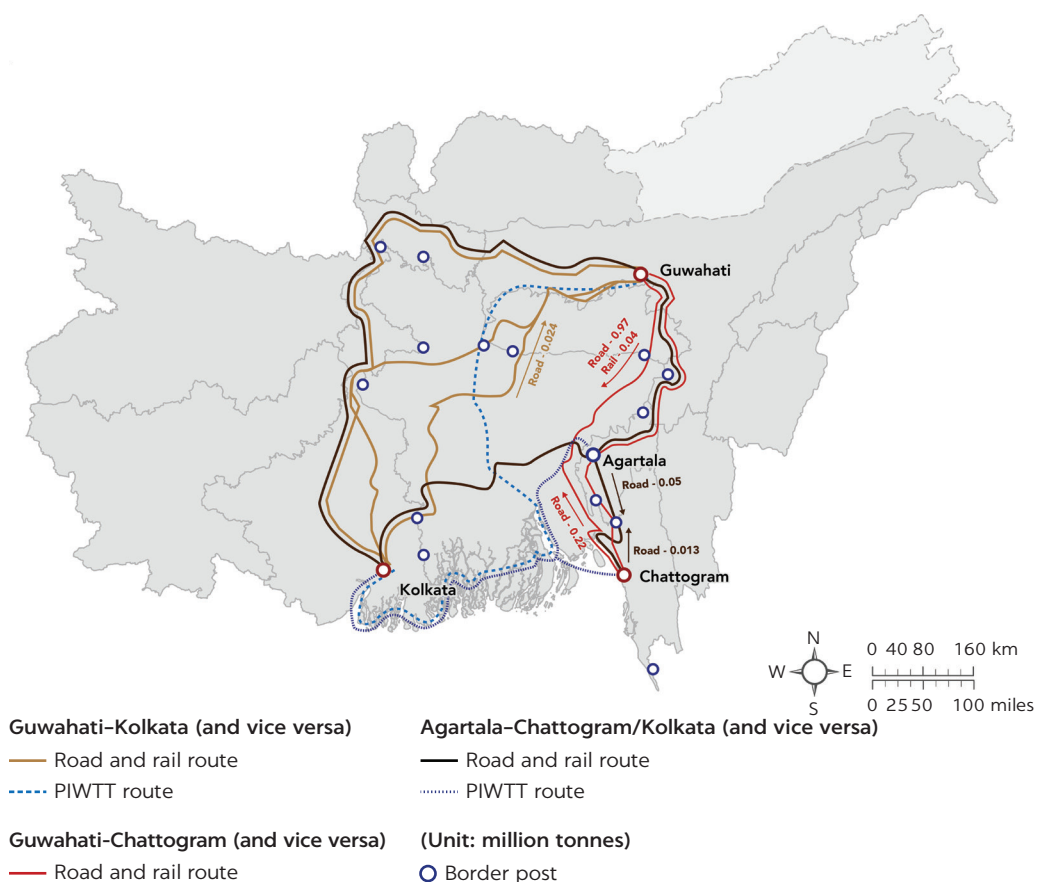
Source: World Bank.

expected to shift to road corridors once they are open to Indian trucks. Changes in freight flows are driven by significant reductions in transport time and costs. For example, the transport time and costs on the route between Agartala and Kolkata through Bangladesh is one-third that of traveling through the Siliguri corridor. The transport time and costs between Agartala and Patna via Hili in the northwest of Bangladesh are 40–50 percent lower than through the Siliguri corridor. For freight traveling between Guwahati and Kolkata, the routes through Bangladesh are about 20–25 percent faster and less costly than the routes through the Siliguri corridor.

Given the choice, shippers in northeast India trading with the rest of the world would prefer Chattogram Port over the Kolkata and Haldia ports. Currently, 95 percent of exports from Assam, Meghalaya, Manipur, Nagaland, and Arunachal Pradesh are transported to the Kolkata and Haldia ports on the road through the Siliguri corridor; the remaining 5 percent moves by rail through the same corridor. Once restrictions on the movement of Indian cargo through Bangladesh are lifted, 93 percent of exports from northeast India are projected to use the Chattogram Port, with almost all freight going by road (map 0.5). The preference of Chattogram over Kolkata and Haldia reflects the lower time and costs to reach Chattogram. The Guwahati to Chattogram road

MAP 0.5

Predicted freight traffic of exports from and imports to northeast India in 2025 under integration



Source: World Bank.

route is about 40 percent faster and cheaper than the current Guwahati to Kolkata route through Siliguri corridor. Reaching Chattogram from Agartala by road takes only 30 percent of the time it takes to reach Kolkata through Siliguri and costs 80 percent less.

The optimal routes connecting Guwahati and its catchment area with Kolkata and the rest of India through Bangladesh do not use the Sylhet–Benapole corridor. Shippers and carriers prefer either using the Gasuapara–Benapole corridor through the Bangabandhu Bridge or entering Bangladesh through Mahendraganj and leaving through Hili. For the latter route to be a viable option, a bridge over the Jamuna River in the Rangpur division and its approach roads need to be built. Crossing Bangladesh between Mahendraganj and Hili ranks high among Indian shippers’ and carriers’ choices, because it is the route with the shortest length and time in Bangladesh. Similarly, some of the optimal routes connecting Agartala with Patna and north India go from Akahura in the east of Bangladesh to Hili and Darshana in the west. None of these routes is among the routes mentioned in public documents as being considered for the implementation of the MVA. The routes usually mentioned are the southwest–northeast and northwest–southeast corridors.

