

**Report of the Asian PPP Study Group
Ministry of Economy, Trade and Industry**

April 2005

Ministry of Economy, Trade and Industry

Table of Contents

<u>Introduction</u>	... 1
<u>Part I Basic Ideas</u>	
1. World Trend	... 3
2. Asian PPP	
(1) Asian PPP Study Group	... 7
(2) Structural reforms through PPP	... 7
(3) Application of the trickle-down mechanism for structural reforms	... 8
(4) Efforts by individual parties involved in Asian PPP	... 9
3. Definition of PPP according to the Asian PPP Study Group	
(1) Definition of PPP	...10
(2) PPP and PFI	...11
<u>Part II Details of Asian PPP</u>	
<u>1. Necessity of PPP in Asia</u>	
(1) Financial issues	...15
(2) Strengthening financial systems	...16
(3) Significant contribution to poverty reduction	...17
(4) Contribution to environmental issues	...17
<u>2. Concept of Asian PPP</u>	
(1) Basic idea	...17
(2) Efficiency	...18
(3) Fairness	...21
(4) “PPP test” and risk	...21
<u>Part III Promotion of Asian PPP</u>	
<u>1. How to Promote Asian PPP</u>	
(1) Basic structure	...24
(2) Particular features of business projects	...24
(3) Understanding the markets	...26
(4) Categorization of business models	...28

(5) Examination of the total service provider capability	...31
<u>2. Risk Mitigation Methodology</u>	
(1) Basic concept	...35
(2) Measures against the risks (private enterprises)	...36
(3) Measures against the risks (Japanese government)	...37
<u>3. Financing</u>	
(1) Basic concept	...39
(2) Structure of the “PPP-type Financing Package on Asian Development” and the revenue bond	...39
(3) Procedure of ADRB financing	...41
<u>4. Roles of Government-Affiliated Agencies</u>	
(1) Financing by export credit agencies	...42
(2) Human resources development	...45
<u>Part IV Action Program</u>	
1. Establishment of industrial platforms (efforts by Japanese private enterprises)	...46
2. Promotion of dialogue with the counterpart governments at the PPP working groups and multilateral forums: Efforts by the Japanese government	...47
3. Implementation of PPP-type Financing Package on Asian Development: Efforts by the government and private enterprise	...48
4. Human resource development	...48
5. Implementation of preliminary surveys and pilot projects	...49
6. Promotion of cooperation with third party markets	...49
Reference: Roster of the Asia Public-Private Partnership (PPP) Study Group	...50

Introduction

1. History of discussions

Since September 2004, the Asia Public-Private Partnership (PPP) Study Group has held discussions on this issue from the perspectives of:

- (i) considering measures to promote collaboration between economic cooperation tools and private business projects;
 - (ii) developing new commercial and financial tools for business projects in developing states; and
 - (iii) enabling Japanese private enterprises to act as total service providers.
- (Electricity Task Forces had held prior discussion on this issue in the electricity field.)

More specifically, expert meetings were held for the four priority fields, i.e. urban transportation, port and harbor, water and sewage, and administrative service/IT, to discuss how to promote Asian PPP in these fields with the participation of Japanese private enterprises.

2. Points of the Report

- In this report, the Study Group aims to export “infrastructural services” created as Japan’s original brand services to Asian states. More specifically, the report makes recommendations on how to promote Asian PPP in the four priority fields, i.e. urban transportation, port and harbor, water and sewage, and administrative service/IT, including analysis of particular features of business projects, understanding of market conditions, categorization of business models, and examination of the capability of total service providers, as well as implementation of the “PPP test” and study on risk reduction measures.
- In light of the fragility of financial systems in Asia, the report proposes the “PPP-type financing Package on Asian Development,” which consists of various financial sources for project financing.
- The report also suggests institutional improvements for export credit agencies and explains the role of the government in the development of PPP-related human resources.
- Lastly, the report presents action programs based on the partnerships between the government and private enterprises of Japan and the governments and private enterprises of developing states.

Public-Private Partnership (PPP) is a partnership for allowing the private sector to participate in providing public services, which aims to improve efficiency of public services through *market* and *competition* mechanisms and create new jobs and new service industries, thereby promoting economic growth.

PPP is characterized by the collaboration between the public sector and the private sector, in which

the public sector supports market activities by developing fundamental infrastructures and setting regulations.

Part I Basic Ideas

1. World Trend

In order to build a modern state and operate it in a sophisticated manner, it is necessary to construct infrastructure and develop administrative services as appropriate. If we call all such efforts for the construction of infrastructure and development of administrative services collectively as state-building projects, nation states in the modern era can be regarded as engaging in competition with state-building projects within their territory. This competition can also be recognized as a sort of institutional competition in the field of comparative institutional analysis.

The success or failure of the institutional competition depends on the efficiency in building a state. Resources required for building a nation state have become extremely wide-ranging, large, and sophisticated in terms of quality and quantity. Therefore, if a nation state fails to carry out a state-building project efficiently, it will not be able to complete the project as required and will succumb to institutional competition.

For this reason, the essential issue is how to establish a state-building process in which a mechanism is embedded for driving the parties concerned to make constant efforts to improve efficiency.

This issue has already been studied in the field of economics in connection with incentives and coordination.

The recent world trend in this respect has been to improve efficiency in state-building projects by encouraging more private enterprises to participate in the projects and expanding the scope of the market mechanism.

Developed states have already taken measures in this direction for some time now.

In the United Kingdom, privatization of state enterprises was promoted in the 1980s in the fields of transportation, energy, water, and communication. For instance, in 1980, compulsory competitive tendering (CCT) was introduced for outsourcing garbage pickup, meal supply, and cleaning services. In 1992, the Private Finance Initiative (method for constructing, maintaining, and operating public facilities with the use of financial resources and management/technical skills obtained from the private sector; PFI) was introduced, and upon the introduction of universal testing in 1994, all public utilities were required to consider implementing PFI. In 1997, Blair's Labor Administration expanded the scope of PFI to include the role of the public sector, advocating Public-Private Partnership (PPP). CCT was abolished in 1991 upon the amendment of the Local Government Act, and review was required for market testing and outsourcing in 2002.

In the United States, public-private competition was introduced by Circular A-76 of the Office of Management and Budget (OMB) in 1966. In 1985, the Reagan Administration launched the policy of introducing funds and initiatives of the private sector into the federal government,

vigorously promoting the outsourcing of peripheral services to the private sector. In the 1980s, such trend was intensified both in state governments and municipal governments. The Federal Acquisition Streamlining Act of 1994 and the Federal Activities Inventory Reform Act of 1998 relaxed regulations on administrative services and further promoted the outsourcing to the private sector. Based on the Agenda for the Administrative and Fiscal Reform published by President Bush in 2002, Circular A-76 was revised in 2003, carrying forward the administrative and fiscal reform of the federal government and promoting public-private competition for the purpose of encouraging Public-Private Partnership.

In December 2004, the National Innovation Initiative, a U.S. non-governmental association, released the National Innovation Initiative Report (Palmisano Report), which is referred to as the second report on competitiveness following the Young Report (1985). This report also stresses that new values can be created by introducing private-sector methods into the government sector and the objective of government programs is to provide the private sectors with necessary needs and resources for innovation. Thus, the necessity of partnership between the government and the private sector is also emphasized in terms of innovation.

Also in Japan, the Private Finance Initiative Law was established in 1999 for the purpose of promoting the introduction of management skills in the private sector for public services. Furthermore, the independent administrative institution system was established in 2001, and the Local Autonomy Law was amended in 2003 to introduce the designated manager system, enabling public facilities to be operated by private entities. In 2004, the Council for Regulatory Reforms and Public-Private Partnership presented, in its preliminary report, the market testing process based on competitive tendering. In 2005, the “Medium-Term Outlook on Structural Reforms and Fiscal and Economic Policy” was adopted by the Cabinet, suggesting the implementation of model projects for market testing. Legislative measures to realize market testing are also under consideration.

Such movement toward PFI and PPP is also seen in many other developed states as shown in Table 1.

Table 1: PFI and PPP in developed states

	Outline
Japan	1999: PFI Law established 2001: Independent administrative institution system introduced 2003: Local Autonomy Law amended (designated manager system introduced) 2004: Preliminary report of the Council for Regulatory Reforms and Public-Private Partnership published (market testing process presented) 2005: “Medium-Term Outlook on Structural Reforms and Fiscal and Economic Policy” adopted by Cabinet; implementation of model projects for market testing suggested

US	<p>1985: Outsourcing of peripheral services from the federal government to the private sector promoted by the Reagan Administration</p> <p>1993: Government Performance Results Act 1996: Federal Acquisition Reform Act 1998: Federal Activities Inventory Reform Act Administrative reforms promoted; outsourcing to the private sector expanded</p> <p>1996: Circular A-76 of the Office of Management and Budget (OMB) revised; competitive tendering promoted and enhanced</p> <p>2001: Active promotion of competitive tendering stipulated as an important policy in the Agenda for the Administrative and Fiscal Reform published by President Bush</p> <p>2003: Circular A-76 revised; a new simplified method of competitive tendering established to drastically promote outsourcing to the private sector</p>
Canada	<p>1980s-1990s: Privatization of state enterprises</p> <p>1998: Tentative Committee for Public-Private Infrastructure established and PPP started</p> <p>State governments work on establishing frameworks and promoting PPP.</p>
UK	<p>1980s: Privatization of state enterprises promoted (transportation, energy, water, communication, etc.)</p> <p>1980: Compulsory competitive tendering (CCT) introduced for the outsourcing of garbage pickup, meal supply, and cleaning services</p> <p>1992: PFI introduced</p> <p>1994: Universal testing introduced; all public utilities required to consider implementing PFI</p> <p>1997: PFI expanded into PPP by the Blair Administration</p> <p>1999: Best-Value Initiative promoted to encourage PPP</p> <p>2002: New schemes introduced for improving the quality and cost-effectiveness of public services such as performance indicators, verification, and auditing; various PPF methods adopted and implemented</p>
Australia	<p>1995: National Competition Policy (NPC) adopted by the Howard Administration</p> <p>1996: Competitive Tendering and Contracting (CTC) introduced</p>
New Zealand	<p>1986: State Enterprise Act enforced; commercial activities of state enterprises promoted</p> <p>1988: State Sector Act enacted; privatization of state enterprises</p> <p>Mainly through privatization of state enterprises</p>
Singapore	<p>Late 1980s: privatization of state enterprises started through gradual listing of stocks of government-linked enterprises in the Singapore Stock Exchange and the closedown or sale to the private sector of state enterprises</p> <p>Sales of part of stocks of government-linked enterprises, such as Singapore Telecom, Development Bank of Singapore, and Singapore Technology</p>

	Contracting-out (outsourcing to the private sector) carried out actively in recent years 2004: PPP Handbook developed by MOF
--	---

This movement has been promoted not only in the United Kingdom and the United States but also in the European Commission. In March 2003, the Directorate General Regional Policy of the European Commission published the “Guidelines for Successful Public-Private Partnership,” which recognize PPP as demonstrating “the ability to harness additional financial resources and operating efficiencies inherent to the private sector.”

In Brazil, the Law on General Rules for PPP was enacted at the end of 2004 for the purpose of promoting PPP.

The same movement has also been seen in the multilateral development banks (MDBs).

In the 1990s, the World Bank had placed relatively less importance on infrastructure construction due to the priority put on the social sector along with the trend toward poverty reduction. In recent years, however, it has stressed the importance of infrastructure construction as a measure to enable developing states to achieve sustainable growth. More specifically, the World Bank, Asian Development Bank (ADB), and the Japan Bank for International Cooperation (JBIC) advocated the concept of “inclusive development” in their joint study report published in March 2005 under the title “Connecting EAST ASIA: A New Framework for Infrastructure.”

