

VI. CHANGING DELIVERY MECHANISMS

A. Background and infrastructure investment needs

Lack of physical infrastructure is one of the main barriers to poverty reduction and ensuring equitable access to basic services in ESCAP member countries. Consequently, infrastructure development and investment has a significant role to play in stimulating economic growth, reducing the incidence of poverty and increasing access to basic services.

In many cases, investment in infrastructure delivers high economic and social returns. For example, economic returns on some road-related investment projects average over 200 per cent. Furthermore, the returns are much higher in low-income countries than in middle-income and high-income countries.

According to ESCAP estimates, developing Asia and Pacific countries will need to spend more than a trillion US dollars over the period 2005–2015 on roads, water, communications, power and other infrastructure to meet the strong growth in populations and economies or US\$ 224 billion per year (Table VI-1). US\$ 262 billion is per year is required for developed and developing countries in the ESCAP region. Approximately 65 per cent of this amount will take the form of new investments, with the remaining 35 per cent used towards the maintenance of existing infrastructure assets — which can be an equally, and sometimes more, cost-effective way of meeting the increased needs as a result of economic and population growth.¹

Table VI-1. Estimates of average annual investment needs in the transport sector, 2005–2015

(Billions of 2004 United States dollars)

Transport subsector	Developing Asian and Pacific countries		ESCAP region	
	2005–2010	2010–2015	2005–2010	2010–2015
Roads	161	206	185	231
Railways	7.7	8	8.8	9.3
Airports	8.7	11	14.6	18.5
Container ports	2.3	3	2.5	3.6
Urban mass transit	15.6	24	20.4	29.8
Total	195	253	231	292
Annual average (2005–2015)	224		262	
All infrastructure	609		NA	

Source: ESCAP, *Enhancing Regional Cooperation in Infrastructure Development Including that Related to Disaster Management*, United Nations Publication, Sales No. E.06.II.F.13, pp. 38 and 140.

Note: Estimates are based on investment needs derived from sectoral studies by ESCAP. More recent data on railway investment needs in China show that the annual average might be even larger than previously expected.

However, these investment needs outweigh the capacity of public resources in a significant number of developing, as well as developed nations. Thus, governments in the region have been looking for alternative models of financing, in particular the participation of the private sector. This chapter examines the role that the private sector already plays in

¹ Asian Development Bank, Japan Bank for International Cooperation (JBIC) and World Bank 2005, *Connecting East Asia: A New Framework for Infrastructure*, viewed on ADB web site, 21 November 2007, <http://www.adb.org>

meeting the demands for transport infrastructure investment and in facilitating the development and management of infrastructure related projects.

B. Private sector financing of transport infrastructure

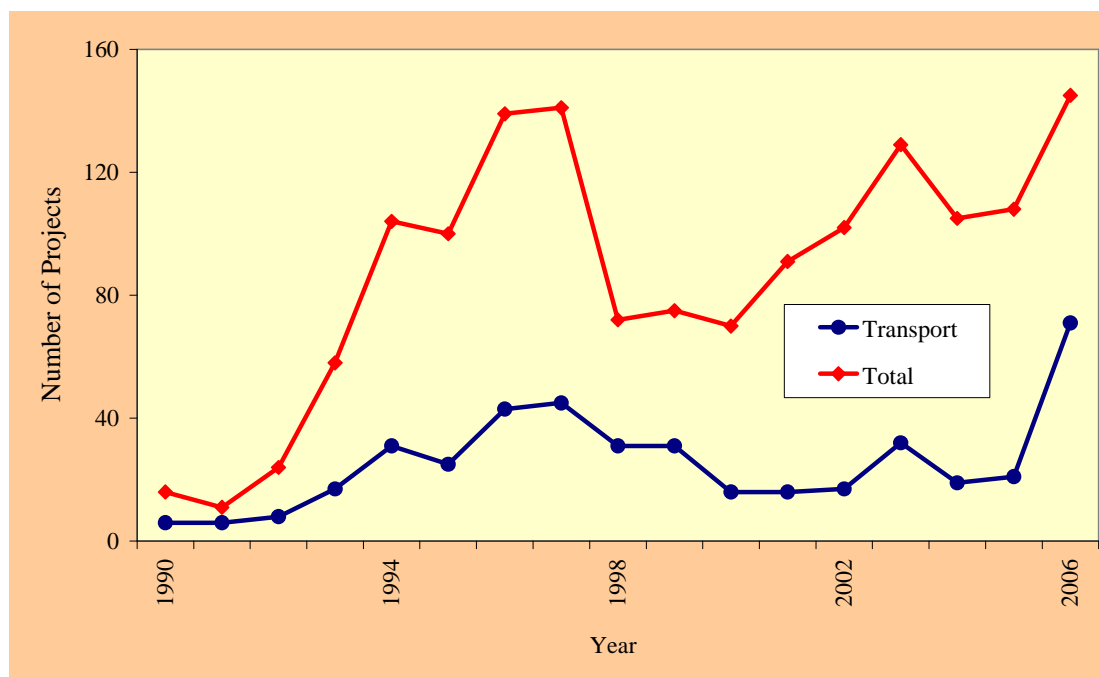
During most of the 20th century, the majority of infrastructure investments were covered by public funds. Since the early 1990s, however, there has been a significant increase in private funding for infrastructure projects in the ESCAP region. This has been due to a number of reasons, including budgetary constraints and an increased focus on short-term expenditure rather than longer-term capital investment.

1. Overview of number and value of projects

Globally, the aggregate value of transport projects that have been completed with private participation between 1990 and 2003 was over US\$ 120 billion, almost half of which were in the ESCAP region.

In ESCAP developing countries, the number of *private participation in infrastructure* (PPI) projects increased rapidly in all infrastructure sectors, including in the transport sector, since the beginning of the 1990s until the 1997 Asian financial crisis (Figure VI-1). The number of PPI projects halved in 1998 compared to the 1997 peak, but in the following years confidence was regained rather quickly. In 2006, there were 145 PPI projects registered in ESCAP developing countries, 71 of which were in the transport sector. In other words, in 2006 there were more PPI projects registered in the region than in the 1997 boom year, roughly half of which were transport sector projects. The significant correlation between the total number of PPI projects and those in the transport sector also shows that general factors rather than sector-specific issues have been main drivers of the increased interest in private sector participation (Figure VI-1).