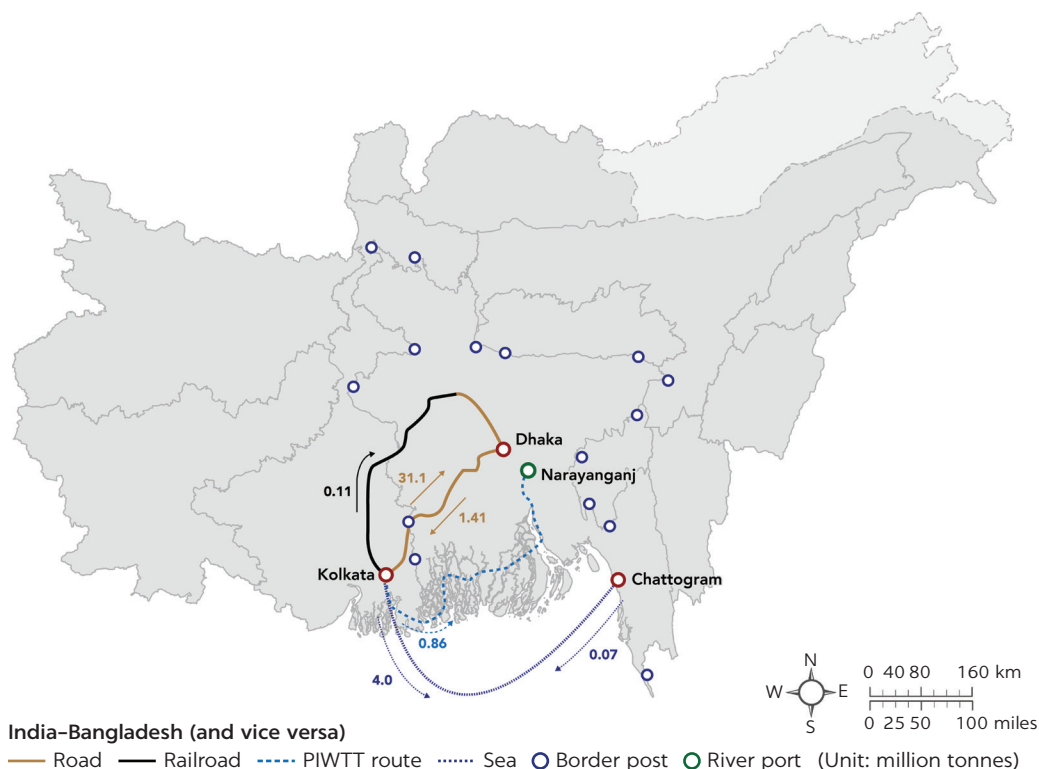
Once direct shipping between seaports using larger vessels is allowed between both countries, coastal shipping will become more prominent in bilateral trade between Bangladesh and India. Currently, the road route through Petrapole–Benapole accounts for 77 percent of bilateral trade between the two countries; inland water transport captures 17 percent, followed by rail and coastal shipping, which account for 4 percent and 2 percent respectively. When the agreements are in place, the road routes through the Petrapole–Benapole land port will remain the key route facilitating freight movement (map O.6). The shares of road transport and coastal shipping are projected to increase to about 87 percent and 11 percent, respectively. The main reason for the increase in the share of coastal shipping is the presence of direct shipping services between Chattogram Port and Kolkata and Haldia ports using larger vessels than are currently allowed. Direct shipping by large seagoing vessels will be about 50 percent faster and 75 percent cheaper than through Colombo.

Restrictive integration agreements deliver only partial benefits

Restrictions on the routes and border posts that can be used by Bangladeshi and Indian trucks lead trucks to use longer and more costly routes, limiting the benefits of the agreement. If Indian trucks are allowed to ply only the northeast–southwest and northwest–southeast corridors in Bangladesh and the frictions that affect trucks from both countries are removed only on the main border posts along these corridors, real income will increase by only 11.3 percent in Bangladesh and 5.6 percent in India. These gains are 68–74 percent of the gains under full integration, where trucks can ply any road and use any border post along the Bangladesh–India border.

Limiting the routes and border posts that can be used affects the spatial distribution of the gains from integration. Under both full integration and the MVA, Dhaka district will enjoy the largest gains in real income and real wages, followed by Chattogram district. Under just the MVA, gains in real income in Dhaka and Chattogram will be 67 percent and 59 percent, respectively, of the gains under full integration; for the median district, the gains in real income under the

MAP O.6

Predicted bilateral freight traffic in 2025 under integration

Source: World Bank.

MVA will be 44 percent of the gains under full integration (map O.7 and figure O.3). Indian states will enjoy smaller gains with the MVA than with full integration, with states closer to Bangladesh gaining less, relative to the gains under full integration, than more distant states.