“Inclusive development” means that infrastructure construction connects economic growth and poverty reduction. In the joint report, the three MDBs pointed out “accountability and risk management” as essential factors for infrastructure construction. Accountability refers to the reward mechanism for improving efficiency in infrastructure construction. Risk management refers to appropriate risk sharing. The combination of accountability and risk management will enable proper promotion of PPP. Based on this recognition, the World Bank held a symposium in March 2005 in Tokyo, with the ADB and the JBIC as co-hosts, under the theme of the future of infrastructure construction in East Asia. At this symposium, the annual amount of demand for infrastructure construction in East Asia from 2005 to 2010 was estimated at more than \$200 billion, and discussion was held regarding how to promote PPP based on the recognition mentioned above. PPP projects are being carried out not only in developed states such as Singapore, Thailand, and Malaysia, but also other East Asian states including Indonesia and Vietnam.

As explained above, the method of improving efficiency in state-building projects by encouraging more private enterprises to participate in the projects has been accepted and promoted in many developed states in Europe and the United States and MDBs such as the World Bank and the ADB.

2. Asian PPP

(1) Asian PPP Study Group

This section focuses on Asia. As demonstrated at the World Bank symposium with detailed data, a huge amount of demand for infrastructure construction is expected in Asia in the future. There is also a great demand for the development of administrative services.

The question is how to establish a scheme for improving efficiency in state-building projects in Asia, satisfying the huge demand for the construction of infrastructure and development of administrative services.

The optimal method to achieve this may be to promote PPP in Asia while encouraging Japanese entities (government and private enterprises) to collaborate with the promotion as appropriate.

Based on this basic idea, the Ministry of Economy, Trade and Industry (METI) has established the Asian PPP Study Group (consisting of a main committee and four expert meetings (urban transportation, water and sewage, port and harbor, and administrative service); hereinafter referred to as the “Study Group”) and has held discussion on basic measures to promote PPP in Asia. This report summarizes the discussions at the Study Group.

* In light of the fact that, under deregulation, more Japanese private enterprises have already launched overseas business in the electricity field than in other fields, the Foreign Electricity Task Force (Vietnam, the Philippines, and China; FY2003) and the Asia Electricity Task Force (Indonesia; FY2004) had held prior discussion with the objective of developing specific PPPs to be implemented by Japanese private enterprises in electricity markets in Asian states. These task forces will release reports in due course.

(2) Structural reforms through PPP

Through discussion, the Study Group has concluded that the promotion of PPP can improve efficiency because it induces the public and private parties concerned to make constant efforts for structural reforms (or management reforms in the case of private enterprises). If PPP is promoted in Asia, it will encourage all parties concerned in Japan and Asian states to carry out structural reforms, resulting in the improvement of efficiency in building states in this region.

It is recommended that the Japanese government take an active role in promoting PPP in Asia as well as implementing PPPs that are being undertaken in Japan, thereby further advancing structural reforms in government organizations.

Japanese private enterprises need to carry out management reforms, such as intensifying their competitiveness, improving their business management ability, advancing technical innovation, and strengthening their service divisions, whereas Japanese industries as a whole should also promote substantial structural reforms including the establishment of industry standards. These

efforts for reforms are essential for Japanese entities to participate in PPPs in Asia.

On the other hand, the governments of Asian states need to implement structural reforms for government organizations, “drastic” reforms in most cases.

Accordingly, in order to enable private enterprises to participate in PPPs, both individual enterprises and industries in Asian states should also promote substantial structural reforms.

Structural reforms are also required in the financial sector.

The governments of Japan and Asian states should improve domestic systems so as to assist private financial institutions that intend to launch new services as private enterprises, and to this end, substantial structural reforms should be promoted in the banking and securities/corporate bond sectors.

In order to ensure that private financial institutions acquire the ability to provide new financial services as appropriate, substantial structural reforms should be promoted not only in individual institutions but also in the financial industry as a whole.

Furthermore, export credit agencies are required to improve their operational efficiency so as to provide financial services suitable for PPP. MDBs should also make efforts to improve their operational efficiency based on thorough understanding of the importance of infrastructure construction.

(3) Application of the trickle-down mechanism for structural reforms

PPP is expected to be promoted by applying the trickle-down mechanism, in which benefits accorded to big businesses will “trickle down” to profit smaller businesses and consumers, to structural reforms promoted by individual parties concerned.

More specifically, where the government sector promotes the creation of new markets in the areas in which it has enjoyed monopoly, by carrying out structural reforms and implementing market testing and other necessary measures, private enterprises will gain access to new markets. In this case, such private enterprises that intend to gain market access should aim to achieve in-house structural reforms and strengthen their competitiveness. Thus, if market access is given to private enterprises in such fields where structural reforms have progressed and competition is promoted under the principle of a level playing field, private enterprises can strengthen their competitiveness through in-house reforms whereas the government can advance state-building projects efficiently.

Private enterprises that have successfully strengthened their competitiveness in this manner will also be able to participate in state-building projects in Asian states and gain advantage in competition over private enterprises of other states. In this process, the government of a nation state that has promoted structural reforms is expected to encourage the governments of other Asian states to carry out structural reforms and promote Public-Private Partnership and creation of new markets, expanding the scope of fields where PPP is applicable. If Asian states become aware that private

enterprises achieve high efficiency through competition in PPP projects, they will be induced to advance structural reforms so as to expand the scope of fields where PPP is applicable.

(4) Efforts by individual parties involved in Asian PPP

Regarding the concept of Asian PPP, it should be noted that collaboration becomes complicated due to the relationship between the state that implements a PPP and the Japanese entity that collaborates in the PPP. In the case of ordinary PPP, collaboration occurs between the government and private enterprises of the same state. On the other hand, in the case of Asian PPP, the Japanese government provides necessary support for PPPs implemented between the government and private enterprises in an Asian state, and Japanese private enterprises also take part in PPPs if they are sufficiently competitive. Therefore, when we talk about PPP, the “government” refers to both the Japanese government and the government of an Asian state, and “private enterprises” refers to both Japanese private enterprises and private enterprises of an Asian state.

The parties involved in Asian PPP and their efforts can be summarized as follows.

(Efforts by Japanese entities)

- (i) Structural reforms by the Japanese government
- (ii) Management reforms by Japanese private enterprises
- (iii) Collaboration between the Japanese government and Japanese private enterprises

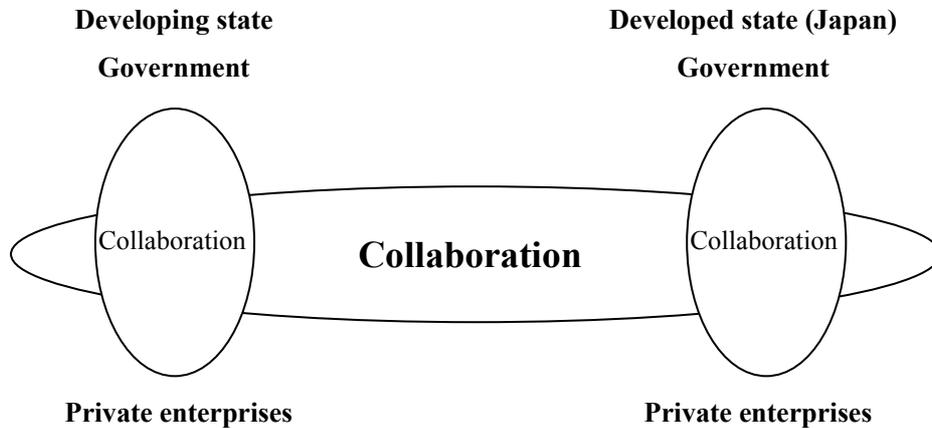
(Efforts by entities of an Asian state)

- (iv) Structural reforms by the governments of the Asian state
- (v) Management reforms by private enterprises of the Asian state
- (vi) Collaboration between the governments and private enterprises of the Asian state

(Efforts by Japanese entities and foreign entities)

- (vii) Collaboration between the Japanese government and the government of the Asian state
- (viii) Collaboration between Japanese private enterprises and private enterprises of the Asian state
- (ix) Collaboration between the government of Japan and the Asian state and MDBs
- (x) Collaboration between private enterprises of Japan and the Asian state and private enterprises of the United States and European states

[Figure 1: Scheme of partnership]



3. Definition of PPP according to the Asian PPP Study Group

(1) Definition of PPP

The Study Group discussed how to promote PPP in Asia from the perspectives outlined above. In the course of the discussion, the Study Group defined PPP as detailed below. This definition may differ from definitions applied in other situations.

In May 2002, the Japanese PPP Study Group of the Research Institute of Economy, Trade and Industry released a preliminary report entitled “Japanese PPP: Aiming for Economic Revitalization through the Market Mechanism.” This report defines PPP based on the concept that is applied in the United Kingdom: introduce the market mechanism for public services and take appropriate measures depending on the type of services, such as outsourcing, PFI, operation through independent administrative institutions, and privatization, with the aim of improving efficiency of public services. The report also cites the definition suggested by Professor E.S. Sabbath (State University of New York): any relationship or positioning between the government (public) sector and the private sector, or phenomenon in which all or part of services traditionally provided by the public sector are undertaken by the private sector.

Based on these definitions, the report defines Japanese PPP as “a partnership for allowing the private sector to participate in providing public services, which aims to improve efficiency of public services through *market* and *competition* mechanisms and create new jobs and new service industries, thereby promoting economic growth.”

The Study Group basically follows this definition, which is also the basis for the idea of applying the trickle-down mechanism to structural reforms. However, the concept of PPP is

simplified as follows for the sake of convenience in the course of studying how to promote PPP in Asia.

The Study Group defines PPP as “a partnership for implementing a state-building project, which consists of the construction of infrastructure and development of administrative services, according to a fair sharing of cost and risk between the public sector and the private sector.”

In a PPP defined as above, the major role of the government will be market enhancement (intervention in the market to change the equilibrium point). More specifically, the government should develop infrastructure involved in PPPs and provide the private enterprises concerned with grants or compensation. The government intervention in the market is reasonable from the perspective of efficiency and fairness. Details will be explained in the next chapter.

Such market enhancement will create commercial viability and encourage private enterprises to launch business in the areas where no private enterprises are currently operating due to lack of commercial viability. It will also improve efficiency in the fields where commercial viability has already been created.

Such understanding of PPP is consistent with the recent international trend. The “Guidelines for Successful Public-Private Partnership” published by the DG Regional Policy of the European Commission defines PPP as follows: A PPP is a partnership between the public sector and the private sector for the purpose of delivering a project or a service traditionally provided by the public sector. PPPs recognize that both parties have certain advantages relative to the other in the performance of specific tasks. By allowing each sector to do what it does best, public services and infrastructure can be provided in the most economically efficient manner.

(2) PPP and PFI

Based on the above definition of PPP, the Study Group clarified the difference between PPP and PFI as follows.

A Private Finance Initiative (PFI) refers to a method by which a private enterprise implements the whole project through the market mechanism. In other words, because of commercial viability of the project, the private enterprise can earn profits by implementing the whole project without any special involvement of the government in the profit structure.

Should all state-building projects be commercially viable, it would be possible to build a nation only by implementing PFIs, without any involvement of the government. On the other hand, according to the analysis by the Study Group, among a large number of projects for infrastructure construction in Asia, there are not so many projects that are commercially viable without any special involvement of the government in the profit structure (market enhancement is unavailable). Consequently, PFIs are only applicable to a limited number of projects.

