

# Chapter 6

## Infrastructure for Equitable Economic Development

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## **6. INFRASTRUCTURE FOR EQUITABLE ECONOMIC DEVELOPMENT**

Infrastructure is a key factor in economic development. Infrastructure development can also help in narrowing development gaps between developed and laggard regions. Infrastructure, especially transport and connectivity, is crucial for regional cooperation and integration. In the absence of efficient physical connectivity, any initiatives taken towards regional trade liberalization will remain ineffective. The ASEAN Secretariat has identified infrastructure development as one of the Priority Integrated Sectors (PIS) of the ASEAN Economic Community. It would also be of crucial importance for programs of regional economic cooperation and integration within the EAS framework. It was in that context that infrastructure development was studied as part of the ERIA work program.

### **6.1. East Asian index of infrastructure development**

Based on estimated scores of infrastructure index for three separate years, we ranked the countries in descending order. As expected, developed countries occupied the top ten positions in infrastructure development, of which one is from North America (USA), two are from Asia (Japan and Singapore) and the remaining seven countries are from Europe. The bottom ten positions are occupied by LDCs from Africa and Asia, such as Myanmar and Cambodia. Developing countries occupy the middle ranks of the ladder. Given the estimated ranks, LDCs and land-locked countries across the world suffer most from infrastructure inadequacy.

Within East Asia (ASEAN+6), we find a heterogeneous group, with Japan, Singapore and New Zealand occupying the top three positions. They, along with Republic of Korea, also rank among the top 15 in the world. Lao PDR, Myanmar and Cambodia occupy the bottom three positions in East Asia. Ten of the 16 East Asian countries successfully increased their global ranking between 1991 and 2005, while the rankings of the other six countries declined.

On the whole the Infrastructure Index reveals a very wide gap in terms of infrastructure availability across the EAS region, a gap that seems to have widened,

rather than narrowed, over time. Hence, infrastructure development in the lagging regions needs to be paid due attention if the regional inequalities are not to widen further. The index could be developed further to analyze the role of other aspects of infrastructure, including social infrastructure, and examine its interactions with other variables of socio-economic development, as well as its role in determining the investment climate.

**Table 6-1: Changing Ranks of East Asian Countries in the world in Infrastructure Development**

	1991	2000	2005
Japan	5	4	2
Singapore	6	2	3
New Zealand	13	12	14
Korea	26	15	15
Australia	7	16	16
Malaysia	37	27	29
Brunei	27	31	36
China	49	43	39
Thailand	43	38	42
India	50	49	51
Vietnam	92	75	61
Indonesia	69	63	62
Philippines	76	65	63
Lao PDR	99	84	92
Myanmar	90	91	95
Cambodia	100	93	98

*Source:* Kumar and De (2008) and RIS (2008).

## **6.2. A regional financing mechanism for infrastructure development**

The East Asian Infrastructure Index reveals very wide gaps in terms of infrastructure availability across the EAS region that seems to have widened, rather than narrowed, over time. Hence, infrastructure development in the lagging regions needs to be paid due attention if the regional inequalities are not to widen further. In order to bridge the infrastructure deficits across the region, a huge magnitude of resources would be needed, an estimated US\$ 200-500 billion per year. On the other hand, the region's

foreign exchange reserves now add up to more than US\$ 3 trillion, far in excess of their bop liquidity needs and that remains invested in western securities, earning negative rates of return in the absence of a regional framework for their fruitful deployment. The Study Group's attention was drawn to an RIS<sup>11</sup> proposal that creation of a regional mechanism to mobilize a very small proportion of these reserves for development of regional cross-border connectivity and other infrastructure would be highly productive. It might also assist in generation of new demand within the region and help reduce global imbalances. The Group felt that this proposal needs to be examined further by EAS policymakers, especially the modalities for operationalizing the regional mechanism through existing regional institutions or creating a new one.

### **6.3. Financing infrastructure development**

The construction of infrastructure and the provision of infrastructure services, including logistics infrastructure, is always costly. The total amount of investment is often enormous, the projects are prone to being exposed to unexpected risks, and the returns on the projects take a very long time to realize, and returns may only be partial due to the existence of externalities. Governments of developing countries well recognize the importance of infrastructure development while facing serious fiscal constraints. Particularly in East Asia, the demand for infrastructure development is huge, despite financial difficulties.

We have to realize that contemporary financial techniques provide various options. In the past, the procurement of infrastructure services was almost automatically taken care of by the government, emphasizing the existence of positive externalities. From the beginning of the 1980s, however, we were under the influence of economic conservatism and tried to minimize the role of government. We thought that whenever possible, infrastructure procurement should be taken care of by the private sector. Such a philosophy certainly enhanced efficiency; however, a number of less developed countries experienced rather substantial delays in infrastructure development. If we only have two polar choices, i.e., 100% public and 100% private, various needs for infrastructure services cannot be met. Since the late 1990s, therefore, the idea of the