Regional policy actions can strengthen the Motor Vehicles Agreement

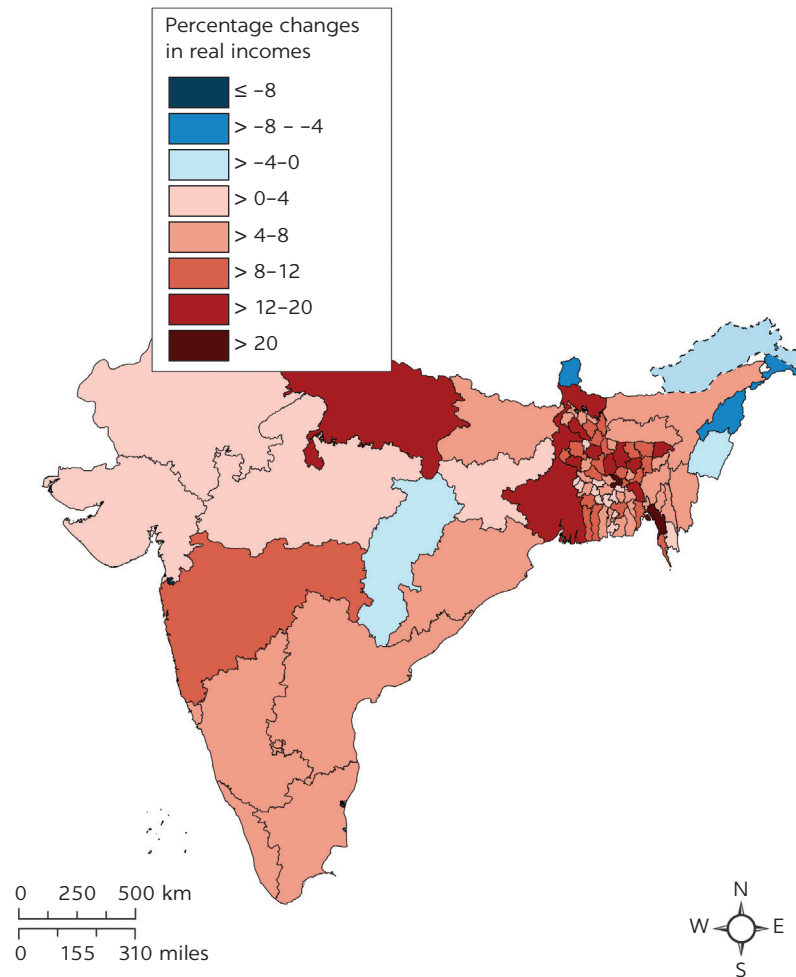
Accommodating differences in infrastructure is costly in terms of both time and money. Less costly to change are constraints imposed by different countries' policy choices. This sub section discusses key regional policy actions the countries should take to strengthen the MVA.

Harmonizing driver's licensing and visa regimes

It is important for the MVA countries to negotiate and implement complementary reforms, especially standardization of road signage, driver training, insurance, and related dimensions. The MVA requires vehicle crews to carry passports and be issued multiple-entry visas valid for at least one year. However, the agreement does not state where the visas should be issued. In some regions, agreements explicitly state that visas may be obtained at the border, which saves crews the burden of having to travel to the capital for consular services. Bhutan cited the MVA provision on visas as one of the reasons for not ratifying the MVA.

MAP 0.7

Predicted percentage changes in real income in Bangladesh and India from the Motor Vehicles Agreement



Source: World Bank analysis.

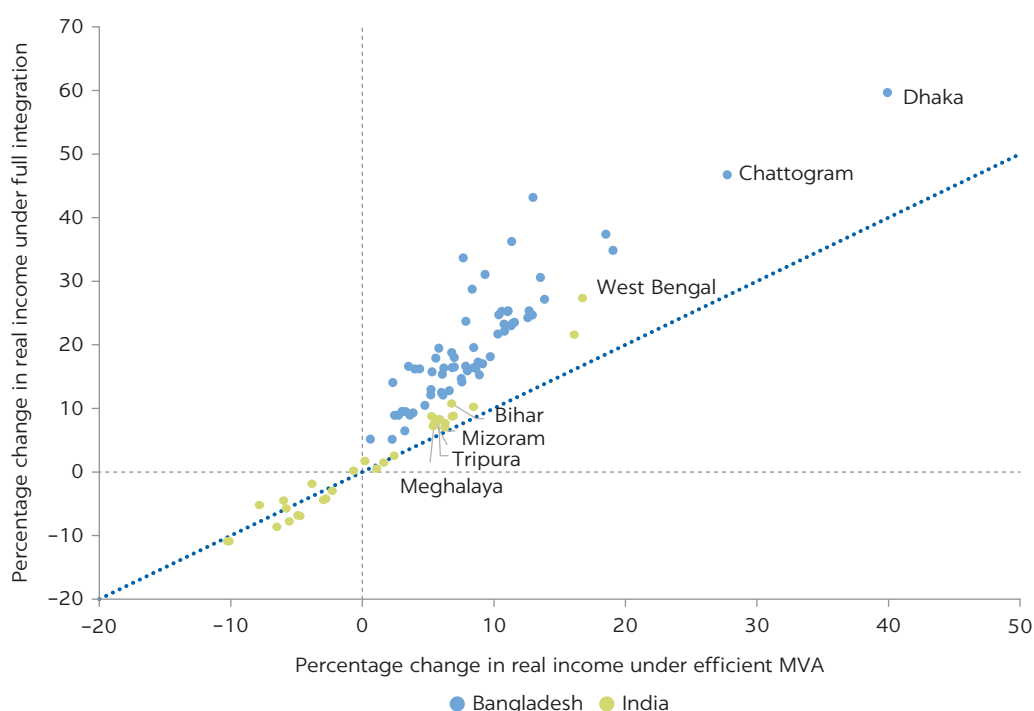
Establishing an efficient regional transit regime

A well-functioning transit regime is a prerequisite for efficient cross-border road transport operations. The MVA does not provide much detail on transit, other than acknowledging that the agreement covers transit movements. The absence of integrated and modern transit regimes has long been an impediment to transit traffic across South Asia. Ongoing and planned improvements in intra- and interregional connectivity are adding to the urgency of developing such a regime, especially given the geography of the region, where transit across a foreign territory is often unavoidable. Policy makers can borrow from several international practices and exploit the new capabilities offered by information technology (IT) in data sharing and cargo tracking by customs administrations.