If the private enterprise implements the whole project, it could run a deficit. In the fields

where such a deficit is expected, private enterprises are unwilling to implement PFIs and infrastructure development progresses only slowly.

A PPP is a method for enabling appropriate intervention by the government so as to ensure that the private enterprises is able to earn profits in the projects that might cause losses without such intervention, or help them improve efficiency in making profits through market enhancement.

A PPP is a partnership between the government and a private enterprise in which the private enterprise participates through measures such as outsourcing, PFI, operation through independent administrative institutions, and privatization.

The relationship between the government and the private enterprise can be illustrated as follows.

[Table 2]

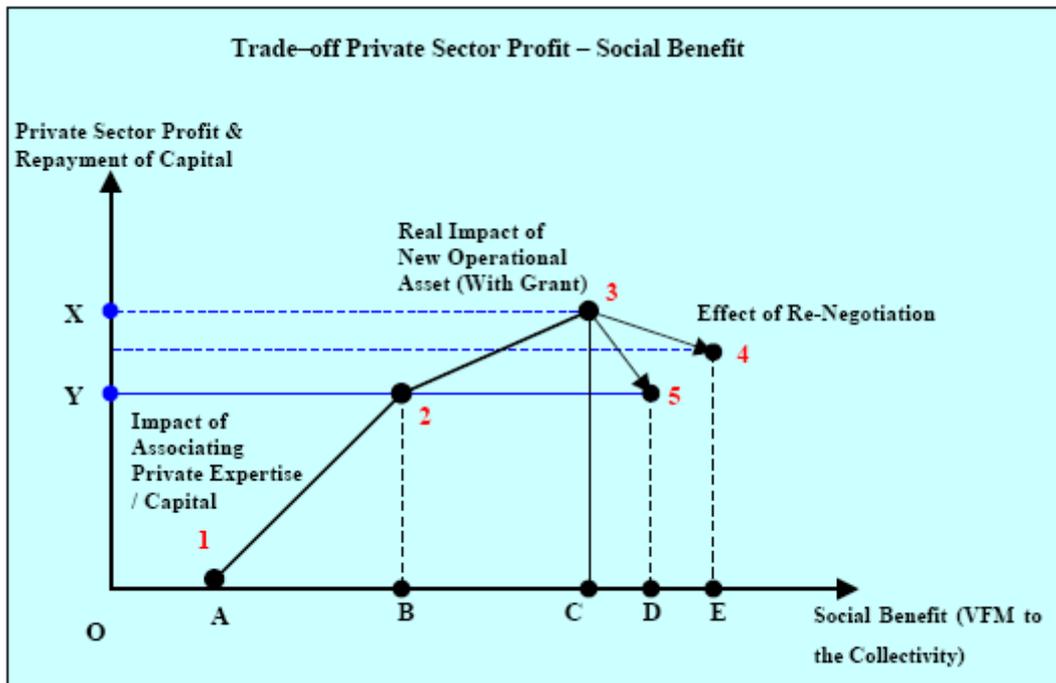
Commercial viability	Measures	
Fields where commercial viability can not be created even through market enhancement	Government finance (including loans from foreign states)	
Fields where commercial viability can be created through market enhancement	PPP	Involvement of the government
		Participation of private enterprises
Fields where commercial viability already exists	PFI, privatization, outsourcing, etc.	

[Table 3: PFI projects]

		Construction	O&M
Ports and harbors	Port of Laem Chabang (Thailand)	Yen loan (Italthai, Daiho)	Marubeni, Kamigumi, Nippon Yusen
	Port of Colombo (Sri Lanka)	Yen loan (Penta-Ocean, Wakachiku)	P&O (Peninsula & Orient) Ports (Australia)
	Port of Thi Vai-Cai Mep (Vietnam)	Yen loan (currently in the D/D phase; construction bidding scheduled)	Public subscription scheduled
	Prot of Constanta (Rumania)	Yen loan (Penta-Ocean)	Dubai Ports Authority
Railway	Bangkok Metro (Thailand)	Yen loan (Obayashi, Kumagai, Kashima)	Two-tier system: outsourcing to Bangkok Metro Company Ltd. (BMCL), a SPC of Ch. Karnchang (major Thai construction company); Siemens for car system
Water	Manila Water (Philippines)	Yen loan (for local enterprise); grant aid (Hitachi Plant)	Ayala (Philippine enterprise), Mitsubishi Corp., etc.
Airport	Beijing Capital International Airport (China)	Yen loan (Chinese enterprises)	Aeroport De Paris
	Viru-Viru Airport (Bolivia)	Yen loan (Fujita)	Airport Group Intl. (AGI) (US)

Market enhancement will increase utility for society as a whole. The Guidelines for Successful Public-Private Partnership of the European Commission demonstrates it as follows.

[Figure 2]



The graphic can be defined as follows:

On the Vertical - Private Sector Profit axis:

0 → Y: Private sector operating profit without grant contribution

Y → X: Increase in private sector operating profit with grant financing and increased efficiency of an operative asset (resulting from grant financing)

Reduction from X towards Y = the redistribution of pure operating profit (resulting from grant financing) to enhanced social benefit and “fair” private sector profit margins as a result of re-negotiation

On the Horizontal - Social Benefit axis:

0 → A: social benefit arising from a purely public sector project

A → B: increase in social benefit arising from private sector participation

B → C: marginal increase in social benefit from project realization and grant financing contribution

C → D or E: increase in social benefit as a result of re-negotiation of redistribution of pure profit resulting from grant financing

Point 1 represents a project financed purely from public sources.

Point 2 represents a project financed from private sources with public funds.

Point 3 represents a project financed under a PPP arrangement with a grant contribution.

Points 4 & 5 represent a desired outcome for the grant provider in their objective of maximizing social benefit while limiting the impact on private sector profit margins resulting from grant financing.

Source: DG Regional Policy of the European Commission, *Guidelines for Successful Public-Private Partnership* (March 2003)

Part II Details of Asian PPP

1. Necessity of PPP in Asia

(1) Financial issues

In the course of promoting state-building projects in Asia, special consideration should be given to financial issues. In this respect, promotion of PPP is currently desired in this region.

In Asia where a huge amount of demand for state-building is expected, it is not appropriate for the government to play the entire role in implementing state-building projects. Instead, it is desirable for the government to finance such projects from public funds, while obtaining aid from foreign governments or MDBs if necessary.

However, this method forces the governments of Asian states to bear a significant amount of fiscal burden. Furthermore, if they obtain aid from foreign governments or MDBs in the form of loans, they will also suffer the burden of increasing external debts.

Until the end of the 1970s, before the implementation of PFI became popular in Asia, this had been considered the only method for building states, and therefore the governments had no option but to tolerate such disadvantages.

In the 1980s and thereafter, PFI has been developed in many states. However, PFI is not a panacea; it is difficult to carry out all state-building projects in Asia using PFI because, as mentioned above, not all projects are commercially viable enough to enable private enterprises to make profits. Should the governments of Asian states be unwilling to promote projects other than those to which PFI is applicable, these states would face serious difficulty in achieving economic growth.

In short, if the government plays the entire role in state-building projects, it would suffer fiscal burden and external debts, whereas if private enterprises play the entire role, PFI would be applicable only to an extremely limited number of projects. Governments of Asian states are faced with such a dilemma in the course of building states.

Meanwhile, in the last quarter of the 20th century, developed states created the “third option,” or a method of carrying out state-building projects through collaboration between the government and private enterprises. This is PPP, reaching a new horizon for building states that is different from the conventional methods completely relying on the government or private enterprises.

By implementing PPPs as appropriate, Asian states will be able to promote state-building projects extremely efficiently. Furthermore, if they adopt this method, the scope of state-building projects will be dramatically expanded, providing more business opportunities for Japanese enterprises.

(2) Strengthening financial systems

Consideration should also be given to the fact that many Asian states are urgently required to strengthen their financial systems.

While Asian states have made progress in industrialization mainly in the manufacturing sector, their financial systems are still fragile. One structural problem that caused the Asian currency crisis in 1997 is the double mismatch, namely currency and maturity mismatches that arise from raising local currency-denominated long-term fund for business investment from dollar-denominated short-term funds.

To solve this problem, the Asian Bond Market Initiative (ABMI) has been developed and various movements have been seen since 2002, but we can hardly say that direct financing markets have been developed satisfactorily and that the double mismatch issue has been resolved sufficiently in Asian states. It is still difficult in general for foreign investors to issue corporate bonds in Asian states.

As advocated in the ABMI's slogan, "Of Asia, By Asia, For Asia," it is strongly recommended that problems in the financial sector be resolved and integration in Asia should be further pursued not only for the trading of goods and services but also for the financing of state-building projects. Unfortunately, Asia has yet to find a mechanism in which a huge amount of private capitals in Japan and other developed states can be directly invested in state-building projects carried out in Asian states.

To overcome this situation, long-term efforts should be made to improve infrastructure for bond rating and bond markets, to achieve a reliable long-term yield curve, to develop secondary markets and swap markets, and to resolve other significant issues.

In connection with this, the following points should be taken into consideration when designing state-building projects suitable for Asian states.

The first point is that there is a particularly strong demand in Asia for improving efficiency in building states.

The second point is that, as advocated by the ABMI, financing for state-building projects in Asia should be promoted by applying a method that will contribute to strengthening financial systems in Asian states, such as the development of direct financing markets.

In other words, it is inappropriate to raise funds only from the government's external debts (denominated in foreign currencies) without correcting inefficiency in projects. A new financing method should be designed.

From this perspective, the Study Group discussed financing methods that are suitable for promoting PPP. Compared with state-building projects totally sponsored by the government, it will be easier in PPP projects to design financing methods that will contribute to the development of direct financing markets. In this sense, the promotion of Asian PPP is desired.

(3) Significant contribution to poverty reduction

Carrying out infrastructure construction projects efficiently using PPP can also be evaluated from the perspective of contribution to poverty reduction.

In the joint study report mentioned above, “inclusive development” means that poverty reduction and infrastructure construction are regarded as a pair of wheels; infrastructure construction drives economic growth that leads to poverty reduction, while promoting the supply of public services such as electricity and transportation, which will contribute to improving people’s living standards.

As explained later, by applying a PPP, it will be possible to achieve large-scale infrastructure construction with the use of government funds (including loans from foreign states). If all expenses are covered by government funds, the scale of the achieved infrastructure construction is limited to the amount of government funds available (no leverage).

On the other hand, in the case of PPP, government funds are only allocated for market enhancement measures such as covering a project deficit and improving the surrounding environment, whereas commercial finance is available in the fields where commercial viability has been realized by such measures. This will cause leverage, making it possible to construct infrastructure, the scale of which is several times larger than that of the government spending. In this case, projects under PPP will bring about poverty reduction on a larger scale than non-PPP projects.

(4) Contribution to environmental issues

In recent years, measures to improve environmental conservation in developing states and the prevention of global warming have become important global issues. If progress is made in the development of public services such as water/sewage and urban transportation through the promotion of PPP, it will contribute to improving urban environments and resolving global environmental issues. The participation of Japanese enterprises in PPP projects in developing states also promotes the introduction of energy-saving technology and environment conservation technology in such states.

2. Concept of Asian PPP

(1) Basic idea

According to the basic idea of the Study Group, whether or not Asian PPP should be promoted can be determined by considering the appropriateness of the application of PPP from the following perspectives.

[1] Efficiency

[2] Fairness

(2) Efficiency

The Study Group has defined PPP as “a partnership for implementing a state-building project according to a fair sharing of cost and risk between the public sector and the private sector.”

