

Chapter 4

DEVELOPING EFFECTIVE POLICIES AND INSTITUTIONS



4. Developing Effective Policies and Institutions

Connecting a region together is not simply a matter of building physical infrastructure. It also requires a supportive framework of effective policies and institutions, both nationally and regionally (Kuroda et al. 2008). Such institutions provide the necessary information, commitment, partnership, and coordination to support regional cooperation on infrastructure-related issues, while appropriate and effective policies help institutions deliver their objectives.

At a minimum, institutions can be informal arrangements that involve implicit or informal norms and understandings about the nature of acceptable behavior, without any legal binding or enforcement capacity—as is the case in CAREC. More ambitiously, institutions can be formal organizations that have explicit, often treaty-based, legally binding rules and regulations, with compliance and enforcement monitored by a standing body or secretariat (such as the European Commission [EC] in the case of the EU).

Asia has made some progress in developing regional cooperation in infrastructure over the past decade and a half. But further progress requires creating effective new institutions as well as developing and improving the coordination of existing ones—which, in turn, depends on the willingness and capacity of member countries. Without effective policies and institutions, cooperation is likely to be haphazard, limited, sporadic, and ultimately ineffective.

Asia can learn from the experience of its own subregional programs, as well as from experience in other regions, notably Latin America and Europe. But ultimately, it must craft policies and institutions that are

appropriate for its own unique needs and circumstances. Asia is very different from Latin America and Europe.

This chapter discusses the major issues involved in developing effective policies and institutions for regional infrastructure. It surveys the experiences of Europe and Latin America, and draws lessons for Asia. It also provides an overview of the policies and institutional structure of Asia's subregional infrastructure programs, the major challenges they face, and the lessons learned. It concludes by proposing a policy and institutional framework for a seamless Asia. Financing infrastructure investment, including related institutional and policy issues, is dealt with in Chapter 5.

4.1. Components of Effective Policies and Institutions

This section presents the important components of effective policies and institutions for regional infrastructure development. In addition to financing, these include coordinating, identifying, prioritizing, and preparing viable projects; developing appropriate (often harmonized) regulatory policies and legal frameworks; strengthening capacity-building programs; encouraging private sector participation; managing social and environmental problems; and promoting good governance.

Coordination

The success of a regional infrastructure project or program depends on the effectiveness of coordination among stakeholders. Such coordination may be among:

- governments of participating countries and regional institutions;
- provincial governments of a participating country and governments of other participating countries;
- planning agencies within and among countries, such as national and provincial development offices;

- sectoral agencies within and among countries, in areas such as transport, the environment, energy, and telecommunications; and/or
- local or provincial governments and national or federal governments.

The challenge is not only to coordinate among equivalent agencies in different countries; it is to coordinate among various agencies within a country and across countries, for instance, between planning and financing agencies. Close coordination among national agencies with different objectives, such as transport ministries and environmental agencies, is important.

The coordination problems that regional infrastructure projects entail may also exist nationally, particularly in large federal countries. If local, rather than national, authorities are responsible for infrastructure spending, they may favor strictly local projects over those with greater national (or regional) importance.⁴³ In such circumstances, coordination between the national government and local authorities, and even among the latter, is vital (Zhang 2008b).

Identification, Prioritization, and Preparation of Viable Projects

As regional infrastructure development is a lengthy, complex, expensive, and rigorous process, senior policymakers and qualified experts need to identify, prioritize, and prepare viable projects. The risk otherwise is that the wrong projects will get built, desirable ones will be passed over, and projects will be developed inefficiently. In this regard, the participation of a representative set of stakeholders through appropriate institutional arrangements at both the national and subregional levels is crucial for the prioritization of projects (UNESCAP 2008c).

⁴³ For example, in the PRC, Yunnan Province in 1992 and Guanxi Zhuang Autonomous Region in 2004 found it useful to participate in the GMS program.

Standards, Regulatory Policies, and Legal Frameworks

Regional infrastructure projects require appropriate—and where possible, harmonized—regulatory and legal frameworks to define:

- rights of passage for goods, people, and vehicles;
- permits, licenses, and other measures to facilitate transit rights, and arrangements to compensate transit countries for granting those rights as well as for other costs and risks such transit entails;
- consultation and dispute-settlement mechanisms; and
- jurisdiction and responsibility over title and ownership of offshore pipeline segments, particularly those outside a state's territorial waters.

Comprehensive and transparent regulatory frameworks are needed in order to implement regulations effectively. For example, Bangladesh and India have a bilateral inland waterways protocol, but its role has been hindered by a number of restrictions on the movement of vessels and by a lack of harmonized customs procedures and standards. Both SASEC and CAREC have proposed multinational regulatory frameworks and policies but are facing problems in implementing them.

Regional infrastructure also requires the liberalization and harmonization of economic regulations and procedures to promote closer economic integration. This includes regulations in areas such as trade, investment, utilities, transport, energy, private sector participation, environmental protection, and design standards, as well as effective institutions to implement these regulations. Standards, conformity assessments, and technical regulations are the main technical barriers to regional trade. Enhancing and harmonizing the standards and quality of infrastructure assets and services are essential for the success of subregional programs.

Strengthening Capacity Building

While national authorities' commitment to infrastructure projects and their capacity to deal with technical and operational aspects are important, they must also be willing and able to adjust national rules and regulations where necessary. Well-trained staff is essential.⁴⁴ Many studies have shown that regulatory offices in developing countries tend to be small, understaffed, and often more expensive to run (in relation to GDP) than those in developed economies (Stone 2008). Most developing economies in Asia lack experts trained in regulatory policy analysis and contract design.

Encouraging Private Sector Participation

Asia's infrastructure needs—for both new investment and for the maintenance and replacement of existing assets—are so great that they cannot be financed by the public sector alone. Governments therefore need to encourage private investment in regional infrastructure. In addition to providing capital, private sector participation can bring technical expertise and managerial competence. It can also help boost the coverage and efficiency of infrastructure services.

Managing Social and Environmental Problems

Physical infrastructure needs to be designed, built, and operated in ways that do not threaten the long-term viability of social, economic, environmental, and ecological systems. In addition to their substantial social and economic benefits, large infrastructure projects often generate negative social and environmental impacts such as the displacement of people, undesired migration, human trafficking, communicable diseases, smuggling, and road accidents. Addressing negative externalities requires appropriate regulatory policies, legal

⁴⁴ In Chile, for instance, each spending ministry has a small, highly trained group of experts capable of making professional and objective evaluations of new spending proposals, including national and regional infrastructure projects. As a result, Chile is widely admired for the efficiency of its public spending, and has attracted billions of dollars in private investment in national infrastructure projects.

frameworks, and harmonized standards, as well as institutions to implement these policies nationally and regionally.

Governance

Political risk and governance issues greatly limit the possibility of attracting private funding (Albuero 2008). The risk that future governments may not live up to their predecessors' commitments to private investors or regional partners may be reduced by organizing projects in partnership with MDBs and by having other regional institutions provide guarantees against such risks.

More broadly, project implementation faces serious problems when laws are not enforced or when institutions are subverted. International conventions can sometimes, but not always, help address governance issues. A failure to tackle these issues can deter private investment in infrastructure and can even make borrowing from MDBs more expensive. Poor governance can also distort design and construction, raise the cost, and reduce the value of infrastructure (Tanzi and Davoodi 1998).

Good governance is essential for making infrastructure development successful, sustainable, and inclusive. This underscores the importance of policy and institutions that ensure that scarce resources are not wasted on unproductive investments and that projects achieve their social and environmental goals.

4.2. European and Latin American Experience

The policies and institutions that Europe and Latin America have adopted for regional infrastructure development may provide important lessons for Asia. It is worthwhile to review these structures so as not to repeat the mistakes others have made.

The European Union's Experience⁴⁵

The EU is the world's largest and most developed regional institution, with 27 member countries.⁴⁶ It has a comprehensive agenda, strong supranational institutions, and a functioning mechanism for enforcing its agreements. Unlike other regional institutions, it also possesses Structural and Cohesion Funds to help poorer parts of the Union, including by helping to finance regional infrastructure.

The EC is the driving force in the EU's institutional system. The four major roles of the EC are to propose legislation to the European Parliament and the European Council; to administer and implement EC policies; to enforce EC law (jointly with the European Court of Justice); and to negotiate international agreements, mainly those relating to trade and cooperation. In this regard, policy and institutional issues are still handled by the EC, which also helps member countries develop TENs, set up PPPs, and obtain EU funds or European Investment Bank (EIB) support.

The EU seeks to develop regional infrastructure through TENs. These aim to underpin Europe's single market, strengthen EU cohesion, and boost economic growth. Recognizing that inadequate regional infrastructure acts as a barrier to trade and labor mobility, EU governments in 1992 provided the legal basis for TENs in the Maastricht Treaty. This defines the EU's responsibilities (Nunez-Ferrer 2007a, 2007b) as:

- establishing guidelines for identifying projects of common interest;
- implementing measures necessary for effective cross-border network interoperability;
- supporting projects of common interest, for example, through feasibility studies, loan guarantees, or interest-rate subsidies;

⁴⁵ This subsection is based primarily on Tanzi (2008) and van der Geest and Nunez-Ferrer (2008b).

⁴⁶ Its members are Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and United Kingdom (UK).

- contributing financing through the Cohesion Fund; and
- promoting coordination among member countries.