Figure VI-1 Annual number of infrastructure projects with private participation in ESCAP developing countries, 1990–2006

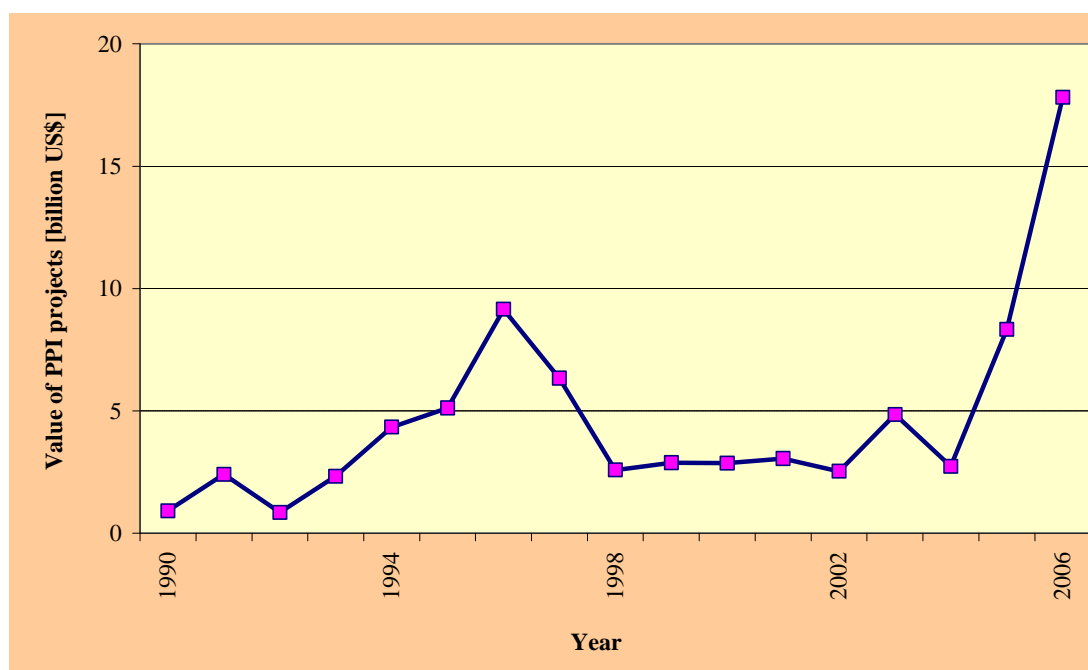


Source: Private Participation in Infrastructure Database, viewed on World Bank web site, 21 November 2007, <http://ppi.worldbank.org/>

The average size of PPI projects in the transport sector of ESCAP developing countries has fluctuated in the range of US\$ 80 – 400 million from year to year. However, the average size of projects has stayed roughly the same at around US\$200 million. For example, the average size was US\$ 250 million in 2006.

Thus, the total value of PPI projects in the transport sector of ESCAP developing countries has more or less followed the same trend as the number of PPI projects, i.e., it increased rapidly until the Asian financial crisis of 1997, then slumped and rebounded until 2006 (Figure VI-2). Their value in the region reached almost US\$ 18 billion in 2006, which is almost twice the previous peak in 1997 and much larger than the US\$ 2.7 billion just two years earlier in 2004.

Figure VI-2 Value of PPI projects in ESCAP developing countries, in million US\$, 1990 – 2006.



Source: Private Participation in Infrastructure Database, viewed on World Bank web site, 21 November 2007, <http://ppi.worldbank.org/>

In other words, today's private sector involvement in transport infrastructure in ESCAP developing countries has reached a record level, despite much talk about heightened private sector wariness towards the risks of such investment.² One important reason for this development may also be demand from the very recent popularity of infrastructure funds. Globally, some 72 new infrastructure funds were launched in the past 15 months which have raised (or expect to raise) more than US\$120 billion, compared to a current total of only US\$40 billion.³

2. Types of private sector participation

A number of different mechanisms exist through which the private sector may participate in development projects in general, and in transport infrastructure projects in

² Asian Development Bank, Japan Bank for International Cooperation and the World Bank, 2005, *Connecting East Asia: A New Framework for Infrastructure*, ADB, Philippines

³ Orr (2007). *The rise of infra funds*, in: *pfi Global Infrastructure Report 2007*, p.2-12, www.pfie.com

particular. The main types of PPI projects include management and lease contracts, concession, greenfield and divestitures. This section a) provides an overview of each of these types of participation. Section b) will provide an overview of the number and value of each of these types of projects in developing ESCAP member countries.

a) *Overview of types of projects*

(i) *Concession contracts*

Under a concession contract, a private entity assumes the management of an enterprise of public ownership for the contract period and assumes considerable investment risk. Projects of this type include the Rehabilitate Operate Transfer (BOT), Rehabilitate Lease or Rent Transfer (RLT) and Build Rehabilitate Operate Transfer (BROT).⁴

(ii) *Greenfield projects*

Greenfield projects are those in which the private entity or public-private joint venture builds a new facility and operates it for the contract period, after which the facility may be transferred to public ownership. Contracts of this sort include Build Lease Own (BLO), Build Own Transfer (BOT), Build Own Operate Transfer (BOOT), Build Own Operate (BOO), and Merchant.

(iii) *Divestitures*

Divestitures occur where a private entity buys an equity stake in a state-owned enterprise through an asset sale, public offering, or mass privatization program. The World Bank categorizes these into two types:

- Full: The government transfers 100 per cent of the equity in the state-owned company to private entities (operator, institutional investors, and the like).
- Partial: The government transfers part of the equity in the state-owned company to private entities (operator, institutional investors, and the like). The private stake may or may not imply private management of the facility.⁵

(iv) *Management and lease contracts*

Management and lease contracts typically occur where a private entity takes over the management of a state-owned enterprise for a fixed period while ownership and investment decisions remain with the state. The World Bank offers two subclasses of management and lease contracts:

- Management contract - The government pays a private operator to manage the facility. The operational risk remains with the government.
- Lease contract - The government leases the assets to a private operator for a fee. The private operator takes on the operational risk.⁶

⁴ The World Bank, *Glossary of Terms Used in PPI Database*, accessed on World Bank web site, November 2007, www.worldbank.org

⁵ The World Bank, *Glossary of Terms Used in PPI Database*, viewed on World Bank web site, November, 2007, www.worldbank.org

⁶ The World Bank, *Glossary of Terms Used in PPI Database*, viewed on World Bank website, November 2007, www.worldbank.org

b) *Number and value of projects by type and country*

Greenfield projects are the most common form of PPI investment in the transport sector of ESCAP developing countries. From 1990 to 2006, 200 such Greenfield projects for a total of US\$ 46.2 billion were registered. Almost as many projects involved concession contracts at a value of US\$ 22.2 billion. Only few divestitures and management or lease contracts were concluded in the region (Table VI-2).