It is obvious that state-building projects under PPP are more efficient than those under the complete initiative of the government, because:

- Private enterprises are given incentives to improve project efficiency;
- Competition among private enterprises is created;
- The private enterprises participating in the projects oversee the governance of the government sector.

The Study Group has divided project fields into three categories by commercial viability of project.

[1] Commercially viable fields

Fields where projects are commercially viable because private enterprises are allowed to participate in the projects and the market mechanism functions smoothly.

[2] Commercially non-viable fields

Fields where projects are not commercially viable due to excessive costs over revenues, although private enterprises are allowed to participate in the projects and the market mechanism functions; they are generally regarded as fields of *market failure*.

[3] Non-integrating gap fields

Fields where private enterprises have yet to be allowed to participate in state-building projects.

As a result of the discussion at the Study Group, if PPP is applied as appropriate, projects under PPP are more efficient than those under the complete initiative of the government in any of these categories of project fields.

a. Commercially non-viable fields

“Commercially non-viable fields” are typical fields where PPP is desired. In these fields, due to lack of commercial viability, no private enterprises would be willing to participate in the projects even if they were given the complete initiative of the projects. In other words, market failure occurs in these fields.

As explained in textbooks on economics, causes of market failure generally include externality, public goods, asymmetrical information, and market power (households and enterprises acting as price-takers).

If the government takes the complete initiative of the project, it has to pay all necessary expenses for the project from government funds (including loans from foreign states). In this case, mechanisms mentioned above such as the incentive for efficiency and the governance of the government sector do no function.

On the other hand, under the PPP, the government only bears part of necessary expenses, whereas private enterprises undertake the rest on a commercial basis. Consequently, the government can reduce spending for such part undertaken by the private sector, while encouraging private enterprises to bring about efficiency in the project through the incentive for efficiency and competition.

Detailed explanation is given by taking a power project as an example.

In the case where the cost for a power plant construction/operation project is X yen per 1kWh but the electricity rate actually collectable from users is $(X-\alpha)$ yen (α is positive) due to the public nature of the electricity services and the affordability of residents, the project will go into the red and no private enterprise will be willing to participate in the project. If the government takes the initiative in the project, it will have to incur a huge amount of expenses and mechanisms such as the incentive for efficiency and the governance of the government sector will not function.

On the other hand, if the government provides the project operator with funds to cover the expense of α yen per 1kWh from government funds or overseas aid, the project becomes commercially viable and private enterprises are expected to participate in the project.

In other words, if this method is applied, the government only has to implement market enhancement to cover expenses equivalent to $(\alpha \times \text{electricity production})$ yen, whereas it would have to bear all expenses for the project if it took the complete initiative. The participation of private enterprises also brings about positive effects through the incentive for efficiency and the governance of the government sector. Thus, PPP causes leverage between the government spending (including overseas loans) and the infrastructure construction project, thereby making it possible to construct several times more infrastructure than in the case where the government bears all expenses for the project.

In order to bring about “positive external effects” of infrastructure construction, it is extremely important for Asian states to apply a method for constructing more infrastructure with a limited amount of government spending..

The Study Group has determined a broader scope of commercially viable fields from the perspective of “positive external effects.” For instance, infrastructure construction may bring about the following positive external effects.

- Providing public services such as expressways and electricity at low prices to reduce manufacturing costs, thereby helping enterprises of developing states catch up with those of developed states and become internationally competitive, while going through the stages of

“scale economy” and “learning by doing”

- Raising land prices for areas surrounding the infrastructure construction sites
- Providing irrigation to increase crop harvests

Positive external effects are also brought about by education; economic value produced by people who were educated in their youth can also be regarded as an external effect (In this case, if the electricity supply makes it possible to provide evening classes, economic value produced by people who participated in such classes can also be regarded as a positive external effect.)

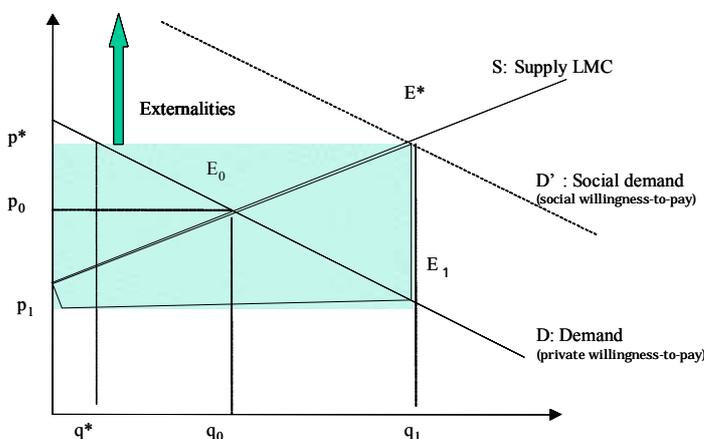
(Reference)

Infrastructure construction with “positive external effects”

In the figure below, the Demand curve indicates private willingness to pay. E_0 is the equilibrium point at which marginal cost equals price, with the quantity of supply represented by q_0 and price represented by p_0 . If there is a positive external effect, social benefit increases and goes beyond the Demand curve by the amount of the positive external effect, and the Social Demand curve moves upward accordingly. Marginal cost equals marginal social benefit at E^* , and this point determines the quantity of supply at q_1 . On the Demand curve, the equilibrium point is E_1 and price is determined as p_1 . It should be noticed that price is below marginal cost at the equilibrium point E_1 . At the equilibrium point E_0 where the positive external effect is not taken into consideration, supply deficiency occurs and causes distortion. If there is any positive external effect, price should be lowered and the quantity of supply should be increased.

However, at the optimal point of quantity of supply q_1 , price goes down to p_1 ; the operator posts a loss, represented by the “shaded trapezoid + fixed costs.” The operator cannot maintain the optimal point unless such losses are covered by extra funds, e.g. public funds or grants.

[Figure 3: Electricity supply with positive external effect]



The government should cover a deficit (direct indemnity for the operator or grant for electricity rate)

b. Commercially viable fields

In the fields where commercial viability has already been realized, private enterprises are willing to participate in projects even without government intervention. However, this status does not always realize efficient resource allocation in national economies or Pareto optimality.

Therefore, if the government intervenes in projects by taking various measures such as market enhancement, improvement of the market environment, and institutional development, the private enterprises that implement the projects are likely to make more profits. Such government intervention also enhances the scale of competition among private enterprises, which will further improve project efficiency.

c. Non-integrating gap fields

Even in the fields where markets have yet to be established institutionally or practically, there is sufficient possibility that markets will be created in the future and the market mechanism will fully function, if the Japanese government continues dialogue and collaboration with governments of Asian states. Such efforts to create new markets and promote market enhancement makes a great contribution to improving project efficiency.

(3) Fairness

The second point for determining the necessity to promote PPP is fairness.

Should infrastructure construction be promoted only in commercially viable fields, infrastructure would not be constructed in commercially non-viable fields. In this case, within the territory of a state, infrastructure development will be advanced in some areas but remain inadequate in other areas, and such disparity might widen significantly depending on the nature of commercial viability.

The issue of disparity should be considered from a different perspective from that of efficiency. In some cases, the government cannot leave such disparity unresolved and should take measures to reduce it.

Taking such measures to reduce disparity is a reasonable function vested in the government. PPP is a method for promoting infrastructure construction in commercially non-viable fields, and it is also effective in reducing disparity and ensuring fairness within a state.

(4) “PPP test” and risk

How can we determine to which field category each project belongs?

The Study Group has designed the following methodology, which is called “PPP test.”

[1] Principle of market mechanism

All state-building projects should be, in principle, implemented under the market mechanism. On this premise, the feasibility study is carried out regarding the promotion of specific projects.

The field category to which each project belongs is determined depending on the type of risk that may arise from the implementation of the project.

[2] Types of risk

As a result of the discussion at the expert meetings, it has been revealed that various types of risk may arise from the implementation of state-building projects.

Based on the analysis of the contents of such risk, project risk can be divided into the following types.

a. Internal risk

Risk that can be overcome by the existing market mechanism; theoretically, even commercially viable projects are faced with this risk.

b. Market-failure risk

Risk that can be overcome by changing the equilibrium point through government intervention; theoretically, commercially viable projects are not faced with this risk.

c. Governance risk

Risk that arise from the unlikelihood of the creation of efficient markets due to defective governance of the government, and cannot be overcome unless the government changes its governance.

[3] Relationship between the types of risk and the field categories

According to the types of risk mentioned above, project fields can be categorized as follows.

a. Commercially viable fields

Fields that are basically faced with only internal risk

b. Commercially non-viable fields

Fields that are basically faced with market-failure risk as well as internal risk

c. Non-integrating gap fields

Fields that are basically faced with governance risk in addition to internal risk and market-failure risk

[4] Commercial viability and business fields

The degree of commercial viability varies depending on business fields. For instance, commercial viability is high for electricity whereas it is low for irrigation.

The relationship between commercial viability and business fields is outlined in OECD Ex-Ante Guidance entitled Arrangement on Guidelines for Officially Supported Export Credits.*

* Ex-Ante Guidance

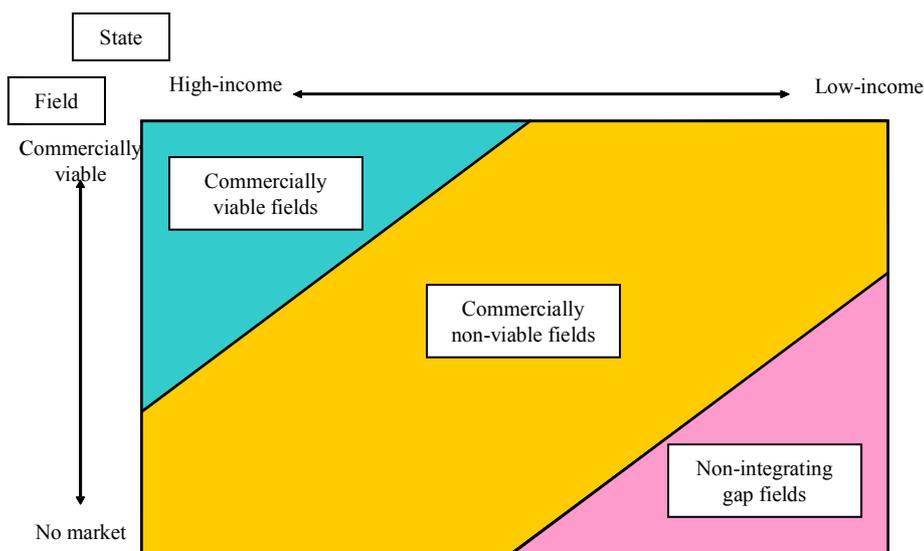
This Guidance shows points of note for the evaluation of tied aid financing projects (whether the project can pass the commercial viability tests at the Consultation), based on the results of the implementation of the tied aid rules over a period of four years from February 1992 to 1996. It also presents analysis of individual sectors that were frequently examined at the Consultation.

[5] Development stage and commercial viability

As for the relationship between the stage of development and commercial viability, it is generally presumed that high-income states have more commercially viable fields, whereas low-income states have many non-integrating gap fields.

The following figure illustrates the mechanism mentioned above.

[Figure 4: Commercially viable fields/commercially non-viable fields/non-integrating gap fields]



Part III Promotion of Asian PPP

1. How to Promote Asian PPP

(1) Basic structure

The Asian PPP Study Group established expert meetings for the four fields, i.e., urban transportation, port and harbor, water and sewage, and administrative service/IT. These expert meetings deliberated how Asian PPP should be promoted in the respective fields involving Japanese private enterprises.

The following methodology was commonly used at all expert meetings.

First step was to analyze the particular features of business projects.