Two considerations are critical to introduce an efficient transit regime. First, a functional transit procedure through Bangladesh is needed that allows the seamless movement of goods between West Bengal and the northeastern states of India and through India for traffic between Bangladesh and Bhutan and Nepal with no significant waiting time at the border or en route because of inspections

FIGURE O.3

Correlation between real income gains in Bangladesh and India under full integration and the Motor Vehicles Agreement, by district and state



Source: World Bank analysis.

or transloading. As India is already party to the TIR, Bangladesh could join the same convention, making it possible to implement a proven international transit regime.

Second, mechanisms are needed that allow the transit countries (Bangladesh and India) to recoup the costs associated with the use of their infrastructure and services by vehicles registered abroad, based on universal principles on freedom of transit. With suitable transit arrangements, some of the road traffic currently moving through the Siliguri corridor in particular could transit across Bangladesh, yielding significant savings in shipping times.

Rationalizing and digitizing documents

The need to obtain documents, submit them, and have them checked or processed by different jurisdictions can add to the costs of trade. The MVA lists 11 documents that must be carried on a vehicle operated under its regulation. These documents are in addition to the more than 22 documents and 55 signatures required for trade between Bangladesh and India (CUTS International and IRU 2017). The burden on drivers to keep many documents in the vehicle is particularly heavy in South Asia, where most drivers are semiliterate.

One way of addressing the large number of documents could be to exploit the possibilities offered by IT and cross-border data sharing. The BBIN countries could significantly reduce the number of documents drivers have to carry by defining and adopting data standards and agreeing to share data among competent authorities that regulate road transport services. Transport regulators in

many parts of the world use IT systems to check and verify the status of vehicles and drivers, including their working hours.

Rationalizing the selection of routes

The MVA restriction on routes and border posts that can be used by trucks is not based on the preferences of shippers and carriers. As a result, the benefits of road transport integration will not be fully realized. Ideally, countries should remove the constraint on routes and leave that decision to shippers and carriers. A second-best alternative would be to base the selection of routes and border posts on a detailed analysis of shippers' and carriers' preferences, such as that presented in chapter 2.

SEAMLESS CONNECTIVITY REQUIRES BETTER TRANSPORT INFRASTRUCTURE AND SERVICES

Differences in standards, axle-load limits, and quality hamper road transport operations between Bangladesh and India. For the same class of trucks, axle-load limits are consistently lower in Bangladesh than in India (table O.2). This difference could reflect weaker pavements in Bangladesh or a regulatory legacy in which limits have not kept pace with trends in trucking technology. The Bhutan Road Safety and Transport Authority (RSTA) Act of 1999 does not specify weight limits, relying instead on the weight limits specified by the vehicle manufacturer. In 2019 Bhutan's legislature approved raising the limits to 28 tonnes for 10-wheel vehicles, the most common configuration in South Asia. Differences in axle-load limits and vehicle dimensions have been cited as one of the reasons for denying India transit rights across Bangladeshi territory; they also explain why Bhutan did not implement the MVA.

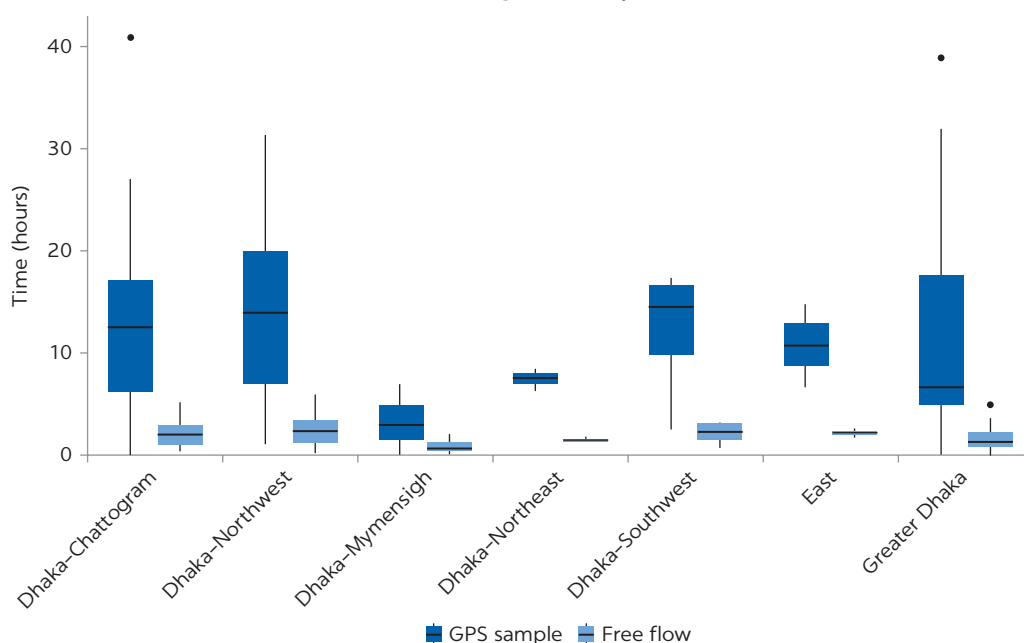
Integration agreements, particularly the MVA, will increase traffic in some of the major corridors through Bangladesh, exacerbating congestion, unless measures are put in place to increase the effective capacity of the corridors on both sides of the border. Congestion in Bangladesh is a serious problem along all major corridors (figure O.4). Herrera Dappe and others (2020) find an average speed of 19 kilometers an hour along main corridors—less than half what it would have been under uncongested conditions. Reasons for congestion include