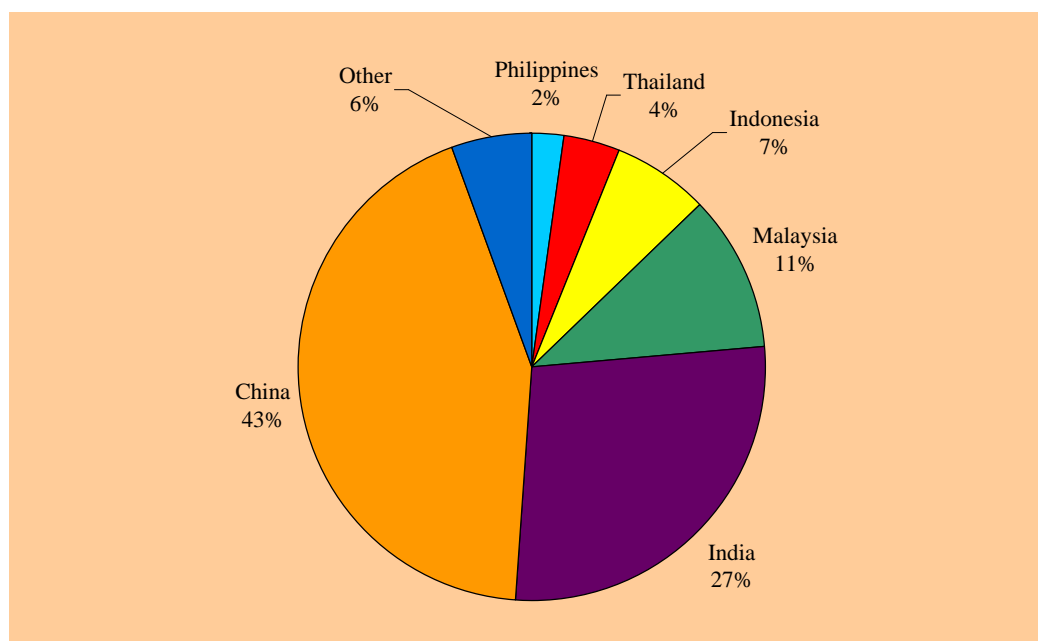
Table VI-2. Number and value of PPI projects in the transport sector of ESCAP developing countries, by investment type, 1990–2006

<i>Type of PPI projects</i>	<i>Number of projects</i>	<i>Value of Projects [billion US\$]</i>
Concession	187	22,241
Divestiture	36	10,629
Greenfield project	200	46,193
Management and lease contract	12	93
Total	435	79,157

Source: Private Participation in Infrastructure Database, viewed on the World Bank web site, 21 November 2007, <http://ppi.worldbank.org/>

Most of the 435 PPI transport sector projects in ESCAP developing countries from 1990 to 2006 were Chinese (189 projects) and Indian projects (119 projects) which accounted for 43 and 27 per cent of the projects, respectively (Figure VI-3). Malaysia, Indonesia, Thailand and the Philippines accounted 47, 29, 17, and 10 such PPI projects, respectively. These six countries accounted for almost all or 94 per cent of all PPI transport projects in 56 ESCAP developing countries. In other words, PPI activity has been highly concentrated in very few countries. Furthermore, PPI activity was further concentrated in some coastal areas of these countries. Investment was greatest in the roads sub-sector, which accounted for roughly half of total all PPI transport projects in the region over the period. Roughly half of these road projects took place in China.

Figure VI-3. Geographic location of transport sector PPI projects in developing ESCAP member countries (share of the 435 projects from 1990 to 2006).



Note: Others include: Myanmar, Armenia, Sri Lanka, Lao PDR, Georgia, Viet Nam, Bangladesh, Cambodia and Pakistan

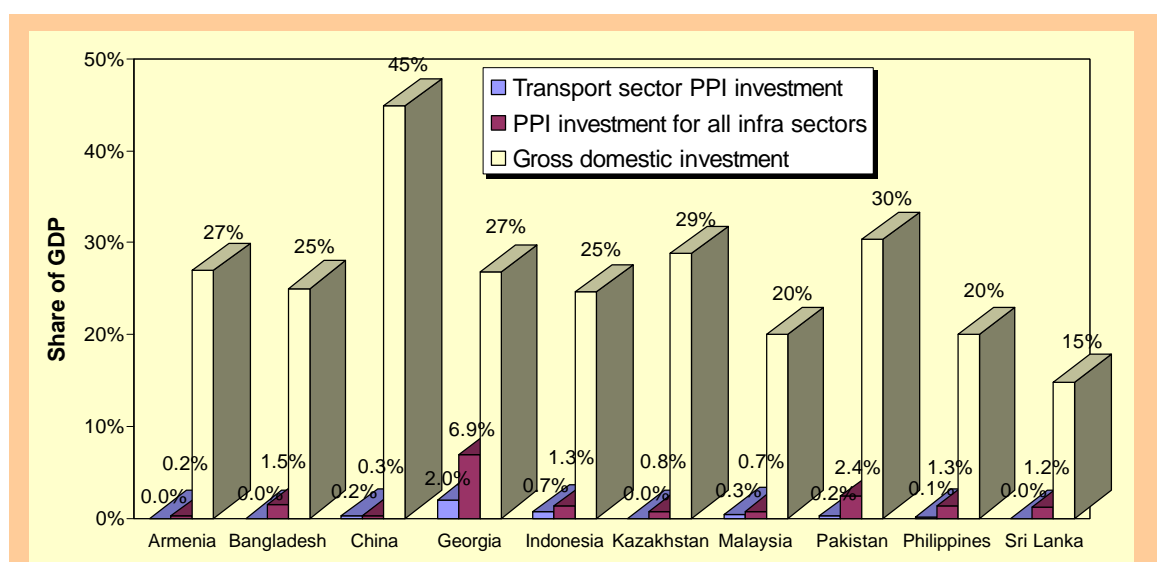
Source: Private Participation in Infrastructure Database, viewed on World Bank web site, 21 November 2007, <http://ppi.worldbank.org>

In 2006, gross domestic investment averaged around 20 to 30 per cent of GDP in the selected ESCAP developing countries, for example, in Armenia, Bangladesh, Georgia, Indonesia, Kazakhstan, Malaysia, Pakistan and the Philippines (Figure VI-4). In contrast, in the same year, gross domestic investment was as high as 45 per cent of GDP in China, and as low as 15 per cent in Sri Lanka.

PPI investment is a relatively small share of gross domestic investment in most ESCAP developing countries, typically amounting to a few per cent only, and this share varies widely across countries. Even more so, the share of transport sector PPI investment ranges widely across countries (Figure VI-4). There are no obvious relationships that might have been expected. For example, large PPI activity does not correlate with high gross domestic investment levels.

However, the data contained Figure VI-4 should be used with care. The data for China are a case in point, as the very low shares for PPI investments are almost certainly due to definitional issues. For example, most road investments in China occur on the province level whereas international organizations typically report national totals that reflect only activities that are controlled directly on the federal level which, however, are only a small fraction of the real national totals. A particular limitation of using the PPI investment data for one year is that these data only refer to projects that were completed in 2006. Thus, if a large project that has extended over several years is completed during this year, the results may be distorted. For these reasons, cross-country comparisons of these data are not really very useful.

Figure VI-4. PPI transport sector investment, PPI investment for all infrastructure sectors, and gross domestic investment for selected ESCAP member countries in 2006.



Sources: ADB Basic Statistics 2007 Developing Member countries, 2007 Private Participation in Infrastructure Database, viewed on the website of the World Bank on 21 November 2007: <http://ppi.worldbank.org/>; exchange rates taken from <http://www.xe.com> on 23/11/2007

3. Selected public-private partnership projects

Table VI-3 summarizes the status of some key public-private partnership (PPP) projects in the ESCAP region. The information was graciously provided by Thomson Project Finance International.