Second step was to understand the markets. Investigation was undertaken on how much demand existed in each country subjected to the study.

Third step was to categorize the business models.

The study group confirmed that, while many Japanese private enterprises in these fields have had high capabilities in specific areas, not many enterprises have had high international competitiveness in terms of the capability to build the entire business project into a system and to coordinate between the respective areas (a total service provider capability). In order to examine the total service provider capability, it was first necessary to categorize the business models.

Fourth step was to examine the total service provider capability. Specifically, the capabilities of Japanese private enterprises were determined for each layer of the categorized business models.

Fifth step was to promote the above-mentioned “PPP test.” Specifically, a feasibility study was conducted by assuming that private enterprises would actually implement the respective projects, and analyzed the risks involved.

Sixth step was to examine how to deal with those risks.

These steps will be discussed individually (the fifth and sixth steps will be discussed in the next chapter as “methods for reducing risks”).

(2) Particular features of business projects

The expert meetings analyzed as follows.

(i) Urban transportation

Urban transportation is basic infrastructure, which is essentially related to comprehensive urban development plans and must serve a public function and public interest. Therefore, there are limitations to the determination of fare standards, and the determination often involves policy implications. The primary mission is to provide safe transport amidst the presence of diverse risks.

While the amount of initial investment is high, the profitability is low.

(ii) Port and harbor

Today, the world's top six ports and harbors (container handling volume) are all concentrated in Asia (Hong Kong, Singapore, Pusan, Shanghai, Guaxiong, and Shenzhen). Many PPP projects have been implemented, including build-operate-transfer (BOT) contracts and long-term operation and maintenance (O&M) contracts. About 60 projects have been implemented in China, Indonesia, Malaysia, the Philippines, and Thailand over the past ten years. However, participation by Japanese enterprises has been limited. About the only large-scale project involving Japanese enterprises is the Laem Chabang port project in Thailand involving Mitsui O.S.K. Lines, NYK Line, Kamigumi, and Marubeni.

In recent years, there has been a growing trend toward oligopoly of the world's four mega-operators (Hutchison of Hong Kong, PSA of Singapore, APM of Denmark, and P&O of Australia).

(iii) Water and sewage

Water and sewage projects are often under the authority of local governments, and the scales of the projects are smaller compared to such infrastructure projects as electricity. However, the projects often have regional monopoly, so stable profits can be expected as long as the rate standard is reasonable. At the same time, the business income may be limited to a certain extent because it is a public utility service.

In Asia, water and sewage services have become privatized by foreign capital in Singapore, Malaysia, Thailand, Indonesia, the Philippines, and Vietnam. The enterprises involved include the world's three largest water companies, which are Ondeo and Veolia of France, and RWE, a German electric power company that acquired Thames of the United Kingdom. As for Japanese enterprises, Marubeni participates in a privatization project in China, and Mitsubishi Corporation in the Philippines.

(iv) Administrative service/IT

Developed states are making efforts to improve the value for money (VFM)* of administrative services by adopting new policy measures such as PFI and PPP.

There have been some examples of applying these measures to export, investment, and economic cooperation concerning administrative services in the Asian region. However, the local situation varies as to the possibility of collaboration among the government, private enterprises, and NGOs/NPOs, and the level of governability. Therefore, the states can be categorized into states where the models of developed states are applicable, states where these models are applicable with

some modifications, and states where the models are practically inapplicable.

* Value for money (VFM)

Value for money is a concept of supplying services of the highest value for a certain amount of payment. It reduces the fiscal spending (the overall operation cost converted into present value with an appropriate discount rate) of the state and/or the local government throughout the period during which a public service is provided, or enables provision of a public service that is of a higher standard (quality/quantity) and that adapts to economic/social changes under a certain operation cost.

Source: Japanese PPP Study Group of the Research Institute of Economy, Trade and Industry, METI, *Japanese PPP: Aiming Economic Revitalization Through Market Mechanism* (preliminary report) (2002).

(3) Understanding the markets

(i) Urban transportation

While routes exceeding 2,600 km are planned overall in the urban transportation projects around the world, routes of 1,870 km are planned in Asia. The potential PPP market is expected to be about 10 billion dollars. In Thailand, consideration is being given to developing an urban transportation network that links the city center of Bangkok and the suburban satellite towns. Meanwhile, in the Indonesian city of Jakarta, discussions are being made on establishing a mass rapid transit (MRT) system (underground/elevated railway).

(ii) Port and harbor

The world's container handling volume is expected to increase annually by approximately 6-12% in the next five years. There are growing needs for development of ports and container yards mainly in China, India, Vietnam, Thailand, and Indonesia. According to a recent survey, the container handling volume is predicted to increase by approximately 60 million TEU, 50 million TEU, ten million TEU, and six million TEU respectively in India, China, Indonesia, and Sri Lanka in the next 15 years.

Sources: Drewry Shipping Consultants Ltd., *Annual Report Container Market Review & Forecast 2004-2005* (London); Japan Bank for International Cooperation, *Ports and Shipping Sector Study in Asian Countries*.

(iii) Water and sewage

Japan has provided assistance of three billion dollars to developing states over the past three years, aiming at their sustainable development and to resolve their water problems and secure

safe drinking water. This accounts for one-third of Japan's total amount of ODA. However, the water problems around the world are currently too severe to be addressed solely by such public sector efforts, so utilization of PPP is anticipated in this area.

According to a prediction by the World Bank (Source: *Connecting East Asia*), the expected demand for water supply in East Asian states from 2006 through 2010 is 2.57 billion U.S. dollars in investment and 5.23 billion U.S. dollars in operation and maintenance, which is 7.8 billion U.S. dollars in total. Meanwhile, the demand for sewage during the same period is expected to be 2.89 billion U.S. dollars in investment and 4.13 billion U.S. dollars in operation and maintenance, which makes 7.02 billion U.S. dollars in total. Of these figures, the demand for water supply in China is expected to be 2.1 billion U.S. dollars in investment and 4.09 billion U.S. dollars in operation and maintenance, adding up to 6.19 billion U.S. dollars in total, and that for sewage to be 1.83 billion U.S. dollars in investment and 2.64 billion U.S. dollars in operation and maintenance, adding up to 4.47 billion U.S. dollars in total.

(iv) Administrative service/IT

a. Electronic procurement

The Malaysian government has set forth a concrete measure to realize "seven flagship applications" in its Multimedia Super Corridor (MSC), which is a policy vision for the period from 1996 through 2010. One of these seven measures is the realization of an electronic government. One of the seven projects promoted for realizing this electronic government is the electronic procurement project. Markets are expected to expand in this field in the future.

b. Wireless IP phone systems

There are potential markets in providing an economical Internet environment by a wireless IP phone system in areas that are not covered by existing landline phones and mobile phones. In this case, there is also possibility for providing various applications such as remote education, administrative services, tourism services, and TV conference services.

c. Electronic passports

Introduction of electronic passports is a solution aimed at securing both safety and improving convenience for users at the same time. Realization of this system will have an aspect of contributing to the establishment of a worldwide personal verification network. It will also have significance for establishing a foothold for the Japanese solution industry.

Formulation of an international standard will become an important point in introducing electronic passports.

d. Establishment/operation of international airports

Private enterprises, which aim to become total service providers that participate in the stages of planning to designing and construction of airports as well as airport operations, will be able to implement various ambitious business strategies with the development of airport-related technologies such as electronic passports and electronic tags. The key to success is participation of privatized, international airport operating companies.

(4) Categorization of business models

Business models were categorized as below at the respective expert meetings.

(i) Urban transportation

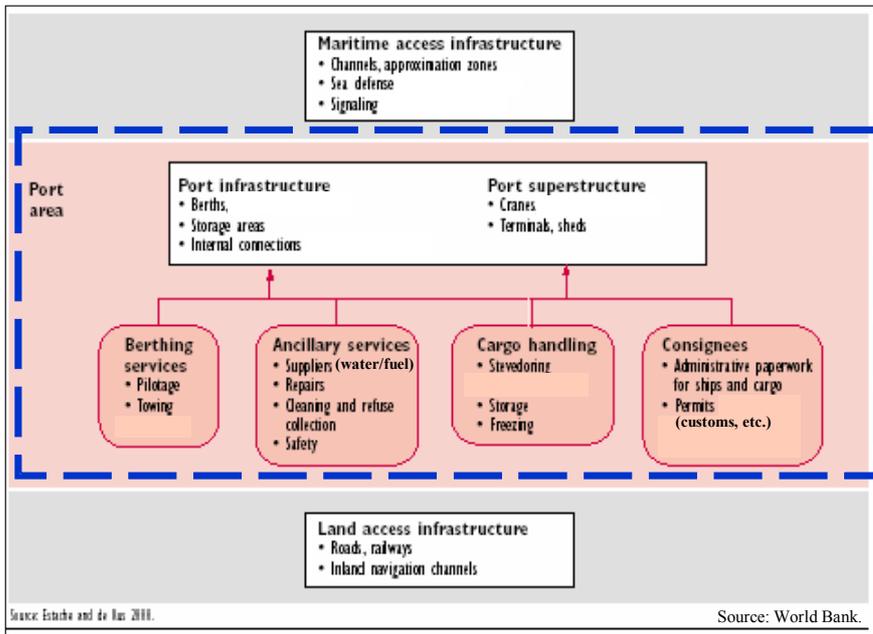
Table 4

	Class	Subclass
Infrastructure	Construction	Tunnels Elevated structures Buildings such as stations Rail yards
	Track	Rails Turnouts and crossings Synthetic sleepers Rail fastenings
E&M	Vehicles	Train bodies Electric equipment Air-conditioners Brakes
	Signals/communication	Signal systems Signals
	Electrification	Transformation systems Feeding systems, overhead wires
	Automatic ticket gates	
	Rail yards	Maintenance equipment
	Station equipment	Elevators Air-conditioners