TABLE O.2 Gross vehicle weight limits in Bangladesh and India (tonnes)

VEHICLE TYPE	BANGLADESH	BHUTAN	INDIA	NEPAL
2 axle (1 front, 1 rear)	—	—	18.5	—
3 axle (1 front, 2 rear)	22	28	28.5	19
4 axle (steering + 3 axles)	25	—	31.0	—
5 axle (2 prime mover + 3 trailer)	38	—	43.5	—
6 axle (3 prime mover + 3 trailer)	41	—	44.0	—
7 axle (3 prime mover + 4 axle)	44	—	—	—

Source: World Bank staff estimates, based on data from various sources.

Note: — Not available.

FIGURE O.4**Actual versus free-flow travel time in Bangladesh, by corridor**

Source: Herrera Dappe and others 2020.

Note: The bottom of a box represents the first quartile, the middle bar the second quartile (median), and the top of the box the third quartile. The whiskers represent the highest and lowest values, excluding outliers. Dots are outliers.

the insufficient capacity of roads and bridges to handle current demand; the need to rely on inefficient ferries to cross rivers (because of the small number of bridges); the mismanaged system of weight checks at bridges; and policies, regulations, and procedures that create unnecessary trips. Road transport moves through various land ports on the Bangladesh–India border; most of them are connected through two-lane roads on both sides of the border, which are in poor condition.

Cargo movement between India and Bangladesh by rail is very limited, because of infrastructure challenges. Railways in the region use a combination of meter and broad-gauge lines, limiting cross-border movements. Bangladesh has had to construct both gauges in some parts of the network to interface with the Indian system, but there are still compatibility issues with the broad-gauge network of India. The Jamuna Bridge, which connects the western and eastern rail networks of Bangladesh, is the major barrier to rail transport because of structural problems that limit the loads that can be transported by rail.

Bangladesh's extensive river network presents challenges for navigation. The larger rivers are up to 50 meters deep; most of the lower Meghna River (the main route to Dhaka from the Bay of Bengal) is 10–25 meters deep. Bars have very shallow depths, however, especially at the confluences of the major rivers and their tributaries, at river bends, and in the wide delta area, limiting navigation. Poor navigation aid systems and very limited nighttime aids also limit safe navigation. Poor evacuation and handling infrastructure and the

operational practices at river ports have long hampered the efficient handling of cargo. Improvements are under way in Bangladesh and India to improve several river terminals, including the Ashuganj River terminal in Bangladesh, which has road links and customs facilities for transit cargo to northeast India through the Akhaura (Bangladesh)–Agartala (Tripura, India) land border.

The Chattogram and Mongla ports in Bangladesh and Kolkata Port in India are among the most inefficient ports on the subcontinent (Herrera Dappe and Suárez-Alemán 2016). Chattogram Port handles about 90 percent of seagoing cargo in Bangladesh, with the remaining cargo handled by Mongla Port. Mongla's role is limited, because it faces challenges with respect to draft availability, handling infrastructure, and connectivity. Chattogram Port suffers from severe capacity constraints associated with inadequate infrastructure and processes. Because of the limited number of cranes to handle containers, the port relies on less efficient vessel-mounted cranes to handle large numbers of containers. Because of vehicle congestion inside the port, the absence of separate weighbridges for the entry and exit movement of vehicles, and the slow uplift of containers in the storage yard, the few port cranes work at only 8–12 cycles an hour instead of the optimal 22–28. These inefficiencies led to an average preberthing waiting time at Chattogram of 10 days, which is also highly variable as a result of frequent crane breakdowns. Chattogram and Kolkata (including Haldia Docks) are among the South Asian ports in which container vessels spend the longest time at berth, leading to the longest vessel turnaround times in the region.

The success of regional transport agreements relies partly on competitive markets for transport services in the signatory countries. Such markets do not exist in eastern South Asia. Trucking service markets in Bangladesh are not competitive. Thousands of operators, many of them using very small fleets or single units, provide trucking services, which should nurture competition. However, drivers unions, owners associations, and brokers related to them set prices and control access to cargo, interfering with the market mechanism and preventing full competition. According to one study, more than 85 percent of shippers interviewed believe there is no competition in logistics service markets in Bangladesh (Herrera Dappe and others 2020).

The role that associations, agents, and drivers play in controlling access to loads hinders the entry of international operators. International operators are not able to penetrate the market unless they work with local players who belong to unions and associations. Having to work with local players means that international operators do not have control over the quality of their services or the prices they charge.

Drivers unions and owners associations are large enough and well organized enough that they exert significant influence over policy reforms and market operations. For example, whenever the regulatory authority tries to set axle-load restrictions with severe penalties for overloading, the drivers union and associations call strikes to get the restrictions rescinded.

Several policies would improve regional connectivity

This section discusses key policy actions the countries should take to improve regional connectivity.

Standardizing infrastructure design

The interconnectivity of infrastructure and the interoperability of services is a defining attribute of networks; it is especially important in transport systems. Interconnectivity and interoperability across borders, based on transport infrastructure that is built to the same standards and specifications, provides the basis for allowing vehicles loaded to the same limits to cross borders without hindrance.