Table VI-3. Sample of PPP projects in ESCAP member countries, 2000–2007

Country	Description
Armenia	<p>Zvartnots Airport Passenger Terminal Project</p> <p>The project involved the construction of a new international passenger terminal, the upgrade of airside facilities and the procurement of new terminal equipment at the Zvartnots Airport in Yerevan. On July 2006, the European Bank for Reconstruction and Development (EBRD) and KFW subsidiary Deutsche Investitions und Entwicklungsgesellschaft (DEG) closed a US\$ 30 million package for the project. The financing saw the EBRD lend US\$ 20 million with a seven-year tenor and DEG further contributed US\$ 10 million. The project was awarded to Armenian International Airports on a 30-year concession contract. The concession payments would be based on landing charges from the aircraft, which was viewed an important issue because of the country's geography and the fact that Yerevan was the country's only major traffic air centre.</p>
Australia	<p>Gold Coast Rapid Transit Project</p> <p>In March 2007, a business case was started for the A\$ 500m PPP Gold Coast Rapid Transit System, a high-speed public transport system that stretched from Helensvale in the north to Coolangatta in the south, connecting Southport, Surfers Paradise and Broadbeach precincts. It was planned to have a light rail transit (LRT) system with low floor and air-conditioned vehicles, and a bus rapid transit (BRT) system. In April 2007, the Queensland Government undertook a feasibility study (schedule for completion in late-2007) to finalise the effectiveness of the project's alignment, whether BRT or LRT. The government also called interested parties for registration to finance, deliver, operate and maintain the project as part of the market sounding process. The project is planned for completion by 2011.</p>
Azerbaijan	<p>Hajigabul–Georgian Border Motorway Expansion Project</p> <p>In December 2006, BNP Paribas part-financed the highway from Hajigabul to the Georgian border in Azerbaijan with the French Bank to allocate US\$ 450 million for the scheme. The project, to expand the 184 km dual-lane highway into a four-lane road, would see BNP Paribas provide US\$ 450 million under a guarantee form JBIC and Japanese agency NEXI. It was claimed that the tenor would be 10 years with a margin to run between 160bp and 170bp. In addition, World Bank would provide between \$ 150 and million. The tenor is reported to be 15 years with the margin to come in under 100bp.</p>
China	<p>Shanghai–Chongming Cross-River Expressway Project</p> <p>In August 2007, Shanghai Chengtou Corporation planned to finance a US\$ 2.2 billion Shanghai-Chongming cross-river expressway project by issuing US\$ 158 million of 15-year fixed-rate bonds. The 25.5 kilometre road included two 8.9 kilometre-long tunnels connecting Wuhaogou in Pudong with Changxing Island and a 10.3 kilometre cable-stayed bridge connecting Changxing to Chenjiazhen Town on Chongming.</p>
China	<p>South West China Toll Expressway and Road Improvement Project</p> <p>The proposed US\$ 1.42 billion road project in South-West China, which involved the construction of a 143 kilometres four-lane toll expressway and upgrading of 430 km of local roads, had Asian Development Bank partly fund (US\$ 200 million) the project in July 2007. In addition, the China Development Bank planned to provide US\$ 556 million, the Chinese Ministry of Communications US\$ 449 million and the local Sichuan Provincial Government US\$ 440 million. The ADB loan proceeds would be made available by the borrower (the Chinese Government) to the Sichuan Provincial Government (SPG), and through SPG to the Sichuan Dashaan Expressway Company Ltd</p>

	<p>(SDEC) on the same financial terms and conditions as those of the ADB loan. The SDEC was to bear the interest rate variation and foreign exchange risks. The loan was to be provided under its Libor-based lending facility, carrying a 25-year term including a grace period of five years, an interest rate determined in accordance with the Libor-based facility and a commitment charge of 0.35 per cent per annum. Main civil works for the expressway was planned to be procured through international competitive bidding.</p>
China	<p>China Super Bridge Project</p> <p>The feasibility study for the 29 kilometres super bridge project has been completed. The estimated cost for the project is \$ 1.85 billion. The Beijing Government was reported to be looking for an adviser for the project. Hopewell Highway Infrastructure was said to be looking for a partner on the project. The project has a 65/35 debt/equity ratio. In February of 2007, the projected cost of the planned bridge to link Hong Kong, Macau and the mainland's Zhuhai City was estimated at HK\$ 31.19 billion and several, as yet unidentified, international consortia, including groups from Britain and France expressed interest in investing in the project on a PPP basis.</p>
China	<p>Kai Tak Cruise Terminal Project</p> <p>In August of 2007, it was announced that bids were due in before the end of the year to develop the \$ 411 million cruise terminal at Kai Tak. More than 18 months before, Hong Kong's tourism commission put out RFPs for the development of a new passenger port terminal. French construction contractor Dragages Hong Kong, a Bouygues subsidiary, proposed the former airport site at Kai Tak. This apparently was favoured by the government, but could not be developed until 2011. The world's top cruise liner companies expressed an interest in operating the terminal, which was likely to be funded through a mixture of public and private debt.</p>
India	<p>Gopalpur Port Project</p> <p>In September of 2006, the Orissa Government awarded a 25-year concession to build, operate, own and transfer the operation and ownership of an all-weather port to a group comprising Orissa Stevedores (OSL, 34%), Sara International (33%) and Hong Kong based Noble Group (33%). The project involved the development of the Gopalpur Port, which is estimated to cost about US\$ 430 million. Construction is estimated to take five years, to be completed in two phases: The first phase, which is expected to be completed by the end of 2007, would see it handle more than 2.5 mmtpa of cargo, while the second phase would involve expanding capacity to 5 mmtpa and completing other facilities during the remaining four years.</p>
Indonesia	<p>Tanjung International Feeder Port Project</p> <p>The development of the International Feeder Port of Tanjung Api-Api in Southern Sumatra was estimated at US\$ 280 million. It would be developed in consortium with Malaysian owned companies: PT Orient Technology Indonesia; Origin Technology (M) Sdn Bhd; Agresif Padu Sdn Bhd; Reka Rancang Sdn Bhd; MDS Consultant; Integra Bhd and UEM Group. The project is to be developed in four phases, and take more than 20 years to complete. The port was to support import and export activities for the South Sumatra, Jambi, Lampung and Bengkulu provinces. There was also a signing ceremony on the surrender land site regional regulation (PERDA) between Orient and the province of South Sumatra and regency of Banyuasin authorities. Orient had also obtained approval to develop the South Sumatera (SUMSEL) Eastern Corridor Development or SECDe.</p>
Republic of Korea	<p>East Container Terminal Project</p> <p>In October 2005, sponsors led by Hyundai Development Construction Company were seeking funds for the East Container Terminal Project 1,2,3. The project cost was estimated at US\$ 136.5 million, funded by a loan of US\$ 84 million, equity injection of US\$ 27.5 million and government subsidy of US\$ 25 million.</p>
Malaysia	<p>Senai Airport Terminal Services Phase 2 Expansion Project</p> <p>In July 2006, Senai Airport Terminal services announced a US\$ 73.8 million loan to refinance a US\$ 15 million loan it obtained from Affin Bank in 2005 and to fund its US\$</p>