The planning and financing of TENs has been managed supranationally. Three types of infrastructure networks have been established under TEN: Trans-European Transport Networks (TEN-T), the Trans-European Energy Network (TEN-E or TEN-Energy), and the Trans-European Telecommunications Network (eTEN).

In 1996, the EU agreed on guidelines for developing TENs.⁴⁷ Initially, the emphasis was on transport, primarily because the potential economic benefits of increased trade and mobility were clear, while energy and telecommunications were still often controlled by public companies or powerful national champions. In the case of energy, the creation of TENs required the politically sensitive opening of national markets to competition, and the privatization and unbundling of the energy sector, which is still incomplete.

TEN-T seeks to create efficient integrated EU transport networks by building new and improving existing infrastructure. Its objective is to allow people and goods to transfer freely from the network of one country to those of others, and from one transport mode, such as roads, to another, such as railways. A target of 2020 was set for the TEN-T, with five networks—roads, railroads, inland waterways, ports, and airports—established.

In the transport sector, the Transport Executive Agency (TEA) was established in 2006 to assist TEN-T's development. In 2008, TEA took over from the EC the tasks of managing, monitoring, and assisting member states' implementation of TEN-T projects, with the assistance of the European coordinators, who produce annual progress reports.⁴⁸

TEN-E aims to integrate the EU energy market to increase its efficiency (Box A4.1 in the Appendix). The EU is a large net importer of energy, although some member states produce significant amounts

⁴⁷ Decision No 1692/96/EC of the European Parliament and of the Council of 23 July 1996 on community guidelines for the development of the TEN-T.

⁴⁸ For details, see http://ec.europa.eu/ten/transport/coordinators/index_en.htm

of oil, gas, and nuclear power that could be traded within the region, along with surplus electricity. EU guidelines give priority to projects that increase competition, strengthen EU energy security, and increase the supply of renewable energy. As a result, there is now some (but not much) cross-border electricity trading. New guidelines for TEN-E list and rank, according to the objectives and priorities laid down, projects eligible for European Economic Community assistance, and introduce the concept of “project of European interest.” TEN-E guidelines also strengthen project coordination and now fully incorporate the new member states. However, in the energy sector, a separate executive agency like TEA has not been established. Projects are followed up within the EC, with the assistance of the European Coordinators.

Environmental issues have a big impact on energy projects. European countries follow differing procedures that reflect different national laws. Harmonizing procedures and rules has proved difficult, as has coordinated action to speed up the approval process in the energy sector. These remain big challenges.

eTEN provides funds to make e-services available throughout the EU. The European Economic Community eTEN program helps to stimulate the deployment of innovative, trans-European e-services of social or economic interest. eTEN supports the deployment of e-services in the areas of eGovernment, eHealth, eLearning, eInclusion, Trust and Security, and small- and medium-sized enterprises. These services are expected to contribute to growth within the EU, employment, social cohesion, and to help everyone participate in the new knowledge-based economy (eTEN brochure 2009).

Decision-Making and Management of TENs

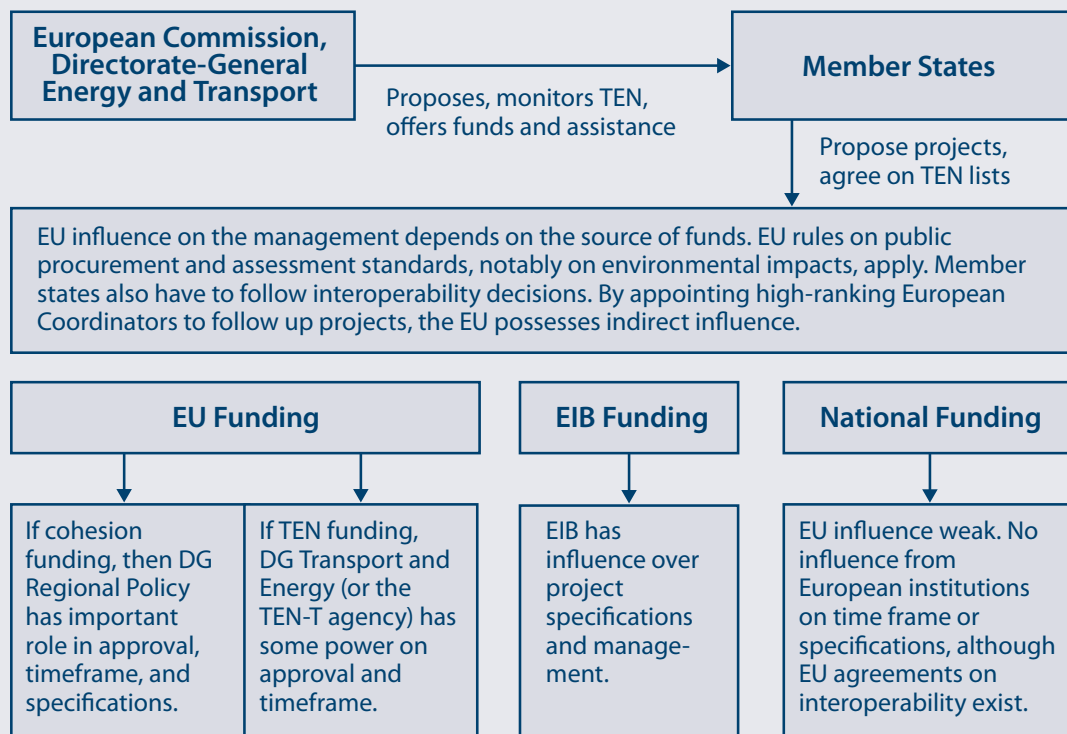
EU institutions have facilitated TENs’ development. The EC helped propose them, convinced member states of their importance, ensured their inclusion in the Maastricht Treaty, and is now tasked with ensuring the treaty’s implementation. Managing TENs’ development presents four major challenges:

- achieving agreement on priorities,
- enforcing commitments,

- streamlining management structures across member states, and
- finding a formula for burden sharing.

Achieving agreement on priorities. The EC cannot dictate to member states concerning infrastructure spending, but it can propose projects and then have some influence over them if EU funding is involved. Its first task has been to help member states to agree on a set of priority TEN projects. Figure 4.1 presents the EC’s role in guiding TEN developments.

Figure 4.1. Role of EU Institutions in TENs’ Decision Making and Management



DG = Directorate-General; EIB = European Investment Bank; EU = European Union; TEN = Trans-European Network; TEN-T = Trans-European Transport Network.
 Source: van der Geest and Nunez-Ferrer (2008b).

Criteria for selecting regional infrastructure projects. The criteria for choosing projects for TEN-T include potential economic viability, or a socioeconomic cost-benefit analysis; impacts on the mobility of goods and persons; impacts on cohesion and sustainable development; and the degree of commitment on the part of the member states. This last criterion is supposed to guarantee that national authorities will work closely with the EC in the pursuit of the EU's objectives.

Enforcement of regional infrastructure commitments. The appointment of European coordinators, high-profile political appointees who oversee projects' implementation, creates pressure to foster TENs' development. But it is easier for the EU to ensure that TENs are developed in poorer member states that make use of EU Cohesion Funds than in wealthier member states that do not.

Streamlining of management structures and obligations. Member countries each have their own assessment techniques and administrative procedures for the approval and implementation of infrastructure projects, but European institutions help set up joint management mechanisms. EU law also provides for the creation of "European companies," greatly facilitating cross-border cooperation.

Burden sharing. The costs and benefits of regional infrastructure are often unevenly distributed across countries. For instance, transit countries can suffer disproportionately from pollution. In this context, the EU acts as a facilitator to ensure that projects are equitable. The EU has agreed on common rail and road rules to facilitate the creation of regional transport infrastructure. For example, the European Railway Agency was established to implement EU directives on railway network interoperability, including common rules for the design, construction, service delivery, upgrading, renewal, operation, and maintenance of parts of the system, as well as on staff's qualifications and on health and safety conditions. The EU has also produced directives for roads and air transport networks.

Latin America's Experience⁴⁹

Latin America's integration has been driven by three main subregional initiatives that pursue regional infrastructure projects:

- the Initiative for the Integration of Regional South American Infrastructure (IIRSA), an informal institution comprised of 12 Latin American countries⁵⁰—established in 2000 and supported primarily by the Inter-American Development Bank (IDB)—that aims to build better regional connections;
- the Plan Puebla Panama (PLPP), a formal institution established in 2001 by nine Latin American countries⁵¹ to create regional infrastructure that would develop the corridor from Puebla (in the south of Mexico) to Panama; and
- the four members of the Andean Community,⁵² which was set up in 1969 and has more recently sought to develop regional infrastructure.

IIRSA aims to promote regional integration and trade, develop regional production networks, and make the region more internationally competitive, not least by building better roads and by simplifying and harmonizing regulations. It was set up when IDB presented the Plan of Action for the Integration of South American Infrastructure to South American heads of state, who agreed to proceed with it. Much of the responsibility for the preparatory and technical work has fallen on IDB, assisted by the Corporación Andina de Fomento (CAF), a multilateral financial institution.⁵³ Other development institutions that have played significant roles include the World Bank, the Fondo Financiero para el Desarrollo de la Cuenca del Plata (FONPLATA),⁵⁴ and the Brazil

⁴⁹ This section is based on Tanzi (2008).

⁵⁰ Member countries are Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Surinam, Uruguay, and Venezuela.

⁵¹ Belize, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, and Panama.

⁵² Bolivia, Colombia, Ecuador, and Peru.

⁵³ CAF was created in 1970 and has been the largest financial agent for infrastructure projects in Latin America.