(ii) Port and harbor

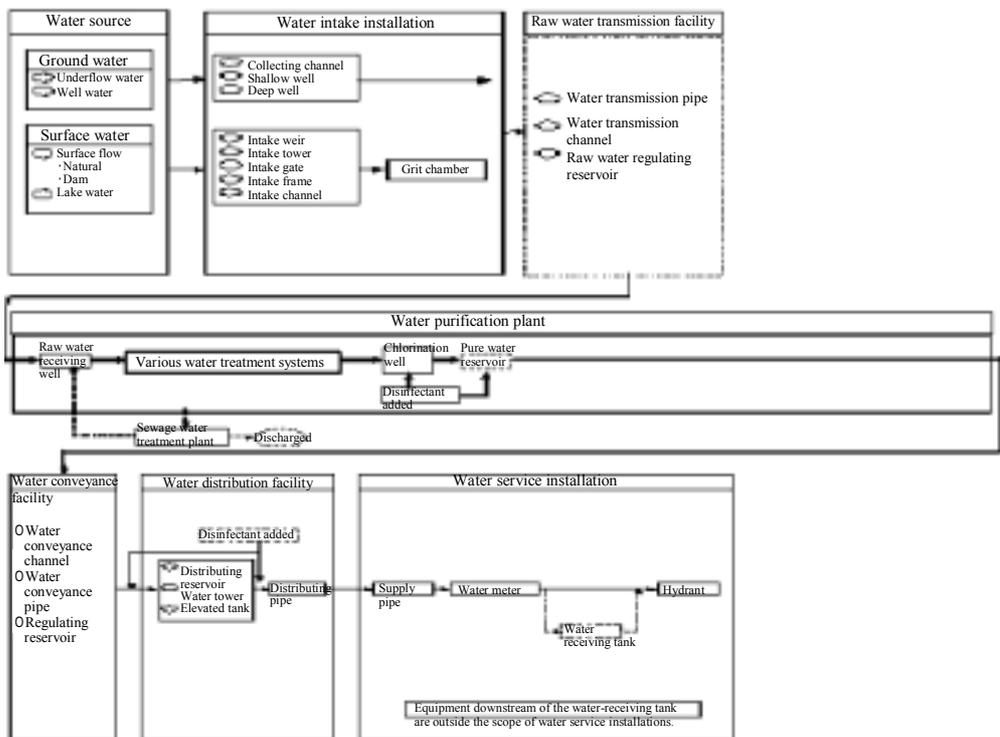
Figure 5

White frame: Construction
Red frame: Port services



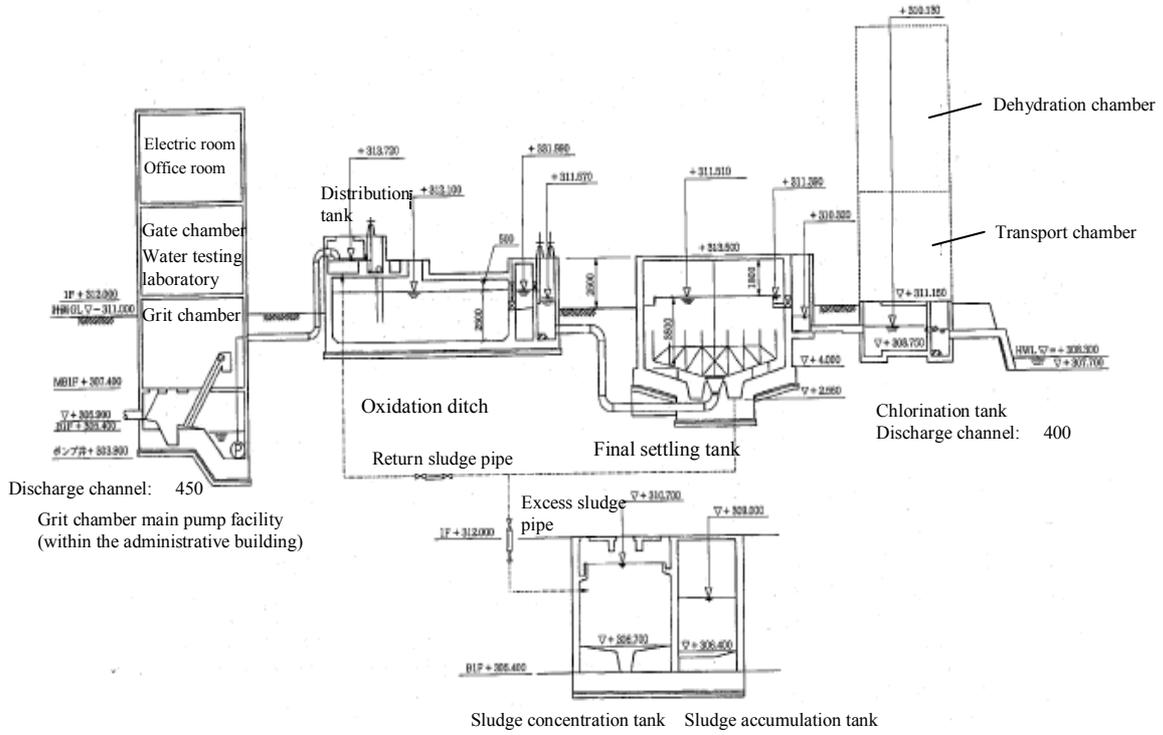
(iii) Water and sewage

Figure 6



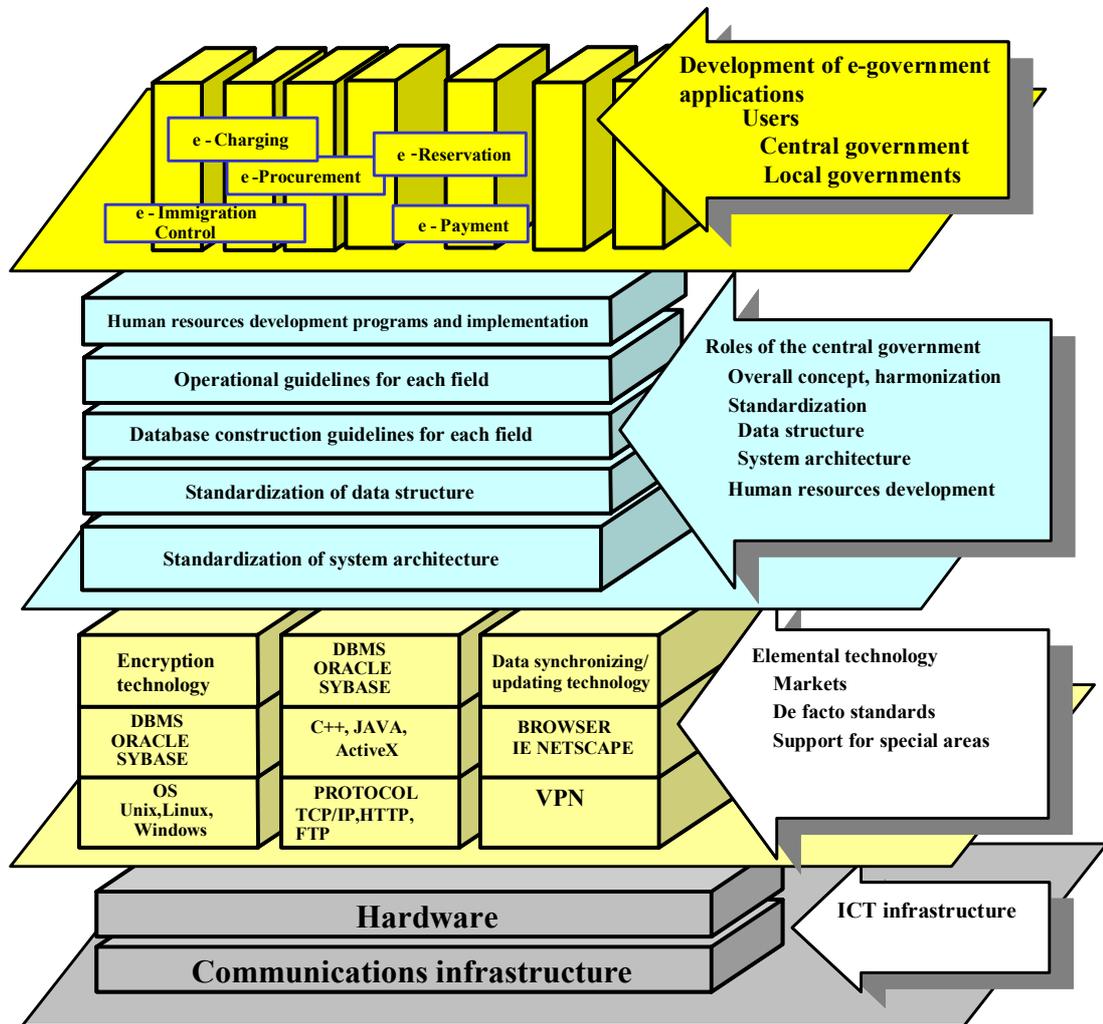
(Sewage)

Figure 7



(iv) Administrative service/IT

Figure 8



(5) Examination of the total service provider capability

The capabilities of Japanese private enterprises in the respective layers of the business models were evaluated as below at the respective expert meetings.

(i) Urban transportation

Table 5

	Class	Subclass	Competitiveness of Japanese enterprises	Future needs and business opportunities	
Infrastructure	Construction	Tunnels	O Particularly shield tunneling	- Shield tunneling in overpopulated cities - Underpinning work below a street of high buildings - High-grade stations and rail yards	
		Elevated structures	Δ		
Buildings such as stations Rail yards		X X			
E&M	Track	Rails	Δ	- Slab track	
		Turnouts and crossings Synthetic sleepers Rail fastenings	X O X		
	Vehicles	Train bodies	Δ Weak at deals involving consultants		- The ease of use of Japan-made products should be emphasized. - Japan's original meticulousness that cannot be found in the Big Three should be emphasized. - System that ensures compliance between the train body and electric equipment
		Electric equipment	O VVVF		
Air-conditioners		Δ			
Signals/ communication	Signal systems	X	- High-function system that integrates operation and maintenance of trains - Digital ATC system that balances comfortable ride and train density - Fixed-time railway crossing control for easing road traffic congestion - Next-generation points (integration of rails and points)		
	Signals	Δ			
E&M	Electrification	Transformation systems	X	- Next-generation overhead wires (integrated overhead wires)	
		Feeding systems, overhead wires	Δ		
	Automatic ticket gates		Δ Strong at high-density processing of 60 persons/min. or more		
	Rail yards	Maintenance equipment	X	- Formulation of maintenance plans that are compliant with the vehicles	
	Station equipment	Elevators Air-conditioners	O Δ		

(ii) Port and harbor

Table 6

	Class	Subclass	Competitiveness of Japanese enterprises	Future needs and business opportunities
Infrastructure development	Maritime access infrastructure	Channels	(Implemented as conventional-type public works projects; outside the scope of PPI) Enormous investment	
		Sea defense		
		Signaling		
	Port infrastructure	Berths	X: Lack of funds	Corresponding to trend toward larger vessels and needs for deeper quays
		Storage areas	X: Lack of cost competitiveness	
		Internal connections		
	Port superstructure	Cranes	X: Lack of price competitiveness against other states	Cranes: Reducing the amount of initial investment by lease
Terminals, sheds		O: High quality and reliability of Japanese products O: Integration of know-how on tangible and intangible products		
Maintenance	Infrastructure		Rigidity of budget execution for maintenance	
	Equipment	O: Preventive maintenance, know-how on LCC reduction		
Port operation	Berthing services	Pilotage, towing, tying	Δ: Generalization of operation know-how	Demand for even more efficient cargo handling

	Ancillary services	Suppliers, repairs, cleaning and refuse collection, safety	O: New technology (IT, communications) O: Ability to deal with Japanese cargo owners X: Difficulty of acquiring information on new projects X: Finding (local) partners	Developing local human resources/management staff Implementing high-value added services within the warehouse
	Cargo handling	Stevedoring, storage, freezing		
	Consignees	Administrative paperwork for ships and cargo, permits, service hiring		
Land access infrastructure		Roads, railways, inland navigation channels	(Implemented as conventional-type public works projects; outside the scope of PPI)	Importance of land access networks
ODA		- There is a large gap between the speed of decision-making required for a PPP project and the ODA implementation schedule. - Initial commitment is difficult because participation/contribution in the initial phase does not necessarily lead to undertaking of the project in a later phase.		

(iii) Water and sewage

Table 7

Comparison of the capacity of Japanese and European water treatment plant manufacturers

Premise: Comparison of the capacity in the case of bidding for a BOT scheme that requires economic efficiency

		Major European plant manufacturer	Japanese plant manufacturer (our enterprise)	Measures for Japanese plant manufacturers to expand overseas
Unit price	Design that meets customer needs	Standard design (meeting the needs)	Individual design	Marginal design/standard design
	Equipment cost	Standard products/bulk purchase: low cost	Procured from third party countries	Procurement from third party countries
	Material cost	-	-	Procurement from third party countries
	Construction cost	Use of a local operator	Use of a local operator	Tie-up with a local operator
Quantity	Process design	Output-based specification: free design	Water supply facility design standard that complies with the national standard	Development of economical and original standard process
	Technology development ability/development budget			But mainly for the domestic market
	New technology			But mainly for domestic use and highly advanced; does not meet overseas needs
	Operation/management system	Simple	Complicated	Simplification of the operation/management system
Management cost	Size and financial condition of the enterprise			
	Project financing arrangement	Large (parent company)	Small	× Fundamental measures required
	Project management ability	Strong	Medium	
	Operation/maintenance	High (parent company)	Low	× Fundamental measures required
Others	Overseas business network	Large	Large (only in Asia)	Use of a trading company, etc.
	Credibility of the enterprise	High	High	
	Ability of contract performance	High	High	
	Overseas experience	High	Medium	

(iv) Administrative service/IT

Table 8

Applications
Standardization
Japan's strong field
Subsystems
Japan is strong in some areas, such as PKI (authentication), but Europe and the United States are also relatively strong overall.
ICT infrastructure
Japan is relatively more advanced than other countries in IP phones.