	<p>113 million phase two expansion programme. The facility was clubbed among three banks which used the Islamic project finance facility called Ijarah Muntahiah Bitamlik. The three banks involved were Bank Pembangunan with US\$ 45 million, Kuwait Finance House US\$ 24 million and Bank Muamalat US\$ 12 million. The facility Ijarah Muntahiah Bitamlik (IBM) is a lease-to-own facility and is compliant with the Kuwaiti Syariah Board. Under the facility, the financiers were to purchase all the assets needed for the expansion programme and lease them to SATS. In return, SATS was to pay the financiers a lease rate of 2 per cent above the banks' respective cost of funds.</p>
Pakistan	<p>Rawalpindi Bypass and Northern Interchange Project</p> <p>The project involved the construction of the 29 kilometre Karachi Northern Bypass highway. MinConsult Sdn Bhd was to conduct a feasibility study on the project. In May of 2007, Malaysian companies led by CIDB reached an agreement with Pakistan's National Highway Authority to develop two highway projects. One of which was the 56 kilometre Rawalpindi Bypass and Northern Interchange, estimated to cost US\$ 56.6 million. The project was to be implemented on a built, operate, transfer (BOT) basis. Joining CIDB were HCM Engineering and Ahmad Zaki Resources. MinConsult Sdn Bhd was to conduct a feasibility study on the project.</p>
Philippines	<p>Cavite-Laguna North-South Road Project Stage 1</p> <p>In May 2007, the Philippine Government announced that it would offer the construction of Cavite-Laguna North-South Road Project Phase 1 for private sector participation estimated at US\$ 140 million.</p>
Singapore	<p>Orchard Maritime Coal Barging & Transshipment Service Project</p> <p>On June 7, 2006, mandated lead arrangers Calyon and Aozora Bank signed an \$ 60 million to finance the development of a coal barging and transshipment service in Singapore. The loan would mature in 2012. The project was sponsored by a consortium of Indonesian companies.</p>
Sri Lanka	<p>Colombo Port Expansion Project</p> <p>In April of 2007, Colombo Port was to be expanded and the project would be implemented as a PPP. The ADB was to provide a US\$ 300 million loan to support the expansion and upgrade, increasing its capacity from 3.3 to 5.7 million TEU by 2010, and eventually to 10.5 million TEU. The public sector was to take on the common user harbour infrastructure work, such as dredging and breakwater construction, sufficient to accommodate three new container terminals. The private sector, on the other hand, was to develop and operate the container terminals, which would be built in phases. The scheme involved the construction of a new marine operations centre, the relocation of an underwater oil pipeline and the provision of navigational aids. This expansion would assist Sri Lanka in generating additional income from transshipment. Foreign direct investment in the ports sector was expected to increase by about US\$ 800 million by 2024. The loan, which was to have a 25-year term and include a five-year grace period, was to be administered by the Sri Lanka Ports Authority under the supervision of the Ministry of Ports and Aviation. In May of 2007, the Asian Development Bank signed the 25-year US\$ 300 million debt facility with the Sri Lankan Government to support the project. The government itself planned to put in some US\$ 180 million and the rest - around US\$ 300 million - was to be provided by a private sector company that was still to be selected.</p>

<p>Thailand</p>	<p>Bangkok Mass Transit Development Project (Blue Route)</p> <p>In February 2006, the Thai Government started inviting both local and foreign investors to seven mega infrastructure projects, estimated to require a total of US\$ 57 billion in funding. The biggest project was expected to be the Bt 500 billion Bangkok mass transit development plan, which would cover 10 routes with a distance of 300 kilometres. In May 2006, the Thai cabinet decided to postpone the US\$ 57 billion mega-projects investment which meant the postponement of the May 29 deadline for the mass transit development proposals. All new investment decisions would be determined after the new government was formed. In June 2006, the Bangkok Metropolitan Council (BMC) approved an investment plan from Bangkok Metropolitan Administration (BMA) to construct three elevated train routes in the capital. BMA proposed to solely invest in the three elevated train projects. The elevated routes would be extended to parts of the existing skytrain system operated by Bangkok Mass Transit System Co (BTS). On June 14, 2006, the Thai cabinet approved the construction of three electric train projects in Bangkok and its peripheral areas. The Transport Ministry had proposed the projects, which were the extended red, purple and blue routes of the city's mass rail transit system. There was a possibility, however, that the project would be delayed since there were still no sponsors which would fund the project. In January 2007, the Thai Government planned to go ahead with the US\$ 5.2 billion worth of mega rail projects in Bangkok. While it planned to fund the construction through bonds or JBIC, contracts for the signaling and rolling stock, worth about Bt 45 billion, would be granted to the private sector on a concessionaire basis. Bidding for three new Bangkok mass transit routes was scheduled to take place between March and July of the year. The blue route, covering 27 kilometres and budgeted at about \$ 1.6 billion would be offered for bidding in July. On 24 January 2007, Bangkok Metro (BMCL) planned to bid for the operating concessions of three of the five mass-transit routes, namely the blue, purple and red lines. BMCL was already in talks with suppliers of signalling systems and rolling stock such as Siemens of Germany and Alstom of France. The blue line's Bang Sue-Tha Pra Bang Khare section, which was the responsibility of the Mass Transit Authority of Thailand (MRTA), would be open for bidding on route operation in August. In September 2007, the JBIC decided that it would have to lift interest rates on its financing for the three proposed rail lines. The projects were designated as environmental development programs and thus, carried interest rates for loans of 1.2 to 1.3 per cent per year. The three rail lines were expected to cost US\$ 5.1 billion, with 48 per cent funded through domestic loans and Bt 84 billion from JBIC loans.</p>
<p>Viet Nam</p>	<p>Ho Chi Minh City Metro Rail System (METRAS) Project</p> <p>In November of 2006, the Ho Chi Minh City Government was preparing to develop two MRT lines in the city. The Asian Development Bank (ADB) provided a US\$ 1.7 million grant towards the US\$ 2.2 million technical assistance that would finance the preparation of a consolidated MRT network master plan. The remaining US\$ 500,000 was to be funded by the government. The study would also look at the land use strategy that maximized MRT use. In addition, it would help draw up preliminary engineering designs and technical and operational standards, with supporting social, environmental, technical, economic and financial appraisals. Financing options, such as public-private partnerships, would likewise be proposed. The project, called the Ho Chi Minh City Metro Rail System (METRAS), would require a total investment of more than US\$ 5 billion, although it would be developed in stages. ADB itself was preparing a two-tranche US\$ 500 million loans for the project: US\$ 20 million for METRAS project one and US\$ 480 m for METRAS project two. The MRT lines planned under the project were two of six lines to be developed in the city between now and 2020. The two lines, projected to cover a total of 20.6 kilometres with 22 stations would run through the city's central business district.</p>

Source: Thomson Project Finance International and Thomson SDC Platinum

C. Institutions to facilitate private sector investment

An important reason for the high concentration of PPI investments in a few countries and locations is the large differences in terms of institutional capacities and good governance among ESCAP member countries. Consequently, many recent initiatives have aimed to create new institutions or to improve existing ones in order to better facilitate private sector investment in infrastructure. Section 1 and 2 summarize outcomes of the two ESCAP Ministerial Conferences (Busan in 2006 and Seoul in 2007) both of which concluded with recommendations on this subject. Section 3 summarizes country experiences.