⁵⁴ FONPLATA was created in 1971 to finance projects for transportation, agriculture and livestock, industry, and others in the basin of the River Plate.

National Development Bank (BNDES),⁵⁵ all of which finance cross-border projects that could be brought under the umbrella of IIRSA.

Institutionally, IIRSA is a forum for dialogue with several decision-making layers. These are the executive steering committee, composed of national ministers; national coordinators; and countries' executive technical groups. All are advised by a technical coordinating committee that includes staff from international institutions such as IDB, CAF, FONPLATA, and BNDES. The World Bank also provides some assistance. Regular meetings rotate among the 12 member countries.

IIRSA's achievements so far have been modest. A series of overlapping "development axes"—essentially regional development plans—have been identified. A lot of technical work has been done in areas such as establishing a list of infrastructure projects that would promote the region's integration and development; promoting a forum for discussion and cooperation among regulatory and infrastructure planning agencies; and developing new instruments to improve the selection and the construction of trans-national infrastructure projects. As a result, members' national investment budgets have slowly taken on an increasingly regional orientation.

By the end of 2007, some 506 projects with an estimated total cost of \$68.3 billion had been proposed. To accelerate the execution of the IIRSA plan, 31 top priority projects with a total cost of \$6.4 billion were selected for implementation. More than half of these required investment from more than one country; the rest were national projects with a strong "bridging effect" among countries. But while IIRSA has helped filter out financially nonviable and more generally unproductive projects, its impact on actual infrastructure investment has been marginal. Of the 31 priority projects, only one has been completed. Eleven are being built, while the rest are still at the bidding or preparatory stage.

The **PLPP** aims to create a trade and development corridor in Central America. Institutionally, it has an executive commission—

⁵⁵ BNDES, a Brazilian public bank with significant resources, has been financing large projects in Brazil and throughout Latin America.

made up (mostly) of ministers from member countries and cochaired by Mexico and another member—to set and oversee the plan’s implementation. It is assisted by an interinstitutional technical group that includes representatives of several international institutions. It also has an executive directorate made up of technical specialists. A commission for the promotion and financing of the plan, coordinated by the president of IDB and also including the presidents of the Central American Bank for Economic Integration, CAF, and the Instituto de Credito Oficial de España, seeks to promote the financing of projects that have been selected. Spain continues to play an active role, not only because of its historical and cultural connections, but because it is the most likely financial backer. A consultative council coordinates contact with civil society.

Like IIRSA, the PLPP did not create a specific new institution, but rather a “conceptual umbrella” to bring together various development plans and complement them with ambitious new ones. The PLPP’s focus is on road development, but it also proposes connecting electricity grids; developing hydroelectric power, ports, airports, bridges, and a fiber optic network; and improving tourism infrastructure (Pickard 2002). Unlike IIRSA but similarly to the GMS, the transport and electricity improvements aim to attract industries to the region to make use of its abundant, cheap labor to produce products for export.

The PLPP has grand ambitions but it has yet to achieve much. It lacks funding, since national budgets are tight and private investors have not been forthcoming. IDB and others have been reluctant to lend because of resistance from people—notably, indigenous communities—who would be displaced from their traditional lands by the new roads, which would also pass through environmentally fragile areas.

The Andean Community is a long-established subregional cooperation initiative in Latin America that started upon the signing of the Cartagena Agreement in 1969. It was known as the Andean Pact⁵⁶ until 1996. It has been undertaking programs for strengthening regional

⁵⁶ For further details, see: http://www.grouplamerica.com/andean_pact.htm

infrastructure since 2005. The member countries belong to the Andean axis, and have prioritized IIRSA projects. Efforts are also being made to reactivate the Andean Committee on Road Infrastructure, a forum to coordinate road projects and systems in the region.

Lessons for Asia

The experience of the EU offers the following important lessons for Asia:

- Creating a framework for regional infrastructure cooperation often requires the active role of a third party—an honest broker—to forge a convergence of interests. Supranational institutions, particularly the EC and the EIB, have fulfilled such a facilitating and enabling role in the EU. The EU’s experience also underscores the vital importance of national governments and good governance.
- The success of particular regional infrastructure projects requires tripartite and multilateral initiatives. These may take the form of “coordinators,” akin to those for TEN-T projects. Alternatively, special purpose vehicles—companies owned by the relevant governments along with multilateral institutions—may be considered.
- In Asia, where the framework for regional infrastructure cooperation is not as developed as in the EU, the role of the honest broker could be filled by multilateral institutions such as ADB, UNESCAP, or a new neutral organization. These organizations could appoint coordinators from among top-level decision makers in the region.

Moreover, Latin America’s regional cooperation efforts have similarities to Asia’s and offer the following valuable lessons:

- A forum for dialogue and cooperation such as IIRSA can help build awareness of the benefits of regional integration and infrastructure, filter out unproductive projects, coordinate among various national and subnational agencies, and increase stakeholders’ participation.

- Prioritizing a small number of regional projects is a good way to build momentum. Pursuing too many projects at once often results in hardly any being built.
- Attracting funding from multilateral institutions—in Latin America’s case, IDB—is vital. This is one reason why it is important that contentious issues, such as the displacement of people by big infrastructure projects, be handled delicately and that efforts be made to minimize such problems.
- Assisting less developed countries in building their supply and institutional capabilities is vital. IIRSA has done valuable work in this area. Many Asian countries lack the capacity and regulatory framework even to conceptualize an infrastructure upgrade, let alone to implement one.

4.3. Asia’s Regional Infrastructure Programs: Policies and Institutional Arrangements

As highlighted in Chapter 1, there are several pan-Asian and subregional infrastructure cooperation initiatives in Asia. This section reviews their institutional arrangements and policies.

Pan-Asia

The AH and the TAR initiatives are being formalized through intergovernmental agreements by participating countries to ensure effective coordination of national planning with regional requirements, as well as the regular regionwide review and updating of the network. UNESCAP acts as the secretariat for these agreements. The goals of these initiatives are to facilitate international trade and tourism and promote regional integration and international cooperation. Countries’ efforts to develop such an Asian transport network started in 1959. The identification of the AH and TAR has progressed mainly since 1992, when UNESCAP initiated the ALTID project. The number of member countries participating in the AH program increased from 18 in 1995 to 25 in 1996, to 31 in 2001, and reached 32 in 2003. The coverage of

the TAR network expanded from five member countries in 1995 to 13 in 1999 and reached 28 in 2008. The intergovernmental agreements on the AH and TAR, which have been signed by 28 (of 32) and 22 (of 28) Asian countries, respectively, are examples of existing pan-Asian infrastructure initiatives. The AH agreement came into force on 4 July 2005 with 23 member countries⁵⁷ ratifying it. The TAR agreement was ratified by nine countries⁵⁸ and came into force on 11 June 2009. The agreements are treaties that provide a framework for the coordination of development in Asia as well as in Europe. They are also platforms wherein the member countries discuss policy, institutional, and technical issues related to developing the networks and increasing the networks' operational efficiency (UNESCAP 2009a, 2009b).

For the AH, a working group was created to facilitate implementation of the agreement and to consider any amendments to it. This group also serves as a forum to discuss policies and issues related to the development of international highways in member states. The group has met twice, in 2005 and 2007 (UNESCAP 2009a).

In April 2008, a Forum of Asian Ministers of Transport that would hold meetings every two to three years was established. The first meeting is expected to be held in December 2009. The objective of the Forum of Asian Ministers of Transport is to facilitate closer cooperation and more frequent interactions between the member countries at the ministerial level in order to provide strategic guidance for the handling of the organization and operation of land transport, including infrastructure and its technical operation, and the economic and commercial sides of transport operations. The possible areas of debate and political guidance by the ministers include: (i) transport infrastructure development, (ii) transport facilitation, (iii) transport logistics, (iv) road safety, and (v) general policy issues (UNESCAP 2007c, 2009c; Ha 2008).

⁵⁷ Afghanistan, Armenia, Azerbaijan, Bhutan, Cambodia, PRC, Georgia, India, Japan, Kazakhstan, Kyrgyz Republic, Lao PDR, Mongolia, Myanmar, Pakistan, Philippines, Republic of Korea, Russian Federation, Sri Lanka, Tajikistan, Thailand, Uzbekistan, and Viet Nam (as of January 2008).

⁵⁸ Cambodia, Georgia, PRC, India, Republic of Korea, Mongolia, Russian Federation, Tajikistan, and Thailand (as of May 2009).

Table 4.1. Key Characteristics of Regional and Subregional Institutions and Programs Involved in Infrastructure

Region	Functions					
	Integration	Security	Trade	Finance	Infrastructure	Socioeconomic
Asia						
ASEAN	✓	✓	✓	✓	✓	✓
GMS	✓		✓		✓	✓
MRC ^c	✓	✓			✓	✓
IMT-GT	✓		✓		✓	✓
BIMP-EAGA	✓		✓		✓	✓
BIMSTEC	✓		✓		✓	✓
CAREC	✓	✓			✓	✓
SAARC	✓		✓	✓	✓	✓
SASEC	✓		✓		✓	✓
SECSCA	✓				✓	✓
PIF	✓	✓	✓		✓	✓
Latin America						
CAN	✓		✓	✓	✓	✓
IIRSA	✓				✓	
PLPP	✓				✓	
Europe						
EU	✓	✓	✓	✓	✓	✓

ASEAN = Association of Southeast Asian Nations; BIMP-EAGA = Brunei Darussalam Indonesia Malaysia Philippines – East ASEAN Growth Area; BIMSTEC = Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation; CAN = Andean Community; CAREC = Central Asia Regional Economic Cooperation; EU = European Union; GMS = Greater Mekong Subregion; IIRSA = Initiative for the Integration of Regional South American Infrastructure; IMT-GT = Indonesia-Malaysia-Thailand Growth Triangle; MRC = Mekong River Commission; PIF = Pacific Island Forum; PLPP = Plan Puebla Panama; SAARC = South Asian Association for Regional Cooperation; SASEC = South Asia Subregional Economic Cooperation; SECSCA = Subregional Economic Cooperation in South and Central Asia.