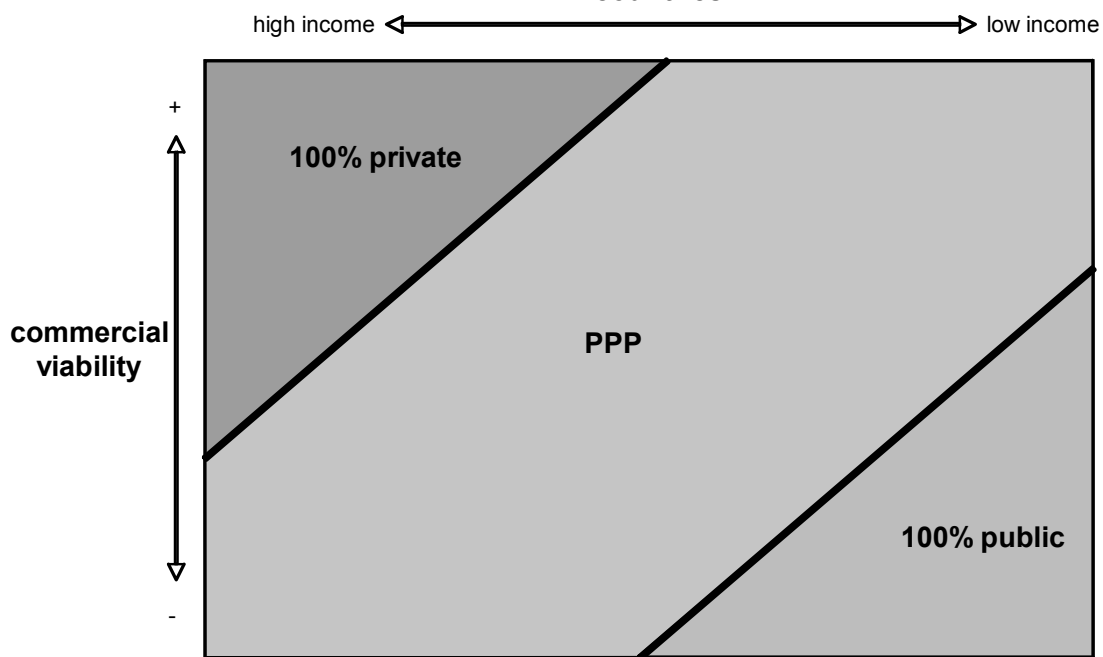
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<sup>11</sup> Research and Information System for Development Countries.

public-private partnership (PPP) has gradually been recognized (Figure 6-1).

In this regard, the outlook for infrastructural improvement in India looks promising. With experience gained in PPPs, formulation of model PPP and concession agreements, infrastructure investments should gain momentum over the coming years. The outlook for infrastructure will depend on how investments in infrastructure are facilitated. Such investments require long-term funding, with long payback periods, which might be appropriate for insurance and pension funds. Thus, success on the infrastructure front will be facilitated by the development of a vibrant bond market, and pension and insurance reforms. A single, unified exchange-traded market for corporate bonds would help create a mature debt market for financing infrastructure.

**Figure 6-1: Infrastructure projects and commercial viability countries**



By Mitsuhiro Maeda.

The PPP, in this context, would design and implement infrastructure development and administrative services with proper cost bearing and risk sharing between the public and the private sectors. Even if a project as a whole is not fully economically viable, the private sector can introduce market dynamism with appropriate involvement of the public sector. Indeed, we recently observed various innovative designs for PPP for infrastructure development in electricity, roads, railways, ports, airports, water supply

and sewerage, various public services, etc..

The key is to properly design the project in terms of the crude design, ownership of assets, operation and maintenance, finance, implementation risks, etc. Once the mechanism of the PPP is effectively employed, we can utilize various financial resources, including both official development assistance and hard commercial loans, which are available for developing countries. The development of a revenue bond mechanism would also be an effective initiative for circulating Asian financial resources for our own development.

#### **6.4. An East Asian Infrastructure Development Committee for sharing best practices and promoting regional cooperation**

Our country studies on infrastructure (China, India, Indonesia, Lao PDR, Malaysia, Singapore, Thailand and Vietnam) highlight a number of issues, experiments and challenges faced by EAS countries in terms of developing infrastructure. Raising resources, the relative roles of the public and private sectors, models of public-private partnership (PPP), institutional and regulatory capacity, regional inequalities, development of rural infrastructure, and cross-subsidization of infrastructure delivery, policy issues or soft infrastructure that includes regulations and procedure with regard to customs valuation, cabotage rules, conformity assessment procedures, are just some of the relevant issues.

Given the richness of experiments, there is tremendous scope for learning from each other and sharing developmental experiences across EAS countries, e.g. development of ASEAN's single window, Indian experiences in funding of highway development program in India through imposition of cess on petroleum sales, Japanese experiences in modernizing its transportation sector, experiments with respect to viability gap funding for PPP in India, et al. The Study Group, hence, recommends establishment of a structured dialogue between infrastructure, especially transport, authorities of EAS countries to facilitate mutual cooperation and sharing of development experiences and expertise for capacity-building. This mechanism or the East Asian Infrastructure Development Committee could report to Meetings of EAS Infrastructure and Transport Ministers.