1. Busan Ministerial Declaration on Transport Development in Asia and the Pacific

The ESCAP Ministerial Conference on Transport which was held in Busan, Republic of Korea in November 2006 highlighted a number of initiatives related to private participation in infrastructure projects. The concluding *Busan Ministerial Declaration on Transport Development in Asia and the Pacific* recognizes the notion that most countries in the ESCAP region are facing shortages of transport infrastructure and services, and that available funding from traditional sources (such as public funds) falls short of the investment needs of the region. The Busan Declaration aims to strengthen institutional capacities for the mobilization of additional funds for the transport sector from traditional and non-traditional sources, including public-private partnerships. The Annex to the Ministerial Declaration contains a Regional Action Programme which contains specific high priority activities to be supported internationally.

2. High-level Expert Group Meeting and Ministerial Conference on public-private partnerships for infrastructure development.

The ESCAP Secretariat organized a *High-level Expert Group Meeting on Public-Private Partnerships for Infrastructure Development* which was held in Seoul, Republic of Korea, in October 2007. The Meeting was designed to provide an opportunity for various government institutions to discuss issues of common concern in the area of public-private partnerships (PPP) for infrastructure development. The Meeting was organized as part of an ongoing joint project of the United Nations Regional Commissions, led by UNESCAP, and financed by the UN Development Account. The project aims to enhance the sustainable capacity of Governments at the national, sub-national and municipal levels to promote, operate and manage PPP projects for infrastructure development.

The Expert Group Meeting was held back-to-back with the *Asia-Pacific Ministerial Conference on Public-Private Partnerships for Infrastructure Development* which was organized with support from the ESCAP Secretariat. The Conference supported the creation of an institutional network of PPP units and related institutions (Asia-Pacific Regional Public-Private Partnerships Network for Infrastructure Development). High-level government officials and Ministers from ESCAP member countries exchanged country experiences and provided policy guidance. The Conference concluded with the *Seoul Ministerial Declaration on Public Private Partnerships*. It notes that PPPs are an effective means to complement the efforts of governments in the development and provision of infrastructure facilities and services. It notes the need to enhance or create a conducive environment for private sector participation in the provision of infrastructure facilities and services. In particular it refers to the need for:

- Formulation of a PPP policy framework
- Reform of legislative and regulatory regimes

- Establishment of administrative mechanisms to promote good governance in PPPs
- Enhancement of the capacity of the public sector to implement PPPs

Ministers resolved that their respective governments would develop and implement policies at the regional, sub-regional, national and sub-national levels in line with agreed principles of good governance.

3. Country experiences

A number of governments in the ESCAP region have identified the encouragement of private sector investment in infrastructure as a key priority. Consequently, several governments have developed policy and regulatory frameworks that are conducive to private sector involvement in infrastructure development.

To improve the inadequate institutional capacities in many public sector administrations for the promotion of private sector investment in infrastructure, a growing number of governments in Europe have introduced *PPP units* that are responsible for supporting the process of planning and implementation of partnerships. In contrast, in Asia and the Pacific only a small number of countries have created dedicated PPP units. These countries include Australia, Bangladesh, India (at the state or provincial level), the Philippines and the Republic of Korea, which are also some of the countries in where private sector participation in infrastructure development has concentrated.

The PPP units have been generally successful in playing a ‘catalytic’ role in promoting and implementing private projects, examples of which are presented in the remainder of this section.

a) Australia

Both the Federal Government and a number of state governments in Australia have begun to actively promote private investment in transport infrastructure through the introduction of policies, principles or guidelines, and the establishment of specific units typically attached to treasury and finance ministries. At the federal level, a PPP unit was established in the Department of Finance and Administration, and it has already released a set of *private financing principles*. In May 2004, the inaugural National PPP council forum was held in Brisbane, followed six months later by a second Council meeting, held in Melbourne. The third meeting was convened on October 2005 in Sydney.⁷

In New South Wales (NSW), the NSW Infrastructure Council was established in 2001. It is a consultative body consisting of the State Premier and five other ministers including the Minister for Transport and twelve infrastructure industry chief executives and union representatives. The Council has no executive authority but provides high-level advice to the government on policy and development priorities in the delivery of infrastructure, as well as facilitates shared learning between government and the private sector players on best practice in relation to privately financed projects.

By the end of 2001, the NSW government released its policy on privately financed infrastructure projects, the so-called *Working with Government Policy for privately financed Projects*. The policy also established a specialist Private Projects Branch which is located in the Treasury and whose function is to assist agencies with PFP proposals and to provide government advice to the private sector by drawing on expertise from across the public sector.

⁷ National Public Private Partnerships Forum web site, viewed on 28 November 2007, <http://www.pppforum.gov.au/vision>

By December 2002, the NSW government had announced its *State Infrastructure Strategic Plan*, which outlined its priorities for major infrastructure over the next ten years. Road, rail, and port development projects made up most of this planned investment. In December 2006 updated guidelines were issued. The guidelines seek to support the government's commitment to provide the best practicable level of public services by providing a consistent, efficient, transparent and accountable set of processes and procedures to select, assess and implement PFPs.

A similar structure called *Partnerships Victoria* operates from within that State's Department of Treasury and Finance. Its role is to:

- Develop and oversee the policy framework;
- Assess projects for private participation; and
- Provide support to government agencies embarking on a bid process.

As of November 2007, 18 *Partnership Victoria* projects have been contracted worth approximately \$ 4.8 billion. Of these 18 projects, two relate specifically to infrastructure: the EastLink project valued at \$ 2.2 billion is due to be opened in 2008 and the Southern Cross Station project valued at \$ 271 million was completed in 2006.⁸

By late 2001, Queensland, South Australia and Tasmania had released PPP policies, and South Australia had established a dedicated PPP unit within the South Australia Treasury. While some major transport infrastructure projects have been either short-listed or identified in annual budgets in these states, only a limited number have so far progressed under the PPP policy frameworks.

In Queensland, for example, the *Public Private Partnership Policy* together with the *Value for Money Framework* and the *PPP Supporting Guidelines* make up the *PPP Guidance Material* which sets out the methodology for the delivery of PPP infrastructure facilities. As of October 2007, three transport-related PPPs in Queensland have been approved or are in the process of tendering: the Airport Link/Northern Busway (tenders close December 2007), Gold Coast Rapid Transit (construction is due to begin in 2009) and the Toowoomba Bypass (business case to be completed by late 2007).⁹

b) *Bangladesh*

In an attempt to promote private sector investment in the country's infrastructure development, the government of Bangladesh undertook a project called the *Private Sector Infrastructure Development Project*, which consisted of two components, project financing and transaction development. Through the Ministry of Finance, two facilitative bodies were established to implement these two components. The first of these, the *Infrastructure Development Company Limited* (IDCOL) was established in 1997 with the assistance of the International Development Agency. IDCOL is a non-banking financial institution. Its share capital is fully subscribed by the Government. One of the main functions of this company is to provide loans for private infrastructure projects or refinancing for small projects implemented by NGO's and other private entities.