Notes:

^a Summit refers to summit of heads of state and government.

^b Modalities: A = advisory, F = financing, and R = regulatory.

^c Covers only management and use of the Mekong River.

Sources: Bhattacharyay and De (2009), Linn and Pidufala (2008), compilation from subregional programs' websites, and Asian Regional Integration Center website.

Subregions

In addition to these pan-Asian initiatives, various subregional groups are addressing regional infrastructure issues to different degrees. These programs are presented in Table 4.1 along with their

Form of Institution	Highest Level ^a	Modalities ^b	Members/Participants
Formal	Summit	A, R	10 countries
Informal	Summit/ministerial	A, F, R	6 countries, ADB
Informal	Senior officials	A, F, R	4 countries
Informal	Summit	A, F, R	3 countries
Informal	Summit	A, F, R	4 countries, ADB
Informal	Summit/ministerial	A, F, R	7 countries
Informal	Ministerial	A, F, R	8 countries, 6 multilateral institutions
Formal	Summit/ministerial	A, F, R	8 countries, 9 observers
Informal	Senior officials	A, F, R	4 countries, ADB
Informal	Ministerial	A, F, R	6 countries, 1 observer, ADB
Informal	Forum leaders	A, R	16 countries, 4 country observers, ADB
Formal	Senior officials	A	4 countries, IDB
Informal	Senior officials	A, F	12 countries, IDB
Formal	Summit	A	9 countries, IDB
Formal	Summit	A, F, R	27 countries

key characteristics: their functions, form⁵⁹ (formal or informal), level of participation, and operational modalities (advisory, regulatory, and financing). Most of Asia's subregional institutions are informal, with the

⁵⁹ Institutions can be informal arrangements that involve implicit or informal norms and understandings about the nature of acceptable behavior, without any legal binding or enforcement capacity—as is the case in CAREC. Institutions can be formal organizations that have explicit, often treaty-based, legally binding rules and regulations with compliance and enforcement monitored by a standing body or secretariat such as the EC in the case of the EU.

exception of ASEAN and SAARC. Many take their lead from summits of heads of state and government, but others operate at a lower level. Most have advisory, regulatory, and financing modalities, except for ASEAN and the PIF, which lack a financing modality. The policies and institutional arrangements of the main wholly Asian subregional programs are discussed in this section.

Southeast Asia

ASEAN is a formal institution consisting of 10 member countries with a very broad mandate and meets at the summit level. It became a legal entity after the adoption of the ASEAN charter. Its main aim is economic integration through the ASEAN Free Trade Area and the establishment of a common market by 2015. ASEAN's agenda is set at an annual summit of heads of state and government. Ministerial meetings on a variety of topics are also held regularly. Supporting these ministerial bodies are committees of senior officials, technical working groups, and task forces. ASEAN also has a small secretariat that is mandated to initiate, advise, coordinate, and implement ASEAN activities. ASEAN recently completed the ASEAN Comprehensive Investment Agreement, which was signed in February 2009. This seeks to promote greater cross-border investment and to attract private investment by creating a more liberal, transparent, and congenial investment environment, including by extending national treatment to ASEAN investors. ASEAN has also established the ASEAN Telecommunications Regulators Council Mutual Recognition Arrangement on conformity assessment for telecommunications equipment (ASEAN 2009). Although ASEAN is an important institution that has achieved much in several areas, it has achieved relatively limited progress in infrastructure.

GMS is an informal institution established at the ministerial level, but has met at the summit level in recent years. Detailed work is carried out by sectoral working groups, which handle both the hardware and software issues of regional infrastructure development. ADB operates as the de facto secretariat and provides technical, administrative,

financial, and logistical support. Appendix Figure A4.1 presents GMS institutional arrangements.

In 2001, GMS ministers endorsed a 10-year strategic framework for enhancing connectivity, competitiveness, and a sense of community in the subregion. Eleven flagship programs were identified, including three economic corridors: east-west, north-south, and southern. These seek to promote trade, investment, and economic development in and among the areas connected by the subregion's new transport infrastructure. In the energy and telecommunications sectors, cooperation began in 1992 with power transmission lines linking the Lao PDR and Thailand. The telecommunications network now extends to Cambodia, Lao PDR, Thailand, and Viet Nam. Developing power interconnections and regional power-sharing arrangements are envisaged. Future priorities include transforming the transport corridors into genuine economic corridors, a greater focus on "soft" infrastructure, capacity building, and stepping up efforts to mobilize both public and private sector resources.

Institutionally, the GMS has established a forum for discussing transport strategies and exchanging information in order to develop a common approach to cross-border issues, mainly through the CBTA (Box 4.1).

Four GMS countries—Cambodia, Lao PDR, Thailand, and Viet Nam—have also established an informal forum, the **Mekong River Commission (MRC)**, to manage their shared water resources and sustainably develop the economic potential of the Mekong River basin (see Appendix Box A4.2 for details). The PRC and Myanmar are dialogue partners of MRC (MRC 2009).

In the energy sector, GMS countries are building cross-border grid interconnections linking Cambodia, Lao PDR, Thailand, and Viet Nam that will enable surplus countries to export electricity—notably, from clean and renewable sources, such as hydropower—to those with a deficit. To coordinate regional energy trade, the GMS countries signed the Inter-Governmental Agreement on Regional Power Trade in November 2002 and established the Regional Power

Box 4.1. The Greater Mekong Subregion Cross-Border Transport Agreement

The GMS CBTA is a compact and comprehensive multilateral instrument that covers all the relevant aspects of cross-border transport facilitation in one agreement. These include:

- single-stop/single-window customs inspections;
- the cross-border movement of people (i.e., visas for people who work in transport operations);
- transit traffic regimes, including exemptions from physical customs inspections, bond deposits, escorts, and agriculture and veterinary inspections;
- requirements for vehicles making cross-border trips;
- the exchange of commercial traffic rights; and
- issues related to road and bridge design standards, road signs, and signals.

The CBTA will apply to selected and mutually agreed upon routes, as well as to points of entry and exit in the signatory countries. It provides a practical means of streamlining regulations and reducing soft infrastructure barriers that is consistent with similar ASEAN initiatives and existing international conventions on cross-border land transport facilitation.

National transport facilitation committees (NTFCs), chaired by a transport minister or deputy and consisting of senior officials from ministries and agencies involved in cross-border transport and trade facilitation, have been established in accordance with the CBTA in each GMS country. The NTFCs coordinate the ratification and implementation of the CBTA and its annexes and protocols. Their chairs meet in the CBTA Ministerial Joint Committee. Respective NTFC members of the six GMS countries comprise the various subcommittees of the CBTA, viz., transport, customs, immigration, and quarantine and health. Appendix Figure A4.2 presents the organizational structure.

The CBTA's main agreement was signed and ratified by GMS leaders in March 2008. The full document, including its 20 annexes and protocols, is currently being ratified (four GMS members have already done so, and the remaining two are set to complete the process shortly). However, further work is required on addressing constraints to the CBTA and making the GMS corridors effectively operational. Implementation involves, among other things, harmonizing and integrating procedures and systems to facilitate border crossings, and promoting the development of trade logistics. In preparation for the CBTA's full implementation, essential activities—such as incorporating the CBTA into domestic law, preparing detailed implementation guidelines and manuals, and training—are being undertaken with technical assistance from ADB. In some cases, national laws have to be amended to achieve conformity with the CBTA.

Source: ADB (2005d).

Trade Coordination Committee (RPTCC). This lays the groundwork for fair and transparent rules and principles governing the power trade and also serves as a model for other subregions.

The operationally independent RPTCC is composed of national representatives who report to GMS ministerial conferences and their respective national governments. It is charged with finalizing a Regional Power Trading Operating Agreement to specify the rules for regional power trade, providing proposals for its day-to-day management and coordination, setting priorities to achieve these objectives, and identifying the steps needed to implement regional trade. In January 2006, RPTCC established a focal group to coordinate implementation of the Regional Power Trading Operating Agreement in each GMS country. In June 2006, it established a working group to carry out activities such as establishing training needs, pricing rules, and technical standards in the subregion.

In telecommunications, an information superhighway network (ISN) implementation group composed of telecommunications operators from GMS countries was established in 2005. It was tasked with developing a GMS ISN through fiber optic interconnections. An ISN Steering Committee, composed of senior officials of GMS telecommunications agencies, was also established in the same year to coordinate and oversee the ISN's development. A memorandum of understanding (MOU) for its planning and construction was signed in 2005. The GMS has also established a Subregional Telecommunications Forum.

In the tourism sector, the GMS is implementing a strategy study and has established the annual Mekong Tourism Forum. This seeks to prioritize tourism projects and facilitate travel, notably by issuing GMS-wide visas.