For the MVA corridors to allow seamless operations, they need to be built to the same minimum design standards, so that they can handle similar axle-load limits and vehicle configurations. Different load limits or vehicle dimensions may require goods to be transloaded or loads to be split, resulting in delays and high costs. Lack of standardization presents challenges for operators, who may not know in advance the limits on particular road sections in each country. The problem is compounded by the fact that weight limits at bridges are not notified in advance (before vehicles arrive), even along major regional corridors. Harmonization of axle-load and maximum vehicle / combination mass limits is essential for an integrated and efficient road transport industry in South Asia. It is particularly important for increasing the low level of intraregional trade. There is an urgent need to ensure that standardized regulations govern vehicle load limits and dimensions in the BBIN countries.

Increasing the level of service along regional corridors

For carrier and shippers to shift their cargo movements to optimal routes and modes once the MVA and all other transport integration agreements are implemented, the level of service of regional corridors needs to be improved. Policy makers need to think very carefully about where to invest, what to invest in, and what policies to implement to increase the level of service of corridors.

Policies and investments in transport have wider economic impacts. They are not spatially neutral, as the concentration of people and economic activities gives rise to agglomeration benefits. A regional transport master plan that identifies the mix of investments and policies that yield the greatest net benefits should be developed, considering all transport modes, both infrastructure and services, and the wider economic impacts of transport interventions. The master plan should be anchored in a transport model.

Expanding the effective capacity of core transport and logistics infrastructure will lead to a higher level of service along regional corridors. Key components of the transport and logistics system are highly congested, and projected growth will further strain the system. Connectivity needs to be improved by maintaining and expanding existing links and building new ones. For example, one of the potential road routes through Bangladesh that ensures the shortest travel time in Bangladesh connects Kolkata and Guwahati through the Hili and Mahendraganj/Dhanu-Kamalpur land ports and crosses the Jamuna River in Rangpur division, where there is currently no bridge. A new bridge over the Jamuna River and approach roads in Rangpur division would allow traffic to use such route. Improvement of land port facilities and development of off-border customs clearance facilities in Bangladesh and India would remove bottlenecks at the border.

The solution is not just to invest more, however, but to invest better, by focusing on the service gap instead of the infrastructure gap. Improving service

requires much more than just capital expenditures. Improving the operation of the Chattogram, Mongla, and Kolkata ports, for example, would expand their effective capacity. Lack of proper maintenance of the transport infrastructure reduces the capacity of the network and leads to higher capital investment needs. Ensuring adequate funding for maintenance and proper execution will therefore be a step toward better investments.

Ensuring competition in transport service markets

Governments in eastern South Asia should ensure that transport service markets are competitive. Competitive markets would ensure that reductions in transport costs lead to reductions in the prices of transport service. They would also provide incentives for service providers to improve the quality of their services and invest in technology and equipment.

Ensuring competitive markets requires independent national competition authorities with the power to enforce competition laws in any market. Bangladesh's Competition Act aims to prevent collusion in the market and price-fixing by industry players through various mechanisms, such as bid-rigging, control over the supply of goods or services, and abuse of dominant position. However, the Bangladesh Competition Commission stipulated in the act is not yet fully functional.

Greening road transport

Transport integration will deepen the reliance on road transport for the movement of freight across eastern South Asia, because road corridors dominate rail and inland water corridors in terms of door-to-door time and cost. The route and mode choice analysis in this report shows that there will be a switch to shorter road routes, a shift of cargo from rail and inland water transport to road transport, and an increase in the modal share of coastal shipping. The impact on emissions from transport depends on the characteristics of the vehicles and fuels, congestion, and idling time. A thorough analysis is needed to assess it.

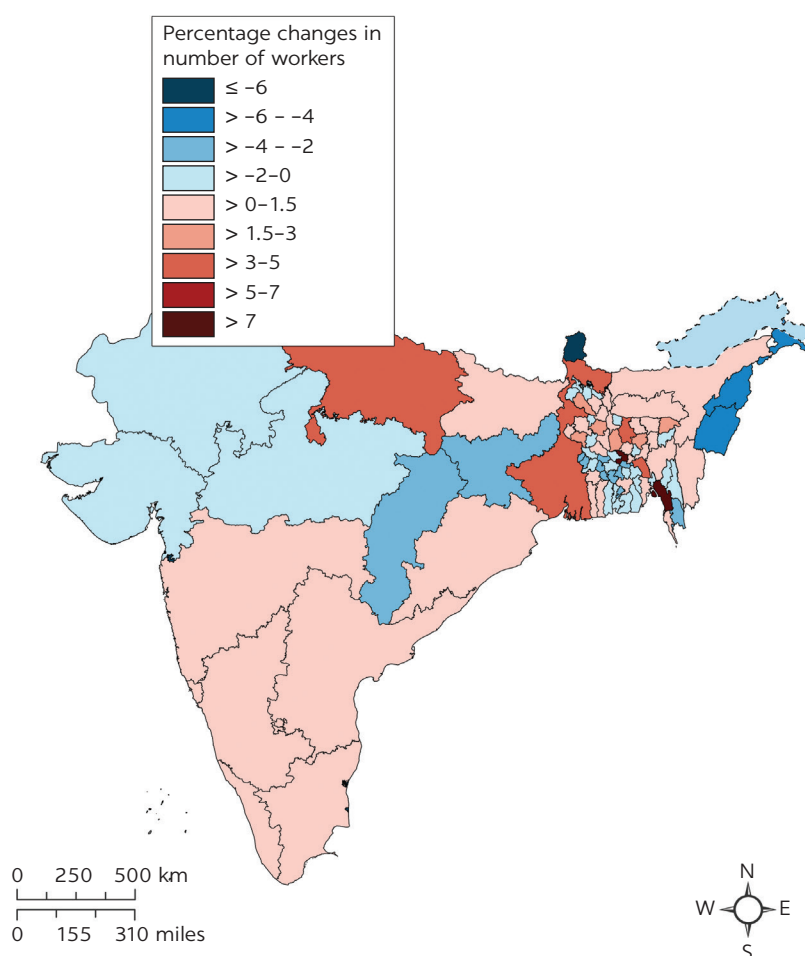
The route and mode choice analysis also indicates that improvements in the level of service of existing rail and river routes leading to even 50 percent reductions in time and cost along those routes or deteriorations in the reliability and safety of cargo on the road corridors through Bangladesh would not sustain the current shares of greener modes of transport, such as inland water or rail. There is therefore a need to reduce the environmental footprint of trucks in the region, as trucks will remain central to the movement of freight.