IDCOL's activities were limited to the energy sector including rural energy projects such as solar home systems in remote coastal areas. However, in 2006, the Government of

⁸ Partnerships Victoria website, viewed on 28 November 2007, <http://www.partnerships.vic.gov.au/>

⁹ Queensland Department of Infrastructure and Planning website, viewed on 28 November 2007, <http://www.coordinatorgeneral.qld.gov.au>

Bangladesh launched a fund called the *Investment Promotion Financing Facility* (IPFF) for financing private sector initiatives in infrastructure development. The International Development Association (IDA) gave US\$ 50 million in assistance to this initiative. The Government's share of the fund comes from an ongoing financial institution development project of Bangladesh Bank, the country's central bank. Small-scale infrastructure projects are expected to benefit from the initiative. Banks and non-banking financial institutions will channel their loans to the private sector under the scheme.

The other key entity is the *Infrastructure Investment Facilitation Centre* (IIFC), which was established in 1999 and became operational in 2000, and through which a number of transport projects have been prepared over the last few years.

IIFC is body is fully owned by the Government of Bangladesh and was established with assistance from the International Development Agency, the Canadian International Development Agency and the Department for International Development of the United Kingdom. The function of the IIFC is to assist government ministries and agencies and other public sector bodies to:

- Develop policies that will encourage private sector participation in infrastructure development;
- Identify and structure projects, including BOT projects, for private sector participation;
- Prepare bids and evaluate and draft contract agreements;
- Monitor projects and enforce contracts; and
- Develop relevant skills in public sector officials in areas such as the identification and packaging of BOT projects as well as contract negotiation and management.

IIFC is managed by a seven-member board of directors whose Chairman is the Secretary of Economic Relations Division. Three of the directors are from the public sector, three are from the private sector, and the Chief Executive Officer is an ex-officio member. Although the intention was for IIFC to have 17 staff, a shortage of International Development Agency funding led to a delay in commencing operations. This has significantly constrained its function with the consequence that it now operates primarily "through managing consultants provided by donors".¹⁰

c) *China*

Private investment in public infrastructure is not new in China. The southern city of Guangzhou began using private capital for bridge construction more than a decade ago. At present, many cities in China, such as Shanghai, Wuhan and Zhangjiagang all have public bidding for the construction of public infrastructure.¹¹

Rules governing foreign investment in port terminals have also been relaxed, although Chinese ports themselves remain state-controlled. Until 2002, foreign companies could only hold a 49 per cent share of a mainland terminal facility. Now this has been

¹⁰ Islam, Nazrul, 2003, 'The Role of the Infrastructure Investment Facilitation Centre in the Development of Private Sector Infrastructure in Bangladesh', *Transport and Communications Bulletin for Asia and the Pacific*, No 72, United Nations Publication, Sales No. E.03.II.F.42, pp. 77-100.

¹¹ Research Centre of Finance and Trade Economics: Chinese Academy of Social Science, <http://www.china.org.cn/english/BAT/39>

changed to allow foreign operators to obtain a controlling stake, or even to set up their own operating companies.¹²

However, most of the funding for construction of public infrastructure continues to come from public sources. Along with the deepening of the country's reform and its participation in the internationalization of production, more cities in China are realising that better public infrastructure helps to improve their city's competitiveness, and thus tapping into private capital is considered as one way to accelerate the delivery of public infrastructure.

ADB and World Bank have both emphasized the potential benefits that could be derived increased private sector investment in China's infrastructure.

In June 2002, the Beijing Mayor Liu Qi announced the introduction of a bidding system for the design, construction and management of its subway projects to allow participation by prominent firms around the world. The mayor announced that about 150 kilometres of subway lines would be built in the coming six years, three times the total length built in the city over the past 37 years.¹³

In July 2003, the State Development and Reform Commission (SDRC) announced its intention to fast-track planned reform of investment policy by sending the draft to the State Council for primary reading, and completing its new investment financing scheme within the year. The aim of the reform is to encourage investment in different sectors such as water supply, public transportation, gas, electricity, heating and environment protection, and to introduce market mechanisms in investment, financing, operation and management processes.¹⁴

d) India

In 1999 the state of Gujarat established India's first institution specifically focused on overseeing private participation in infrastructure projects. The *Gujarat Infrastructure Development Board* (GIDB) was established to administer the *Gujarat Infrastructure Development Act, 1999* (named the BOT Law of Gujarat), and its power extends to 22 infrastructure sectors, with a current focus on 11. These are power, ports, roads, airports, railways, urban infrastructure, water supply, information structure, industrial parks, gas grid and tourism.

Headed by the Chief Minister of State, the GIDB consists of ministers and top officials of ministries and departments with responsibilities for infrastructure and industrial development. Through an Executive Committee, the Board:

- Identifies and prepares projects;
- Screens projects and debates issues related to project choice and implementation;
- Overcomes obstacles including those related to policy and project development;
- Reduces risk and uncertainties for private sector participation by defining project cycle times;

¹² *Containerisation International*, Chinese U-turn on foreign ownership of terminals, May 2002.

¹³ People's Daily, "Beijing welcomes foreign participation in subway projects, 14 June 2002, <viewed on China.Org.Cn, 29 October 2003, <http://www.china.org.cn/english/2002/Jun/34605.htm>

¹⁴ Tang Fuchun, "Investment financing system reform to fuel economic growth", *People's Daily*, 17 July 2003, viewed on China.Org.Cn, 29 October 2003, <http://www.china.org.cn/english/2003/Jul/70154.htm>

- Conducts pre-feasibility and feasibility studies, and recommends public-private partnership risk sharing options;
- Uses Gujarat State BOT law to establish the terms of concession agreements covering the allocation of risk between the State and private investors; and
- Monitors progress of projects.

Currently, there are 13 port sector projects either completed or ongoing, with eight in the pipeline; 19 road sector projects either completed or ongoing, with nine more in the pipeline; and three rail sector projects are either completed or ongoing, with five in the pipeline.¹⁵

In a separate initiative, in January 2006, the Government of India established a wholly Government-owned company called the *India Infrastructure Finance Company Limited* (IIFCL). It has authorized capital of US\$ 252 million. In addition to this capital, IIFCL will be funded through long-term debt from the open market. The Government plans to extend guarantees for repayment of the principal and interest of this debt. One of the expected roles of IIFCL is the refinancing of those private sector projects initially financed by banks, which find long-term financing for infrastructure projects difficult. Public-private partnership projects awarded to private companies for development, financing and construction will receive overriding priority for financing from IIFCL.¹⁶

e) *Japan*

In 1999 the Government of Japan enacted the *Private Finance Initiative Promotion Act* (PFIPA), (Law No.117 of 30 July 1999), which established a private finance initiative scheme. This scheme introduced formal arrangements whereby the application of private investment resources to build, maintain and operate public sector infrastructure were available. The incidence of these schemes increased with decreasing availability of public sector funds. As well as transport infrastructure, the public facilities covered by the scheme include infrastructure, such as public office buildings, public housing, educational and cultural facilities, waste treatment plants, hospitals, IT facilities, and energy supply.

The *private finance initiative* (PFI) model of private sector participation used in Japan is based on one that first emerged in the United Kingdom. According to this model, the government awards a long-term contract and pre-defined payments to the private sector to design, finance, construct and possibly manage and operate the public facilities. An important difference between PFI and conventional ways of providing public infrastructure is that the public sector generally does not own the assets. In some cases such as the provision of clinical services in a hospital, the government may provide the services itself. In those cases in which the private investor also operates the facility, the government purchases the related services from it on behalf of the public users.