In addition to the various sectoral forums, a GMS Business Forum has been established to promote private investment in GMS countries. A strategic framework for action on trade facilitation and investment has also been adopted. The GMS has also made good progress in

involving the private sector. For instance, national chambers of commerce participate in GMS programs.

While the GMS needs to improve its policies and institutions, it is in many respects a role model for subregional infrastructure cooperation in Asia.

The **IMT-GT** institutional set-up is modeled on ASEAN's, with multitiered meetings of heads of state and government, ministers, senior officials, governors and chief ministers, and working groups. The private sector plays a prominent role through the joint business councils. Six working groups, including ones focused on infrastructure and transport, help drive its programs and activities. ADB, which has been a key development partner of the IMT-GT since 2006, provides capacity-building support, helps mobilize technical and financial resources, and helps promote an enabling environment for private sector development.

In **BIMP-EAGA**, the Senior Officials and Ministers Meeting provides the strategic directions and general policy guidelines. Top-level summits also occur. Infrastructure programs focus on promoting greater mobility of people, goods, and services in the aviation and maritime sectors, with ADB as the development adviser. In 2007, members signed an MOU on promoting the cross-border movement of commercial buses and vehicles, and establishing efficient and integrated sea links in the subregion (BIMP-EAGA 2009a, 2009b).

Central Asia

CAREC, as an informal forum, acts mainly as an advisory group, but the participation of regional and international financial institutions helps put financial resources at its disposal. It also provides a de facto regulatory function through its establishment of an electricity regulators' forum.

Central Asia has abundant but very unevenly distributed energy resources and thus has great potential for regional trade, as discussed

in Chapter 2. CAREC's vision is to enhance energy security through cross-border energy projects. But despite the potential for energy cooperation, national policies have so far favored self-sufficiency and import substitution rather than regional trade. Physical connections such as pipelines, power lines, rail links, and storage facilities are often inadequate. Sluggish economic growth has also hampered countries' ability to pay for energy imports.

Some efforts are being made to tackle these issues. The CAREC Members' Electricity Regulators' Forum has been set up to enhance regulatory capacity by sharing experience and promoting harmonized approaches to common issues. Intraregional power transmission lines are being rehabilitated, and load dispatch centers modernized. The PRC has signed a bilateral MOU with Mongolia to import around 10 gigawatts of coal-fuelled power. A transmission line to export power from Afghanistan to Tajikistan is planned. A 1,700 km gas pipeline from Turkmenistan to Afghanistan and Pakistan, a \$3.2 billion project, is also planned.

The CAREC mandate has been shaped by the GMS experience, which has also influenced its institutional framework (Appendix Figure A4.3). Its secretariat is the CAREC unit at ADB. Sectoral coordinating committees have been established for transport, trade, and energy development. The trade committee spearheads trade facilitation efforts, but progress varies across countries in the region. The energy committee leads efforts to improve suppliers' financial viability and to ensure the sustainability of services; guarantee low-income people access to minimum quantities of energy at affordable prices; restructure and commercialize the energy sector to promote private sector participation and investment, greater competition, regional trade, and greater transparency and efficiency; and improve regulation, energy conservation, environmental protection, and the promotion of alternative and renewable energy sources. CAREC has a great deal of promise, but it has yet to live up to its potential.

SECSCA is an informal institution that aims to promote transport connectivity and facilitate the movement of goods and people across South and Central Asia.⁶⁰ With ADB's technical assistance, a plan for two transport corridors, north-south and east-west, was formulated in 2006 (Asia Regional Integration Center 2009). But, due to the continuing conflict in Afghanistan, scarcely any progress has been made.

South Asia

South Asia is one of the least integrated of Asia's subregions, and regional cooperation has made limited progress. While there is great potential for expanding trade within the subregion, this would require a large investment in physical cross-border infrastructure, many policy and institutional changes, and strong political and economic commitment that is not yet forthcoming. Among its institutions, SAARC is a formal institution that operates at the summit level, whereas BIMSTEC and SASEC are informal forums, operating at the summit and senior official levels, respectively.

In 2004, **SAARC** members pledged to strengthen transport, transit, and communication links across the region. SAARC has a Secretariat that coordinates and monitors the implementation of SAARC activities, provides support for SAARC meetings, and interfaces with other international organizations. Regional cooperation is guided by the Integrated Program of Action, consisting of technical committees in various areas, including transport, energy, ICT, and tourism. Working groups in key sectors also guide the regional cooperation agenda.

Major decisions are taken at ministerial meetings, followed by top-level summits. Foreign ministers meet at least twice a year as a Council of Ministers to formulate policy, review progress on regional cooperation, and identify new areas of cooperation. SAARC also has a Standing Committee, comprised of the foreign secretaries, to monitor and coordinate cooperation programs, approve projects (including

⁶⁰ Its members are Afghanistan, Iran (observer), Pakistan, Tajikistan, Turkmenistan (associate), and Uzbekistan.

their financing), and mobilize regional and external resources. It meets as often as necessary and reports to the Council of Ministers. In April 2007, it established an intergovernmental group on transport to identify and develop projects based on the SAARC regional multimodal transport study recommendations and to draft agreements required for implementing them. In 2008, SAARC transport ministers agreed to negotiate a regional transport and transit agreement and a regional motor vehicles agreement.⁶¹ An agreement on the establishment of a South Asian Regional Standards Organization was signed in August 2008. Twelve products of high trade potential have been identified for the harmonization of standards (Sharma 2009).

BIMSTEC aims to combine the “Look West” policy of Thailand and ASEAN with the “Look East” policy of India and South Asia. Ministerial meetings, followed by summit-level meetings, are its highest policy-making bodies. Senior officials’ meetings look after its operations. BIMSTEC has 13 priority sectors, each with an expert group drawn from member countries. These coordinate, monitor, and review progress in implementing projects and report on the same to the Sectoral Committee. Since BIMSTEC does not have a full-fledged secretariat, its working group in Bangkok acts as a mini-secretariat and coordinator. ADB became BIMSTEC’s development partner in 2005 (BIMSTEC 2009).

In **SASEC**, which is an informal forum, sectoral working groups have been established with ADB providing technical assistance. Country advisers, comprising finance secretaries from the four countries, form the steering and decision-making body. The senior officials’ meeting is the highest decision-making body.

The Pacific

The **PIF**, consisting of 17 member countries, is the main political and economic organization in the region. Among its priorities are the development of efficient transport and communications, and it

⁶¹ Declaration of the 15th SAARC Summit, Colombo, 2008.

has programs covering sectors such as air and sea transport, energy, and communications, supported by ADB. Members also cooperate on a regulatory advisory service, cable networks and satellite hubs, and developing cross-border trade facilitation and cruise ship infrastructure.

PIF leaders meet annually to develop collective responses to regional issues. The PIF has no formal rules governing its operations or the conduct of its meetings. Its agenda is based on reports from its Secretariat and related regional organizations and committees, as well as other issues that members wish to raise. Leaders' decisions are reached by consensus and are outlined in a PIF communiqué, from which policies are developed and a work program is prepared (PIF Secretariat 2009).

So far, however, regional cooperation has been limited and implementation poor, with the exception of PASO (see Box 4.2). Institutional capacity is a problem, as is a preference for national approaches over regional ones. ADB's assistance has been largely project specific and so far has had limited impact.

Lessons Learned

Experience from Asia's subregional programs provides some important lessons for regional cooperation:

- Subregional infrastructure has developed faster in some subregions, such as the GMS, than in others, such as South Asia. Much remains to be done to improve connectivity in these subregions. Since it is a bottom-up and market-driven approach, progress is slower where it is not driven by growing trade relations—and a lack of cross-country infrastructure is, in turn, slowing the growth of regional trade.
- Institutional arrangements and policies are weak in most subregional programs. All institutions are informal except for ASEAN and SAARC, which are not primarily involved in regional infrastructure development. The main constraints include: (i) inadequate legal and regulatory frameworks,

Box 4.2. Pacific Aviation Safety Office

In very small Pacific island countries that rely on tourism and air links for trade and social connections, modern and soundly regulated aviation is essential. But because they have limited funds and a shortage of skilled personnel, regional cooperation is an effective and cost-efficient way of regulating and supervising aviation.

The Pacific Aviation Safety Office (PASO) was established in 2002 and formalized under international law in 2005 by the Pacific Islands Aviation Safety and Security Treaty. Original signatories were Kiribati, Papua New Guinea, Samoa, Solomon Islands, Tonga, and Vanuatu. PASO is governed by a council of directors comprising representatives from each member country and associate members. PASO members now also include Australia, Cook Islands, Fiji Islands, Nauru, New Zealand, and Niue. ADB, the Association of South Pacific Airlines, the US Federal Aviation Agency, the International Civil Aviation Organization, and the PIF Secretariat are associate members.

A nonprofit international organization, PASO is responsible for overseeing regional aviation safety and security for its members. Its core responsibilities include flying operations, airworthiness, security, airports, and personnel licensing. Its primary long-term goal is to improve the quality and range of services by standardizing the aviation operating environment using harmonized legislative and regulatory frameworks, ensuring compliance with Civil Aviation Administration rules through airline recertification, institutionalizing annual audits and inspections using local regulations and International Civil Aviation Organization Standard and Recommended Practices, and providing technical assistance and capacity building. To enforce these standards, PASO appoints five regional professionals to provide advisory, certification, and surveillance services to national aviation authorities, and to monitor compliance with international standards.