LOCAL BENEFITS CAN BE ENHANCED

Opening the borders to the movement of trucks and improving transport infrastructure along regional corridors would increase real wages more in some regions than in others. Indeed, in some regions economic activity might even decrease, as workers move to more competitive regions. The analysis presented in chapter 3 shows that although all districts in Bangladesh would see increases in real wages once the MVA is implemented, the gains would be uneven. The southwest of Bangladesh, traditionally a lagging region, would see some of the lowest increases in real wages and experience some of the largest outflows of workers (map O.8).

MAP O.8

Predicted percentage changes in number of workers in Bangladesh and India following adoption of the Motor Vehicles Agreement



Source: World Bank analysis.

Regional corridors alone might not bring the level of economic activity needed to develop a lagging region. The regional corridor that would see the largest increase in the volume of trucks and cargo goes through the southwest of Bangladesh, connecting Kolkata through the Petrapole-Benapole border post, but those districts experience small increases in real wages and losses of economic activity. Unleashing income gains in rural areas requires that farmers and agricultural enterprises have access to the corridors and to transport and logistics services to reach local, regional, and global markets. A large body of empirical evidence shows that rural roads and rural markets yield significant localized benefits. They enable rural communities to increase production and sales and move up agricultural value chains.

Hurdles at all stages of agriculture value chains prevent the economic potential of rural communities in southwest Bangladesh and the broader eastern South Asia from being realized. Focus groups with women and men engaged in the cut flowers, mango, and fish-farming value chains in southwest Bangladesh reveal that they share many challenges, including a lack of pest management know-how; the high price of inputs; uncertainty regarding the price of outputs; a lack of infrastructure facilities, such as cold-chain capacity; and poor transport and road infrastructure.

In addition, women face gender-related challenges. They are much more likely to participate in the production stage of agriculture value chains than other stages; they are virtually absent from the transportation and commercialization stages. They face barriers to participation in agriculture value chains, at the macro (societal), meso (value chain/community), and micro (household/individual) levels. At the macro level, the main limiting factor is the strongly embedded social norm of *purdah*,² which prohibits women from leaving the boundaries of their homestead unaccompanied by their husband or a male relative. At the meso level, women's work is informal and goes unacknowledged. Their roles in value chains lack visibility, as they are seen as supporters and helpers rather than key players. Women also lack venues and opportunities to market their products. At the micro level, their lack of control over income from their participation in agricultural value chains limits their participation.

Complementary interventions can enhance local benefits

This section discusses key policy actions the countries should take to enhance benefits of regional integration in rural areas.

Connecting local markets

Regional trade and transport initiatives typically connect major economic centers and trade gateways in the countries they link. The initiatives are often designed around corridors that offer superior infrastructure, harmonized policies, and procedures to facilitate trade and transport and supportive institutional mechanisms to coordinate among the many stakeholders. Corridors are high-capacity systems that are most efficient when they facilitate the unimpeded movement of large volumes of traffic. In order to benefit the communities and centers in regions through which the corridors pass, it is important to create on- and off-ramps for rural communities and intermediate centers to access each corridor. As doing so could compromise the efficiency of a corridor, there is a need for careful design of local access solutions.

A proven solution for local access to corridors is through secondary roads and rural markets, as discussed in chapter 4. Rural communities connect to corridors through a cascade of market centers and secondary and tertiary networks of roads that form interconnected clusters. Local infrastructure can help consolidate traffic volumes, so that producers can benefit from the economies of scale that corridors offer without degrading the efficiency of the corridors with too many access points and impediments to traffic flow.

To help rural economies, it is important to carefully select and design bundles of markets and roads to complement corridor improvements. Bundles should be those that can spur local development, via agricultural marketing and increased income from farming, enhance opportunities to sell produce, and reduce losses from poor handling while produce is transported to larger markets. Consolidation can allow local produce to reach markets in distant centers, including export markets.

Three broad steps can help identify the package of roads and markets that could best leverage investments in regional corridors:

1. Identify a cluster of rural markets that are co-dependent as either origins of shipments or assembly markets, where shipments from small facilities are consolidated.

2. Classify the links that make up the connecting transports system based on the volume of traffic they carry.
3. Integrate the results of the first two steps to arrive at a package of markets and roads that maximizes returns for rural producers within a budget constraint for infrastructure.

The algorithm seeks to maximize returns from investments in a bundle of rural markets and roads needed to integrate a cluster of rural producers.