The Prime Minister formulates policies after consultation with relevant ministers and the PFI Promotion Committee. The Committee operates within the Prime Minister's Office and consists of nine members nominated by the Prime Minister. The Committee's role is to:

- Investigate and deliberate on matters that fall under its jurisdiction;
- Help to formulate policies;
- Oversee project evaluation and selection of contractors; and

¹⁵ Gujarat Infrastructure Development Board website, viewed on 28 November 2007, www.gidb.org

¹⁶ Source for IDFC and IIFCL: India, *Economic Survey, 2005-2006*.

- Monitor project implementation.

In August 2005 a number of revisions were made to the PFI laws.¹⁷

One of the biggest PFI projects in the transport sector was the development of Hita Chinaka Container Terminal, at Port Ibaragi.¹⁸ As at the end of 2006, a total of 260 PFI projects (at a cost of approximately US\$ 16.3 billion) had been announced. Currently, 130 projects have reached the operational stage.¹⁹

f) *New Zealand*

The New Zealand Government has introduced legislation known as the *Land Transport Management Bill*. The Bill was tabled in parliament in December 2002 and was passed in November 2003.²⁰ This Bill provides for an increased emphasis on the sustainability and broader outcomes of road and alternatives to road investment. The Bill also caters for the delivery of public infrastructure in collaboration with the private sector.

Public-private partnerships (PPPs) allow road agencies to spread the cost of infrastructure over time. The proposal is that the PPPs will involve a concession agreement between a public road controlling authority and a private sector partner to build and operate new infrastructure. Management of the infrastructure must revert to the public sector after the concession period, which cannot be longer than 35 years.

The Land Transport Management Act requires the Minister of Transport to approve concession agreements. Public road controlling authorities would undertake a tendering process before reaching agreement with a private operator and seeking Ministerial approval.

The New Zealand Act has certain precursors to any PPP proposal. These include the retention of land in public ownership, strong community support for the project and no liability to compensate any party if traffic forecasts are in below forecasts. The Act provides a general provision for the collection of tolls previously, it was necessary to pass specific legislation. Toll schemes can provide an alternative source of funding for roads. They have already been successfully used on the Auckland Harbour Bridge and the Lyttleton Tunnel. Tolling will only be used to fund new roads and an alternative route will need to be available.²¹

g) *Philippines*

Since 1989, a body responsible for promoting private sector participation in infrastructure projects has existed in some form in the Philippines. Originally focused on fostering assistance programmes, the Coordinating Council for Philippine Assistance Programme adopted in 1999 a more specific focus on private sector participation when it became the Coordinating Council for Private Sector Participation. This body was then

¹⁷ Viewed on the web site of Private Finance Initiative Promotion Office, 3 November 2007, <http://www8.cao.go.jp/pfi/e/6Progress.html>

¹⁸ Poulter Tony, "Japan's PPP experience – lessons for Europe?", viewed on http://www.pwc.com/uk/eng/about/svcs/pfp/pwc_JapanApril03.pdf, 29 October 2003

¹⁹ Viewed on the web site of Private Finance Initiative Promotion Office, 3 November 2007, <http://www8.cao.go.jp/pfi/e/6Progress.html>

²⁰ Viewed on the official web site of the New Zealand Government, <http://www.beehive.govt.nz>, 3 December 2007

²¹ Viewed on the website of Land Transport NZ on 3 December 2007 at <http://www.transfund.govt.nz>

reorganized in 2002 and named the BOT Centre. Attached to the Department of Trade and Industry, the BOT Centre is a government agency with responsibility for coordinating and monitoring the Philippines BOT Law, which was first enacted in 1991 and then amended in 1994.

Under the leadership of an Executive Director who reports directly to the Secretary of the Department of Trade and Industry, the BOT Centre's core role is to help agencies and local governments to implement BOT infrastructure projects effectively by providing solutions to financial, technical, institutional and contractual problems. These solutions could be provided in a number of ways including by:

- Preparing terms of reference for technical assistance for the implementing agency;
- Reviewing and recommending changes to the Implementing Rules and Regulations for private sector participation;
- Reviewing and updating the screening guidelines for project funding;
- Intervening on behalf of a government agency or acting as a facilitator to help solve a problem related to a particular project; and
- Monitoring a project or the activity of a private sector player in a project.

The Centre is structured into two groups, one devoted to project development and the other focused on programme operations. The responsibilities of the project development group are managed by a number of sectoral divisions, with one of those divisions looking after the transport sector.²²

Since 1991, the BOT Centre and its predecessors have assisted agencies to manage the completion of 47 infrastructure projects, which have been financed through US\$ 16 billion worth of private capital (as at June 2006). Eight transport sector projects costing approximately US\$ 2,654 million have been part of this investment in major infrastructure.²³

h) Republic of Korea

To attract private investors to fund infrastructure projects at both the national and the provincial government levels, the Republic of Korea introduced the Private Participation in Infrastructure (PPI) Act 1999. The intention of the Act is to promote, facilitate and guide private sector participation for both solicited and unsolicited projects. By September 2002, regulations had been developed to frame the establishment of two separate bodies that will implement the intentions of the Act.

The first body is a policy making body called the Private Investment Project Committee which will be led by the Minister for Planning and Budget. As well as formulating major policies and enforcing decrees related to private sector participation, the Committee will also develop an annual plan that will list major projects that will be targeted for private sector investment, and proposed projects and their designated concessionaires that have been approved according to defined criteria. The annual plan will also detail the investment, management and operational requirements of each project and the government assistance provided for the projects.

²² Quium A.S.M. Abdul, op. cit., p. 19.

²³ UNESCAP, 2007, *Public-Private Partnerships in Infrastructure Development: An introduction to issues from different perspectives*.

The second body established under the PPI Act 1999 was the *Private Infrastructure Investment Centre of Korea* (PICKO) in April 1999. The first organisation of its type in the Republic of Korea, it was established to overcome confusion and inconvenience experienced by government agencies and private investors in trying to implement private infrastructure investment projects. PICKO's role is to provide a one-stop-shop service based on uniform criteria for evaluation and negotiation. Its key activities include:

- Providing technical and administrative support to sectoral agencies on private sector participation in infrastructure development projects:
 - The advice or assistance is in relation to investment matters, the review of solicited and unsolicited project proposals, negotiations and concession agreements;
 - PICKO also carries out tasks such as the development of new projects or completion of feasibility studies at the explicit request of an agency;
- Providing skills to public and private sector personnel;
- Supporting the Private Investment Project Committee by formulating private investment policies and plans and by contributing to the development of the PPI annual plan; and
- Providing advice or consultancy services to foreign parties interested in investment prospects.

PICKO is structured on a roughly sectoral basis with one project team dedicated to road and port projects and the other team dedicated to rail and environmental projects. It is staffed by specialists in areas such as finance, accounting, law, ports, roads, transportation, environment, and civil engineering, and is supported when necessary by overseas consultants with expertise in international private investment.