The cost of establishing PASO was \$2.4 million, of which \$1.9 million was borrowed from ADB and the rest of which was shared by PASO member countries in annual membership fees. The loan from ADB was guaranteed equally by Papua New Guinea, Samoa, Tonga, and Vanuatu. For its operation and maintenance expenses, PASO uses its revenues, a 10% premium on service fees from members that are not guarantors, and aid agency and industry support.

PASO brings substantial benefits to its stakeholders: improved civil aviation administration for member governments, lower regulatory compliance costs for 40 air transport operators with nearly 4,000 licensed personnel, and greater safety and security for air transport passengers. Indirectly, the tourism industry benefits from increased and more reliable arrivals and departures. With its clear and enforceable standards, harmonized regulations, risk sharing among its members, innovative structure, and intergovernmental finance, PASO helps provide effective and cost-efficient safety oversight services in the Pacific. It may grow as other countries join the organization and use its services.

Sources: PASO website (<http://www.paso.aero/>); Guild (2008).

- (ii) weak governance and institutional capacity, (iii) low operational efficiency and complex procedures, and (iv) insufficient mechanisms for regional cooperation.
- Cooperation is easier when few countries are involved, they have common objectives, and they have reasonably good relations. The GMS has made the most progress, notably on physical infrastructure connectivity. While some progress has also been made on software issues, the GMS still needs to strengthen its institutional capacity and policy coordination. In particular, further work is needed on the agreements, frameworks, rules, and regulations that support the efficient use of regional infrastructure, notably the GMS's CBTA.
 - The GMS has gone furthest in creating subregional regulatory frameworks and policies, with transport and energy as priorities. These are closely connected to ASEAN's regional integration activities, and focus on technical aspects. However, most regional projects are approached on a case-by-case basis. Further progress in developing subregional regulatory frameworks, policies, and institutions depends on members' willingness to participate, the demand created by cross-border trade and investment, and applicable ASEAN frameworks.
 - The GMS's CBTA is a very important step towards harmonizing the software relating to use of infrastructure and infrastructure services. It could provide a template for other Asian subregions and eventually for a pan-Asian transport infrastructure network, too.
 - The GMS has developed financial and institutional arrangements for regional power trade involving the private sector. This model could be useful for other projects in the GMS, as well as for other subregional programs, particularly in South and Central Asia. Outstanding issues in the GMS include broadening cooperation from electricity to energy more generally; adopting a road map for developing a regional energy market; and enacting more effective social and environmental impact assessments and corrective measures, especially related to hydropower projects.

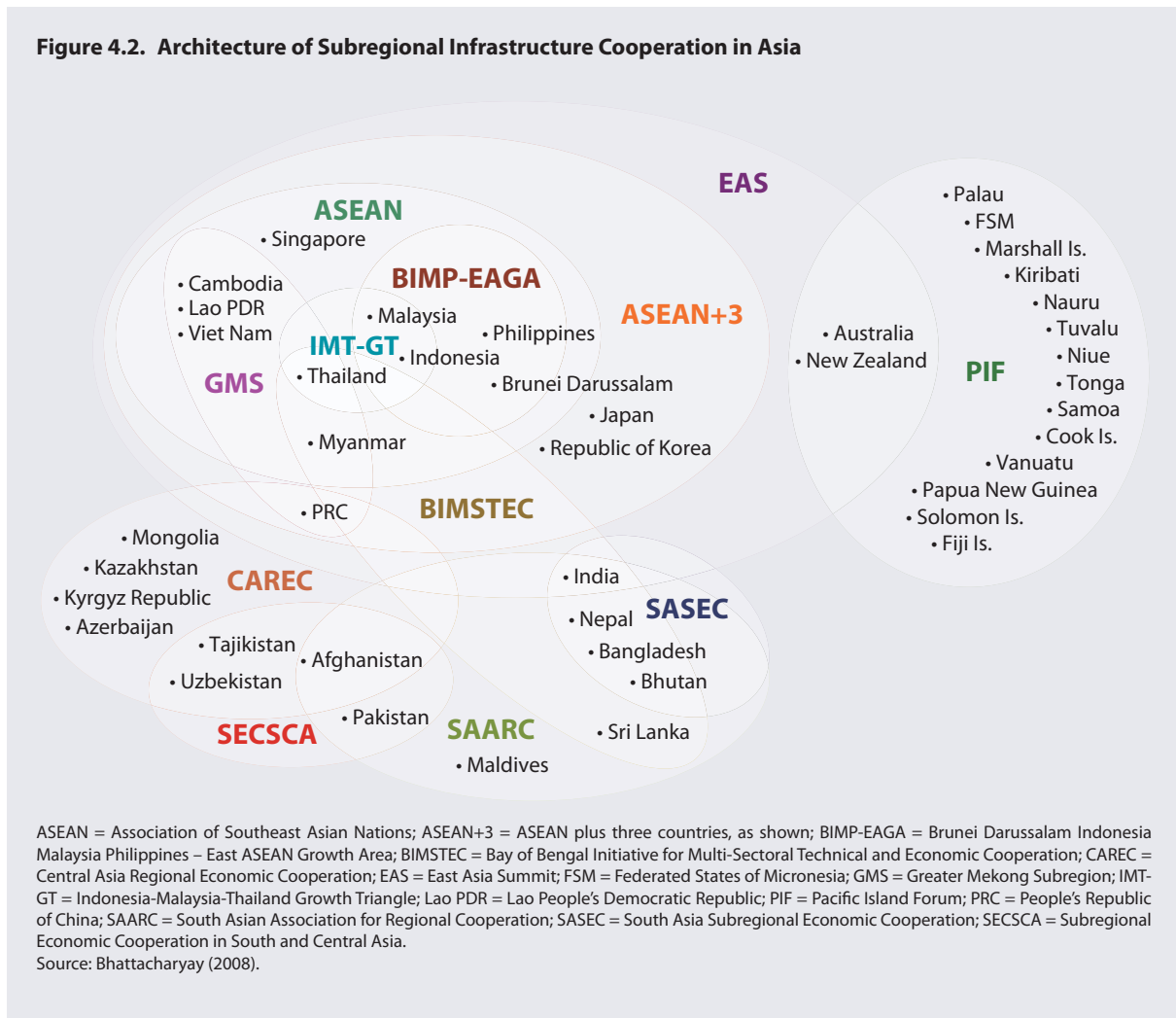
- Policies and institutional arrangements in all subregional programs urgently need to be strengthened. GMS programs work for a diverse group of countries; its best practices can therefore be adopted by other subregional programs, with appropriate changes to suit their particular needs.
- To encourage private sector participation and cross-border investment flows, Asia could formulate a comprehensive investment agreement, as ASEAN has, to extend national treatment to foreign investors.

4.4. Addressing the Major Challenges

Asia has so far followed a flexible, pragmatic, informal, and bottom-up approach to regional infrastructure cooperation. As this chapter has detailed and Figure 4.2 illustrates, it has many overlapping subregional cooperation programs. This approach reflects Asian economies' diversity in size, development level, population, per capita income, trade patterns, technical capacity, and other socioeconomic features. It also reflects political realities, with some countries and subregions more willing to cooperate than others. Since subregions have differing needs and different propensities toward regional integration and cooperation, a subregional approach towards building a seamless Asia is needed.

Asian experience shows that infrastructure cooperation in small groups of countries is more manageable and thus likely to progress faster. For example, even though progress has been achieved in the signing and ratifying of the intergovernmental agreement by participating countries for the AH, the progress of the physical construction works (e.g., missing links, upgrading, and border connections) has been rather limited. Since the AH agreement was enforced in 2004, there have been some achievements in upgrading the AH network, such as the upgrading of 10,000 km of the network to meet minimum standards

Figure 4.2. Architecture of Subregional Infrastructure Cooperation in Asia



(Class III).⁶² However, much still remains to be done. Particularly, there is still 12,000 km (or 9% of the network) that remains below the minimum standard. The majority of the highways meet Class II and Class III standards, accounting for 37% and 25.8% of the total network, respectively. Meanwhile, shares of Primary or highest standard and

⁶² The AH is classified into four technical classes. “Primary” class refers to access-controlled highways. “Class I” refers to four or more lanes roads with asphalt or cement concrete pavement. “Class II” highways have two lanes with double bituminous treatment. “Class III” is regarded as the minimum standard, where the pavement is upgraded to asphalt concrete or cement concrete.

Class I standard highways are rather low—14.4% and 13.5% of the total network, respectively (Ha 2008).