These matters that were commonly indicated at the respective expert meetings can be summarized as follows.

Firstly, Japanese private enterprises often lack the capability to coordinate between the respective layers of the business model and provide total management of a project.

As shown above, many Japanese private enterprises have international competitiveness in some of the individual layers. However, because they often lack the capability to manage a project in an integrated manner, such competence in a specific part of a project has not made them internationally competitive in the overall project.

Conventionally, Japanese private enterprises that have had a total management function were trading companies. On the other hand, such function has been undertaken by mega-operators in other countries. Therefore, it may also be effective to consider the development of mega-operators in Japan in the future.

Secondly, such a capability to manage a project in an integrated manner would bring about structural reform within Japan, centering on privatization. In some fields, Japanese private enterprises have succeeded in gaining such a capability. For instance, in the railway field, the respective Japan Railway (JR) companies made management reforms after the privatization of the state-owned Japanese National Railways, and they are increasing their international competitiveness. A similar example can be observed in the IT field, and Nippon Telegraph and Telephone Corporation (NTT) is actively engaging in projects overseas such as in the Philippines. Ever since the privatization of Nippon Telegraph and Telephone Public Corporation (Dendenkosha) in the mid-1980s, NTT has effectively utilized the intellectual assets of Dendenkosha and made management reforms. As a result of hard efforts, NTT is gradually gaining international competitiveness in overseas markets. Such a case is also evident at airports. Since the privatization of Narita Airport Authority, Narita International Airport Company has accumulated experience, so there is a growing possibility that a Japanese private enterprise will gain international

competitiveness in management of airport operations.

2. Risk Mitigation Methodology

(1) Basic concept

PPP projects contain a certain element of risk, so it is necessary to appropriately deal with this risk. For this reason, the study group discussed the issue of risk mitigation methodology.

The basic procedure for the risk mitigation methodology is as follows.

[Risk mitigation methodology]

a. Identification of the development stage of the counterpart state

As discussed earlier, it is important to investigate whether the state-building projects of the counterpart state are mainly in “commercially viable” fields, “commercially non-viable” fields, or “non-integrating gap” in order to determine the risks involved in a specific project. Therefore, it is effective to firstly identify the development stage of the counterpart state.

b. Creation of a business model for the project

c. Implementation of a PPP test (feasibility study) for the respective sections of the business model

The feasibility study is conducted by assuming that all sections are undertaken by private enterprises. If a section is judged to be unfeasible, it means that the section involves risk.

d. Categorization of the risks

The risks extracted from the above procedure are categorized into one of the following:

- risks within the market
- “market failure” risks
- governance risks

e. Examination of the countermeasures for each category

The countermeasures are examined for each risk category. The basic direction is as follows.

- The risks within the market will be mainly dealt with by private enterprises. Specific measures include improvement of the total service provider capability.
- The focus of measures against “market failure” risks would be to correct the “market failure.” Therefore, the countermeasures would mainly be cooperative market intervention by the counterpart government, governments of developed states, multilateral development banks, and export credit agencies, rather than efforts by private enterprises.
- The measures against governance risks would mainly be actions for improvement of the counterpart governance by governments of developed states, multilateral development banks, and export credit agencies.

(2) Measures against the risks (private enterprises)

The expert meetings examined and summarized the measures against the risks as below.

(i) Risks within the market

a. Construction risks

- Ordering method and type of contract

Turnkey contracts, blanket orders, orders based on output-based specifications (OBS), bundling of construction and operation/maintenance services, comprehensive outsourcing contracts, etc.

- Damage compensation

Liquidated damage for delay in execution work, utilization of insurance against damage

- External financial support

Sponsor support

- Planning and management method

Careful construction plan, introduction of a comprehensive process control method

b. Income risks

- Local project entity

Building capacity of the local project entity, becoming a strategic partner of the local project entity

- Type of contract

Comprehensive outsourcing contract

- Financial planning

Considering the burden within the overall financing structure

c. Market risks

- Market study

- User commitment

d. Exchange risks

- Increasing the burden of beneficiaries

Reflecting the risks in tariffs, water pricing, and service fees

- Increasing the percentage of borrowing in the local currency

- Remittance risks

Utilization of trade insurance

(ii) “Market failure” risks

a. Force majeure risks

- Collecting fees from beneficiaries

“Take or pay” contract that takes force majeure risks into view

- War, revolution, civil war, natural disaster, etc.

Utilization of trade insurance

(iii) Governance risks

(Taking measures against this type of risk will basically be the role of the government.)

(3) Measures against the risks (Japanese government)

The study group discussed the countermeasures to be taken by the government for the purpose of promoting Asian PPP, and derived the following proposals.

(i) Measures for “commercially viable” fields (risks within the market)

Possible measures include cooperation in the area of policies concerning establishment of law systems, such as the BOT law and PFI law, and implementation of human resources development programs for improving the total service provider capability of private enterprises.

With regard to the income risks and business competition risks that will be faced by private enterprises, a clearly written commitment by the counterpart government should be required. Increasing the credibility of this commitment is an important condition for success of the PPP. Therefore, it is important for the Japanese government to encourage the counterpart state to establish a system for increasing the credibility of the commitment through bilateral talks.

To this end, the Japanese government should strongly demand the counterpart government to implement fair competitive bidding, and must consider having a third party control the fairness of the bidding, if necessary.

In some cases, the entity promoting the project may be a local government instead of the counterpart’s central government. The commitment by a local government is often not credible at present, so it is necessary to advance substantive consideration on establishing a system for improving the credibility of the commitment by local governments through talks with the counterpart’s central government.

When the project is promoted by the counterpart’s central government, a measure can be taken through the diplomatic route, etc. in the case of breach of contract. However, such a route does not necessarily exist when the project is promoted by a local government. Therefore, consideration must be made on how to deal with such a situation.

(ii) Measures for “commercially non-viable” fields (risks within the market + “market failure” risks)

In this field, which is the main field for PPP, two types of measures will be required as mentioned above. One is to correct the “market failure” and the other is to promote participation of private enterprises after the correction of the “market failure.”

The following measures can be considered for correcting the “market failure.”

- Cooperation in the area of policies concerning establishment of economic law systems (in particular, information disclosure, penal regulations, etc.)
- Cooperation in establishing dispute settlement procedure systems such as alternative dispute resolution (ADR)
- Implementation of government measures that complement lack of market mechanism, such as purchase guarantee or financial assistance to a public corporation

In order to effectively promote these wide-ranging measures, it would be indispensable to advance talks with the counterpart government appropriately. To this end, a “bilateral PPP policy dialogue” should be implemented as a platform for discussing the following matters.

- a. Identification of projects that should be made subject to PPP
- b. Identification of the risks related to the respective projects (factors that would impede the efficient market function)
- c. Consideration of the measures to be taken by the counterpart government to overcome the risks (establishment of law systems, etc.)
- d. Consideration of the means to overcome the risks through economic cooperation (in the broad sense) by the Japanese government

The government measures to be taken in order to promote participation of private enterprises after the correction of the “market failure” are basically the same as those for the “commercially viable” fields.

(iii) Measures for the “non-integrating gap” (risks within the market + “market failure” risks + governance risks)

Measures for strengthening the governance of the counterpart government are required in this field. Thus, it is necessary for the Japanese government to promote cooperation in the area of policies concerning establishment of related law systems and various other systems. Again, a “bilateral PPP policy dialogue” could be implemented as a platform to discuss the matters below.

- a. Identification of the fields in which state-building projects should be promoted in a concentrated manner
- b. Identification of systems and laws that should be established in the fields related to state building
- c. Consideration of the details of cooperation by the Japanese government concerning establishment of these systems and laws

3. Financing

(1) Basic concept

Consideration of appropriate financing is essential for promoting state building through PPP in Asia. Otherwise, the Asian PPP promoting measures above will become useless.

As mentioned earlier, it is important to promote PPP in Asia while strengthening the financial systems at the same time. From this perspective, it would be extremely rational to raise funds through bonds in line with the Asian Bond Market Initiative.

Under these circumstances, it would not be appropriate to rely solely on external loans to finance Asian PPP. Whether or not a measure to strengthen the financial systems is available for the project finance would also be an important factor that decides the incentive for promoting Asian PPP in the counterpart state.

Accordingly, the study group conducted intensive study on the financial aspect. As a result, the “PPP-type Financing Package on Asian Development” concept of the following content was derived as a proposal.

(2) Structure of the “PPP-type Financing Package on Asian Development” and the revenue bond

The basic structure of the “PPP-type Financing Package on Asian Development” is as follows.

- It is structured as project finance made up of a package comprising various financing instruments.
- Different packages will be used for the respective domains.
- Commercial finance will be basically used.
- Finance by export credit agencies (including grant assistance) will only be used to complement commercial finance. (However, use of technical cooperation will be justified as a methodology to deal with non-financial risks.)
- Consideration will be given to the characteristics of the financial markets of the individual states.

The main financing scheme of the “PPP-type Financing Package on Asian Development” is project finance. The study group proposed that project finance through revenue bond financing should be promoted due to the following reasons: there is a need to establish direct financial markets

in Asian states as mentioned above; there is a need to develop a new financial service industry; and there is a need to develop means to directly use the enormous funds that exist within Asia for the purpose of state building within Asia. The revenue bond to be used for Asian PPP will be called the “Asia Development Revenue Bond (ADRB).”

Officially, a revenue bond is a user-based revenue bond, which is a bond that redeems the principal and interest based on the proceeds from operation of the investment target. The government does not guarantee redemption of the principal and interest, but rather the investment return and the bond price fluctuate with the actual economic proceeds from the investment target. This type of bond is used not only in developed states such as the United States and the United Kingdom, but also in developing states such as Thailand.

The following advantages of using the revenue bond were indicated at the “Study Group on New Trade Finance Systems (Chairperson: Naoyuki Yoshino, Professor, Keio University)” held by the Trade and Economic Cooperation Bureau, METI in fiscal 2004.

- It allows implementation of projects that give top priority to efficiency (since the projects are undertaken by private enterprises, there will be an incentive to cut costs in order to maximize income).
- Since it requires disclosure to investors, transparency of the project implementation will be secured (the project will be checked by the investor).
- It has the effect of eliminating wasteful and unnecessary projects.
- The above three points realize low-cost, highly profitable projects, which are favorable for the government/residents, the enterprises involved, as well as the investors.
- Unlike ODA, there are no financial restrictions on the part of the fund suppliers (the funds are financed by the investors). Also unlike ODA, there are no financial burdens on the part of the recipient state.
- If the bonds are issued in the currencies in proportion to the fund procurement ratio, the exchange risks can be reduced. (For example, if 70% of equipment and materials are procured from Japan, 70% of the bonds will be procured in yen. This prevents foreign exchange losses during the period from procurement until payment.)

The “Study Group on New Trade Finance Systems” also points out the following as the roles of the government when a project is financed by revenue bonds.