Improving local connectivity to corridors can reduce poverty by helping lagging regions benefit from domestic and regional trade. As South Asian countries invest in large-scale corridors for regional integration, it is important that they pay special attention to local connectivity, which is particularly important as the region is still predominantly rural and based on agriculture.

Improving women's participation in export-oriented agricultural value chains

Several measures can be taken to improve women's participation in export-oriented agricultural value chains. They need to be grounded in the realities of women's lives and the fact that gender norms change slowly.

The most effective strategies are ones that are applied to value chain products and processes in nodes in which women are already participating. Removing blockages to adding value at these nodes and increasing women's control of income over benefits can have direct impacts on returns to female value chain participants and be used to incrementally facilitate behavior and norms change. In designing these strategies, care should be exercised to ensure that there are no unintended consequences for women in terms of increases in violence against them.

At the macro level, governments can conduct mass and multimedia campaigns describing the importance of empowering women economically by increasing their access to productive employment and showing that doing so increases their prestige and the purchasing power of the household. Governments can also pass legislation that encourages the formation of women-led cooperative organizations. Governments also need to prioritize women when developing economic policies.

At the meso level, countries can provide technical assistance to help women form cooperatives and small and microenterprises. Technical support can be provided to mobilize the group; identify and formulate viable businesses; establish linkages downstream and upstream of the value chain; and explore venues to access finance, equipment, and technical training. At the community level, projects could create advocacy groups that seek to mobilize male opinion leaders—religious leaders, teachers, government officials, politicians—to advocate for changes in women's status.

At the household level, training and sensitization of men—and women—needs to work toward moving away from the local cultural norm of *purdah*. Value chain projects could provide training to small-scale farming families on adopting a “farming as a family business” approach that fosters more cooperative efforts between men and women in planning and managing family farm enterprises to maximize household profits. The farming-as-a-family business approach can also facilitate the delivery of agricultural extension services, capacity development, technology transfer, and access to productive inputs to women producers.

SUMMARY AND CONCLUDING REMARKS

Both geopolitical and economic considerations affect regional integration initiatives. By presenting innovative analysis that fills knowledge gaps in the realm of regional transport integration, this report seeks to strengthen the economic considerations that go into the design and implementation of regional integration policies in eastern South Asia. It provides detailed analyses of Bangladesh and India, but most of the findings and recommendations are relevant for the entire BBIN region, and the innovative analytical approach it explores can be used throughout the subregion.

The transport integration agreements in eastern South Asia represent a significant step toward the creation of a cross-border integrated transport market in the subregion, with the MVA the cornerstone of that integration. Unleashing the full potential of integration requires strengthening the agreements by adopting good practices from elsewhere; addressing gaps and inconsistencies in infrastructure and market failures in transport services; and adopting complementary policies that remove binding constraints caused by market imperfections, institutional failures, and socioreligious norms.

Looking ahead, a few questions stand out that require deeper analysis. One is the impact of the integration agreements, particularly the MVA, on competition in regional and domestic transport service markets. Although the MVA does not allow for cabotage or triangular permits, allowing the delivery of exports and the picking up of imports in a foreign country could have implications for the intensity of competition in regional markets, which could also affect domestic transport service markets if service providers shift their focus. A robust analysis of this area would require detailed data from service providers in affected countries to model their behavior and simulate the implementation of the agreement. A corollary is the likely impact on transport prices, based on the comparative advantage of each country's fleet.

A second issue is the environmental impact, particularly on emissions, of the route and mode shifts triggered by the agreements. Chapter 2 provides the foundation for the analysis of the impact on emissions from freight transport. Analysis of this issue needs to consider the characteristics of the vehicles and fuels used in the countries as well as congestion and idling time along the relevant corridors.

A third issue is the extent of binding constraints on labor, land, capital, and product markets that need to be removed through complementary policies in each country to amplify the gains and manage the risks of regional transport integration. This report looks at only a few binding constraints and potential complementary reforms. Country- and sector-specific analyses need to be undertaken to identify the binding constraints and potential reforms considering the countries' readiness for and feasibility of complementary reforms.

NOTES

1. Indian river-sea cargo vessels are of less than 6,000 gross tonnage.
2. *Purdah* means "curtain," implying female seclusion.

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Because trucks in Bangladesh and India are not allowed to operate across the border, cargo is transloaded at the border, and Indian trucks traveling between northeast India and the rest of India must go around Bangladesh through the Siliguri Corridor, which significantly increases transport and trade costs. This lack of integration means that it is more costly for Bangladesh and India to trade with each other than for either of them to trade with Europe. As a result, bilateral trade represents only about 10 percent of Bangladesh's trade and a mere 1 percent of India's trade.

Connecting to Thrive: Challenges and Opportunities of Transport Integration in Eastern South Asia presents a collection of innovative technical analyses that show what is needed to achieve seamless connectivity in the region. The report explores the extent to which the Bangladesh-Bhutan-India-Nepal Motor Vehicles Agreement (MVA) supports the cross-border operation of road transport services and identifies the gaps in the agreement that need to be addressed to improve its effectiveness. It assesses the potential shift of freight traffic to new routes and modes in eastern India and Bangladesh once the MVA is implemented and the potential impact of the MVA on wages, employment, and income in Bangladesh and India. It explores how the local impacts of a regional corridor could be enhanced in rural areas by improving access to markets along the corridors and how women's participation in export-oriented agriculture value chains could be improved to allow women to take advantage of improved regional connectivity.

Connecting to Thrive will be of interest to policy makers, private sector practitioners, and academics with an interest in regional connectivity in eastern South Asia.