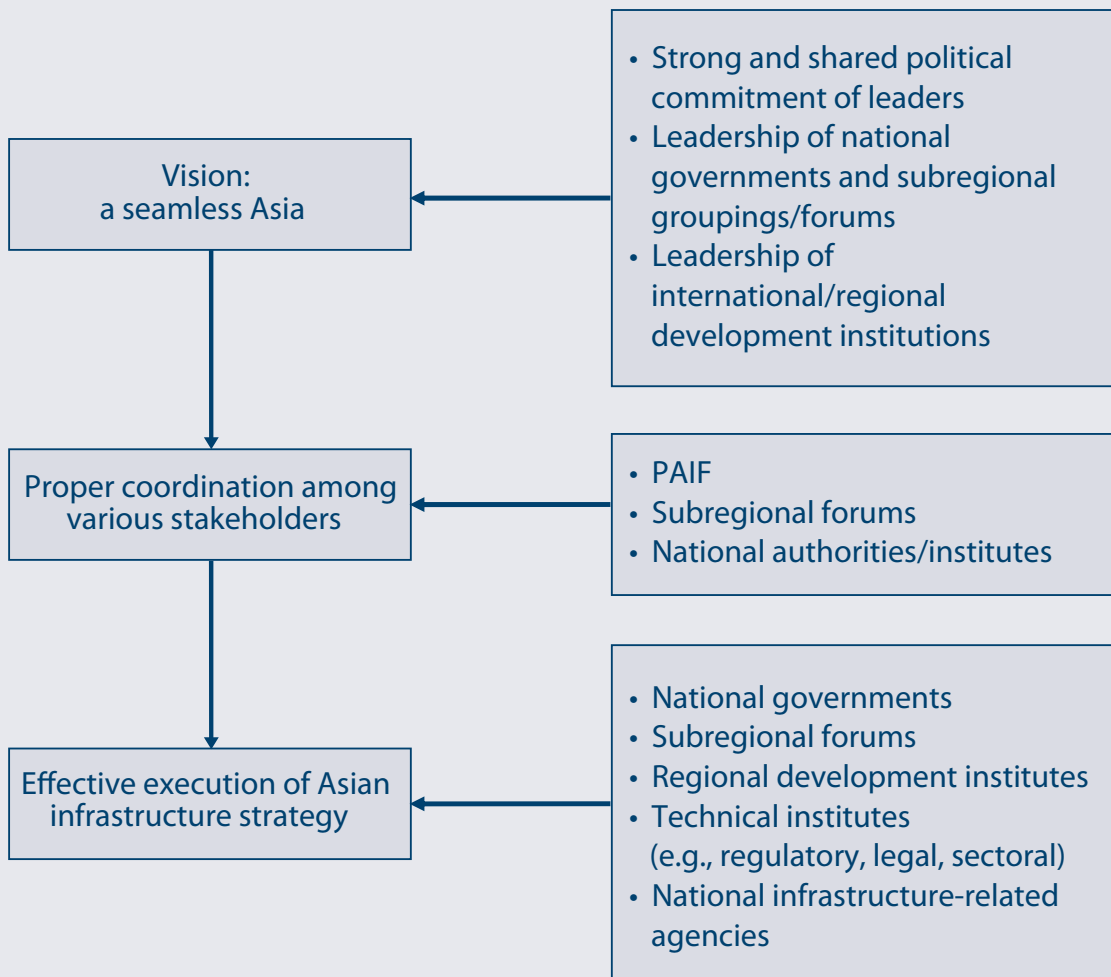
Interestingly, some subregional programs, notably the GMS and CAREC, are adopting and implementing some AH projects within their subregions. Since building a seamless AH network involves building missing links, as well as enhancing existing roads to international or regional standard within and between countries, this could be achieved through existing subregional programs acting as building blocks of a pan-Asian infrastructure network. This allows each subregional program to proceed at its own speed, based on its own priorities and needs. However, given the immediate imperative of stimulating regional growth and the medium-term need for Asia to rebalance its economic activity and direct more of its energies towards satisfying local needs, this bottom-up and market-driven approach may now need to be complemented with a more top-down, market-creating, and demand-inducing approach geared towards creating a seamless Asia. The key factors for success include a common vision, multilayer coordination among stakeholders, and effective implementation of infrastructure programs. The required policies and institutions are sketched out below.

Pan-Asian Vision

Achieving a seamless Asia requires that its leaders agree on a common vision, recognizing the urgency of further Asian integration through physical connectivity and regional cooperation. It also requires strong leadership and commitment. This leadership could emerge in various ways. The collective decisions of large and strong regional groupings or forums, such as ASEAN+3, the East Asia Summit (ASEAN+6), and the Asia-Pacific Economic Cooperation, could provide the leadership for this vision as well as the top-down political push for a seamless Asia. ASEAN has provided strong leadership in building physical connectivity to support its vision of ASEAN economic integration. Leaders of major Asian economies could also provide leadership, as the presidents of Brazil and Mexico did in the cases of IIRSA and PLPP, respectively. In Europe, France and Germany provided the

leadership and political push for infrastructure integration as part of a more explicit drive toward economic and political integration. Leading regional and international institutions representing Asian countries could also carry forward the vision of a seamless Asia (Figure 4.3).

Figure 4.3. Policy and Institutional Framework for a Seamless Asia



PAIF = pan-Asian infrastructure forum.
 Source: Bhattacharyay and De (2009).

Toward a Coordinated Infrastructure Strategy: Pan-Asian Infrastructure Forum

In addition to strengthening national and subregional infrastructure strategies, sectoral policies, and institutions, Asia requires a broad, coordinated, regionwide infrastructure strategy, including policies in key sectors, such as transport and energy, for building a seamless Asia. These national, subregional, and regional policies need to provide coherent support for regional infrastructure development.

Developing regional infrastructure is a lengthy, expensive, and very complex process that involves many interdependent facets and stakeholders. Asia should therefore establish a new high-level platform for pan-Asian coordination, namely a PAIF, to help coordinate and integrate existing subregional infrastructure initiatives toward a seamless Asia. The PAIF would bring together representatives (senior policy makers) of all subregional programs in Asia and their member countries; managers of leading private companies; as well as representatives from major international and regional institutions that fund regional infrastructure projects, such as ADB, the World Bank, and the Japan Bank for International Cooperation (JBIC)/JICA, and that coordinate regional infrastructure, such as the Asian-Pacific Economic Cooperation, ASEAN + 3, East Asia Summit, and UNESCAP, to discuss and push forward plans to improve connectivity within and among Asia's subregions. The policy and institutional framework for a seamless Asia is depicted in Figure 4.3.

The PAIF's role could include, among other things:

- assisting, in liaison with regional financial and development institutions, in the formulation of a coordinated Asian regional infrastructure strategy, including energy and transport policies;
- identifying regional infrastructure projects and prioritizing the development of regional infrastructure networks;
- facilitating consensus building among participating countries;
- managing coordination and building cooperation among stakeholders;

- providing a platform for small and poorer Asian countries whose voices might otherwise not be heard;
- exchanging relevant information and experiences, and thus reducing information asymmetry among various stakeholders;
- conducting research, sharing knowledge and best practices, and assisting in capacity building on regional infrastructure issues;
- producing harmonized standards, based on international best practices where possible; and
- developing a common approach to mitigating negative social and environmental impacts.

The PAIF would need to work closely with an advisory group of experts who have a regional vision of Asia's infrastructure needs and who can identify and appraise prospective regional projects. To varying degrees, the EC performs this role in the EU, as does IIRSA in South America, while for the GMS, CAREC, and SASEC, ADB experts have provided assistance.

Sectoral subforums could also be established—for transport and energy, for instance—as well as subforums for soft infrastructure matters such as regulatory and legal issues as well as environmental and other social issues. Regulatory forums, such as the East Asia and the Pacific Infrastructure Regulatory Forum and the South Asia Infrastructure Regulatory Forum, already exist at the subregional level.

Formulating strategies and policies requires compiling and disseminating comparable cross-country statistics on infrastructure and other important data. This may require new institutional arrangements and capacity building. For example, an Asia Regional Infrastructure Information Center may need to be established.

In addition to developing a strong coordination framework at the regional level, efforts should be made to strengthen coordination at the national level, particularly in large economies, as well as subregionally among key stakeholders. In particular, Asia's mostly informal subregional arrangements would benefit from becoming

more formal institutions with greater ability to ensure that decisions are implemented.

Implementing the Strategy

To implement the coordinated infrastructure strategy, five major institutional challenges need to be addressed: aligning legal and regulatory frameworks, developing effective governance, managing social consequences and promoting environmental sustainability, engaging the private sector, and engaging regional and international institutions. Overarching all of them is the need to strengthen institutions and their capacity to build and manage regional infrastructure. Since Asian countries' capacities in infrastructure development vary significantly, an external party is needed to provide technical assistance. In the EU, the EC performs this role, while in Latin America, a variety of institutions do. In Asia, ADB could perform this task, as it already does in the GMS and CAREC.

Aligning legal and regulatory frameworks. In many Asian countries, regulations are often weak and patchy. Many economies lack the sound institutional structures needed to implement regulatory and legal policies. On a micro level, regulatory regimes in developing countries suffer from considerable deficiencies in management, often lacking skilled human resources (Stone 2008). This institutional weakness is further complicated by the inability, or unwillingness, of regulators to commit to some types of reform that would promote greater predictability, especially in countries with unstable political structures that lead to frequent changes in government and where contracts are not protected by law.

Asian countries therefore need to adopt a coherent strategy to liberalize, strengthen, and harmonize their legal and regulatory frameworks, focusing in particular on transport and transit systems and on customs procedures. Domestic regulatory procedures and institutional structures based on Asian (for example, ASEAN) and international (for example, EU) best practice models can improve transparency, reduce costs and time, and introduce professionalism in

border clearance procedures. Streamlining regulations on technical barriers and liberalizing transport, energy, and telecommunications regimes can also facilitate trade and integration. Collective action to raise capacity in regulatory systems would help facilitate regional infrastructure projects.

Regulations and procedures should be simplified and harmonized to comply with global standards, where possible. For instance, to streamline the administrative formalities of cross-border transport, Asian subregions may need to adopt transit arrangements that follow international conventions and guidelines.⁶³ In the case of customs procedures, the World Customs Organization and the International Chamber of Commerce may provide guidance. In some cases, differing established standards make cross-border infrastructure impractical—in the case of different railway gauges in neighboring countries, for example. In such areas, there is scope for subregional guidelines on coordinating diverse standards, which could be drafted by regional bodies such as ADB, ASEAN, and UNESCAP. Member countries need to work together to set up common technical specifications, licenses, insurance, safety standards, and so forth, so that equipment (such as trucks, trains, and ships) can operate across borders.

Developing effective governance. Greater accountability and disclosure in agencies involved in infrastructure development can reduce the risks associated with poor governance. Transparent and accountable decision making coupled with anticorruption measures is vital. Strong and independent audit offices and anticorruption commissions also help strengthen good governance. To enhance credibility, there is a need to ensure that concerned agencies and other stakeholders follow best international practices (for instance, OECD principles).

Managing social consequences and promoting environmental sustainability. Asia's current policy and institutional framework does not adequately address the potentially negative social and environmental

⁶³ For example, the convention on the international transport of goods under cover of Transport International Routier Carnets, which was made in 1975 under the auspices of the United Nations Economic Commission for Europe.

impacts of infrastructure development, such as the displacement of people from their land, urbanization pressures from migration to big cities, increases in the incidence of communicable diseases, human and drug trafficking, and traffic accidents—not to mention the impact on the local and global environment. This needs to be dealt with in the context of the regional forum, PAIF. This is not just an issue of sustainable development; it can also create strong popular opposition to projects, as happened in Central America with the PLPP initiative as discussed in Section 4.2, particularly the subsection on Latin America's experience.

A thorough assessment of a regional project's social and environmental impacts must always be conducted before it is built. While some negative impacts are unavoidable, others can be mitigated through a different choice of route or project design, or through appropriate compensation for losers, notably people displaced from their land. Strict environmental impact assessments and strategic impact assessments are needed for very large projects. These should review the planning, legal, regulatory, and institutional frameworks within which the project will operate and suggest corrective actions where needed.

Some achievements in addressing social issues have been made in the GMS. For example, an MOU signed in 2004 sought to adopt a coordinated initiative against human trafficking—a model that other subregions could follow. But while some resettlement plans have been regionally coordinated (albeit on a project-to-project basis), no regionwide framework for resettling displaced people exists, and thus each country has to come up with its own policy. Subregional programs urgently need to develop solid, coordinated measures to mitigate the negative social impacts of infrastructure development, which are often inadequately addressed even at the national level. This calls for the creation of specific institutions with the necessary expertise and resources to provide better resettlement policies for displaced people, to assist and train migrant laborers, and to help foster better economic opportunities. The capacity of existing national institutions for dealing with such issues also needs to be strengthened (Chalamwong and Komkit 2008, Zhang 2008a).

Given their long life span, infrastructure investments' environmental impacts get locked in for decades to come. If current carbon-intensive development patterns persist, the region will find itself increasingly contributing to global climate change, with rising negative consequences for the region and the world. This is particularly important for Asia, which is poised to build substantial new infrastructure over the next few decades. A clean approach—integrating economic and climate change concerns—is needed to develop and implement sustainable infrastructure at the national, subregional, and pan-Asian levels. In relation to regional infrastructure, the focus should be on energy and transport, the principal sources of greenhouse gas emissions in the region. Regional cooperation in the area of energy can also help the region move to a low carbon growth path by promoting trade in clean energy.

In view of Asia's rising energy requirements and the need for energy security and sustainability, a regional initiative to build green energy networks is urgently needed. Regional energy projects can provide cost savings and deliver environmental benefits by reducing local pollutant and greenhouse gas emissions through the use of hydropower and natural gas in place of coal and oil, as well as through carbon sinks from the maintenance of land and forest coverage. For instance, the Trans-ASEAN Gas Pipeline proposed in ASEAN's vision for 2020 would link natural gas production centers with markets in neighboring countries. By creating cross-border connections between national gas grids, it would also provide a cheaper, cleaner, and more efficient alternative to traditional diesel-fired plants, encourage competition among suppliers, and promote the development of stranded gas fields whose small size does not currently justify production (Zhang 2008b). Such green regional projects should be prioritized and implemented rapidly. Their success could provide good models for future projects.

Since transport infrastructure can have many negative environmental impacts, green transport initiatives need to be promoted. These would support sustainable economic development through a transport system that leaves a smaller physical footprint, uses less energy, and produces fewer pollutants and less carbon dioxide. In the PRC, policies are being considered to improve the efficiency of road

cargo transport and to enhance energy saving and emission reductions in the highway industry (ADB 2008e). Box 3.2 in Chapter 3 discusses how the GMS transport corridors could be greened. Other important environmental issues include land-use change, the loss of vegetation and biodiversity, and the impact on wildlife (Zhang 2008a).

Engaging the private sector. To meet the growing challenge of investment in regional infrastructure, Asia has to encourage private investors to fund and provide infrastructure facilities. The EU has sought to pursue PPPs to develop regional infrastructure. But this is particularly challenging, as will be described in Chapter 5, and generally requires multilateral institutions to take on some of the risks involved. Asian countries therefore need to create policies and procedures that encourage private investors to fund and provide efficient infrastructure facilities. Following the examples of the EU and ASEAN, Asia could formulate a regional infrastructure investment agreement to protect cross-border investment and provide national (equal) treatment to all investors in the region. This would also create a more liberal, transparent, and competitive investment environment in Asia. Governments should also develop and implement policies and regulations that make it easy to establish regional infrastructure-related businesses, along the lines of the “European companies” that exist in the EU, and remove barriers that may hinder profitability and competitiveness.

Engaging regional and international institutions. Multilateral institutions such as the ADB and World Bank have important roles to play in developing regional infrastructure (Kuroda et al. 2008).

- As **financiers**, they can provide loans and other risk mitigation instruments, such as guarantees, and help mobilize resources from other development partners, including the private sector.
- As **knowledge partners and technical advisers**, they can provide expert advice, share lessons learned regionally and globally, and tailor knowledge to countries’ specific needs and conditions.
- As **capacity builders**, they can help developing countries and regional or subregional bodies to strengthen their institutional

and human capacities to manage cross-border infrastructure, particularly financial management and supporting software and institutional aspects.

- As **honest brokers**, perhaps most importantly, they can play a catalytic role, bringing countries and other stakeholders together and facilitating dialogue so that countries can reach political convergence to strengthen cross-border connectivity.

In Asia, ADB is the major organization that has been actively involved for a long period in assisting countries in developing and financing regional infrastructure projects in several subregional programs such as the GMS, CAREC, and SASEC. In view of the ongoing global financial crisis, infrastructure development becomes highly essential and urgent for reviving economic growth and providing jobs. As explained in Chapter 1, many Asian countries have enhanced their infrastructure programs significantly through their fiscal stimulus packages. In most cases, these programs do not involve broad subregional or regional coordination as suggested in this study. At the same time, several countries are facing budget and foreign exchange constraints in financing planned infrastructure programs. At this juncture, the enhanced role of international and regional institutions such as ADB and the World Bank is crucial. They urgently need to increase their financing and their mobilization of capital from cofinanciers, including the private sector, for building Asian regional infrastructure as well as assisting countries in addressing various soft infrastructure issues such as planning, coordination, and capacity and institution building.

4.5. Conclusions

A seamless and integrated Asian economy requires coordinated infrastructure services in key sectors, especially transport and energy. To deliver such services, countries need to develop effective policies and institutions nationally, subregionally, and regionally. These policies, in turn, need to provide coherent support for the complex skills and knowledge required to build and manage infrastructure, including design and development, financing, and maintenance.

Given the geographical and functional complexity of infrastructure, a broad, regionwide approach is needed to guide infrastructure strategy. This report finds that a new PAIF could be especially valuable in coordinating and integrating existing subregional infrastructure initiatives and organizing them into functional building blocks needed to create a seamless Asia. The PAIF could facilitate the formulation and implementation of Asian energy and transport policies. It could also establish subforums in key areas of hard and soft infrastructure development, such as laws and regulation or new construction in sectors like energy and transport.

Although broad regional coordination is critical, national and subregional infrastructure programs will remain the essential building blocks of the infrastructure networks. Thus, Asia needs to strengthen national and subregional policies and institutions for the effective implementation of infrastructure programs. In turn, the technical capacity of various stakeholders at the national, subregional, and regional levels needs to be enhanced through the establishment of a regional institutional network.

The global financial crisis lends urgency to infrastructure development. Many countries are incorporating infrastructure programs in their fiscal stimulus packages—often without the broad coordination advocated in this study. At the same time, many also face tightening budgets and foreign exchange constraints. In this context, international and regional institutions such as the World Bank and ADB have a particularly important role to play. Their contributions to Asian regional infrastructure development can be essential, not only in financing new projects, but also in helping to resolve urgent planning, capacity, and institutional constraints.

An effective, forward-looking Asian infrastructure strategy will require strong leadership. This could emerge in various ways—from the commitments of political leaders of large economies; from collective decisions of regional forums and leading international institutions; or from persuasive, visionary arguments by individuals. In the case of Latin America, the presidents of Brazil and Mexico took the initial step. In Europe, infrastructure integration emerged as part of a more general

drive toward comprehensive economic and political integration under the leadership of France and Germany. But in each case, leadership was essential in “getting the ball rolling” and in empowering institutions to carry it forward.

Ultimately, the political commitment of national leaders is indispensable. Many competent institutions will be needed to implement the technical requirements of any ambitious, pan-Asian infrastructure program. But only leaders with foresight will be able to sustain the vision of a seamless Asia and motivate the large investments of creativity, energy, and money that will be required to achieve it.