- Selecting an appropriate project in collaboration with the counterpart government
- Providing support in the legal/tax aspects through the diplomatic route
- Ensuring disclosure to the investors

(3) Procedure of ADRB financing

The actual process of financing through ADRB can be carried out by the following procedure.

(i) Selection of a project

The project to be financed by ADRB will be selected principally by the counterpart state's initiative.

(ii) Establishment of a special purpose company

A special purpose company (SPC) will be established to conduct the following with regard to the project:

- evaluation of the project
- sale of ADRBs to investors
- project financing based on the funds gained through the sale of ADRBs
- project governance
- hedging of the exchange risks

(iii) Guarantee of ADRBs

A certain percentage of the principal will be guaranteed (the question regarding the guarantee agency will be studied in the future).

(iv) Sale of ADRBs

ADRBs will be sold to investors in Asian states (e.g., Japan) in the currencies of the respective states.

(v) Financing of the project

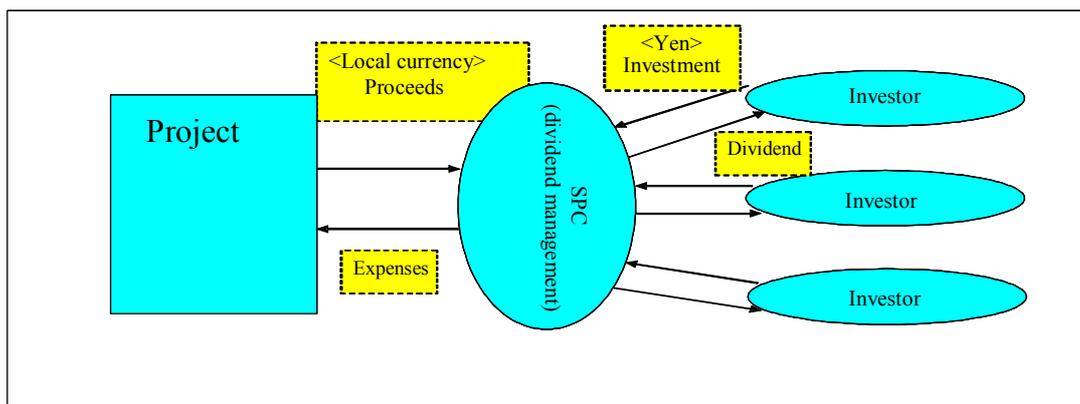
The SPC finances the project based on the funds raised by sale of ADRBs in the local currency of the place where the project is located.

The exchange risks will be hedged by swapping, etc. with the finance of other projects within the SPC.

(vi) Project governance

The SPC will monitor the progress of the project to ensure its appropriate operation, and intervene in the operation as required.

Figure 9: Revenue bond



4. Roles of Government-Affiliated Agencies

The roles of government-affiliated agencies in the respective fields are summarized below, based on the matters indicated at the expert meetings.

(1) Financing by export credit agencies

(i) “Commercially viable” fields

Presently, financing by export credit agencies is used as an indispensable condition for achieving commercial viability in many fields. If export credit agencies continue to develop new systems and products, and increase operational flexibility of the existing systems and products, a higher level of commercial viability will be achieved, more competition will be induced, and the national economy will be stimulated.

Meanwhile, since export credit agencies of major states are competing with each other in terms of financing, continued effort should be made so as to provide services that are competitive against those of agencies of the other states under a basic premise to keep within the scope of the OECD Export Credit Arrangement.

Furthermore, as discussed in the beginning, there is demand for development of direct financial markets in Asian states at present. Therefore, while promoting provision of services that appropriately combine the revenue bond, etc. as mentioned earlier, it is hoped that issuance of Asia’s original bonds will also be considered in the future.

(ii) “Commercially non-viable” fields

It is expected that development of new systems and products related to “market enhancement” will be strongly promoted.

Some of the matters that were indicated at the expert meetings are as follows.

(Credit accommodation to sub-sovereign entities)

Firstly, as already discussed, it is hoped that aid credit and export credit finance will be appropriately extended even when the entity implementing the project is a local government (sub-sovereign entity) of an Asian state, by making existing systems flexible and creating new systems.

(Finance for O&M)

Secondly, appropriate finance services should be provided not only for the infrastructure construction itself, but also for the operation and management (O&M).

Supply of funds for sub-sovereign projects and O&M projects is also sought in yen loans.

(Provision of sector loans and grant assistance)

Thirdly, sector loans and grant assistance should be used for implementing “market enhancement” that is to supplement the cost when the collectable rate standard does not sufficiently cover the cost, and to achieve commercial viability within that scope. In other words, it is desirable to establish a finance scheme that provides other finances with regard to the field that became commercially viable by providing grant assistance for the “market enhancement” part (part supplementing the cost) of the project. In this case, cooperation with multilateral development banks should also be sufficiently considered.

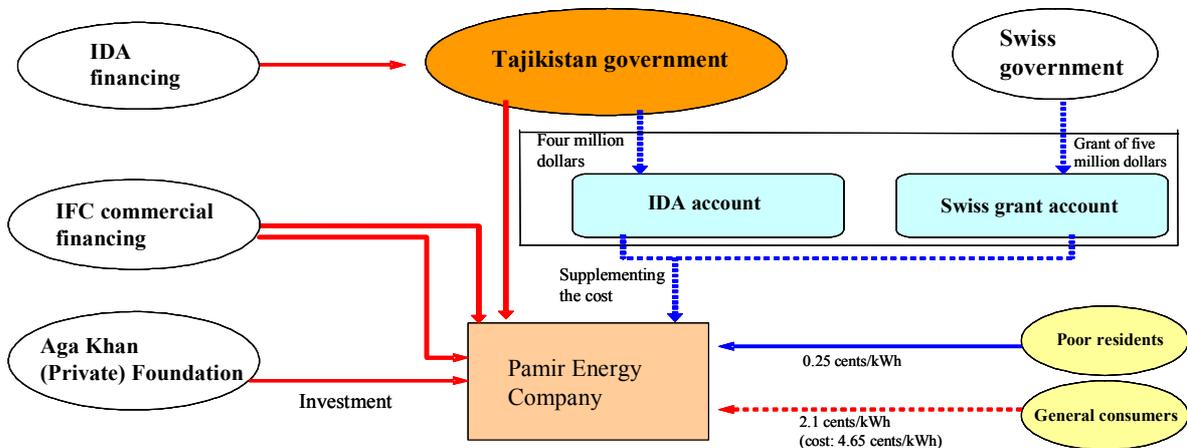
A typical example of such financial scheme is the Tajikistan-type “market enhancement”*. Intensive study should be made by referring to this system.

It goes without saying that, in order for such “market enhancement” to function effectively, the government and the enterprises involved must observe discipline very strictly in the state in which the project is implemented.

* Tajikistan-type “market enhancement”

The Tajikistan-type “market enhancement” is a financing scheme established by the IFC (World Bank group) for the construction and operation of a Pamir power plant in the Republic of Tajikistan. In this project, it was impossible to set the electric utility rate at a standard sufficient to cover the cost, so the cost of the electric company was supplemented by establishing funds consisting of low-interest loans from the International Development Association (IDA; World Bank group) and grant assistance from overseas. In this manner, a measure consisting of the following is called the Tajikistan-type “market enhancement”: (i) to combine multiple financing sources, such as multilateral development banks, overseas governments, and private foundations for a single project; and (ii) to structure a scheme for supplementing cost through such combination. A similar measure has also been taken for an irrigation project in Morocco, and the measure is under consideration for an electricity project in the Philippines.

Figure 10: Pamir power plant project in Tajikistan



(Use of yen loans and CDM for ESCO projects and urban transportation projects)

Fourthly, yen loans and CDM should be used for ESCO projects and urban transportation projects.

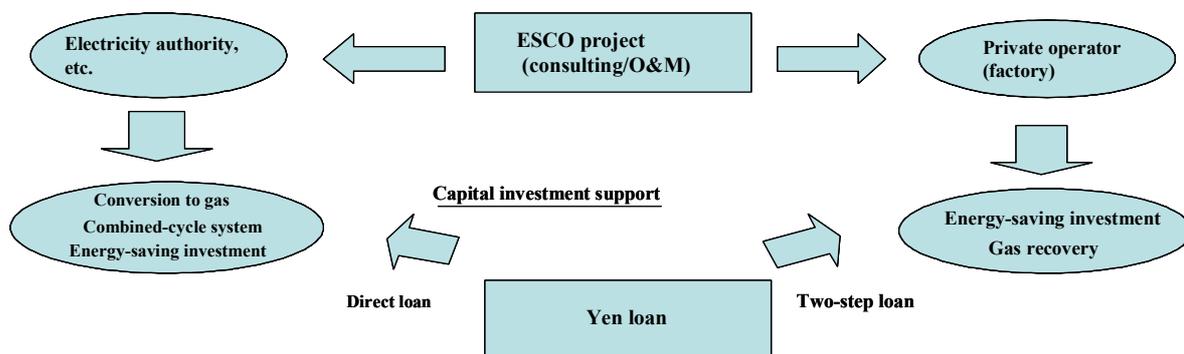
For example, use of yen loans (a direct loan when the entity is a state, such as in the case of a power generation project, and financial cooperation for capital investment by a two-step loan when the entity is a private operator, such as in the case of a factory) and CDM (acquisition of credits) for a ESCO project* would increase the feasibility, and help realize the project.

In many cases, ESCO projects have been implemented in highly commercially viable fields. However, consideration should be given in the future, because it is an area where the number of projects is likely to increase dramatically when financial assistance by the public sector is introduced, as mentioned above.

* ESCO project

ESCO is the abbreviation of “energy service company.” An ESCO project conducts energy-saving operations as private business activities, and comprehensively provides energy services to customers.

Figure 11: A cooperation scheme for an ESCO project



(The emission credits arising from the CDM project are assumed to be purchased by funds other than ODA, such as the Japan Carbon Finance composed of JBIC, Development Bank of Japan, and private enterprises.)

(iii) Direction of concrete actions

In light of the above, the Nippon Export and Investment Insurance (NEXI) would be expected to improve the existing products and review the systems to meet the needs of Japanese enterprises, as well as to take active measures for individual projects with respect to financing including issuance of bonds in the local currency and credit accommodation for sub-sovereign projects, from the viewpoint of promoting the “PPP-type Financing Package on Asian Development.”

(2) Human resources development

In all three fields, the key to success would be the development of human resources that have the abilities necessary for promoting PPP. The required abilities would be knowledge of risk evaluation, risk mitigation methodologies, and financing methods concerning promotion of projects, as well as technical and system-related knowledge concerning the specific project.

To this end, government-affiliated agencies related to human resources development should cooperate with each other and exercise strong initiatives for developing PPP-related human resources in wide-ranging areas including service operation, management, finance, and legal affairs in Asian states. (Similar human resources development efforts would also be required in the private sector.)

Part IV Action Program

The results of the discussion at the Study Group are outlined above.

Whether Asian PPP will be launched on a full-fledged scale depends on the sincere efforts of individual parties concerned.

Based on the results of the discussion, the Study Group has designed an immediate action program as follows.

1. Establishment of industrial platforms (efforts by Japanese private enterprises)

For the purpose of promoting Asian PPP, Japanese private enterprises should actively exchange information with one another and hold discussions on necessary measures to be taken by the industries as a whole. To this end, the parties concerned need to establish platforms* for holding discussions in the real world or cyberspace.

In this respect, it is important to design a system for integrating various levels of meetings such as cross-industrial platforms, industrial working groups, and agenda-based working groups.

*** Platform**

A platform is an “opportunity for stimulating the relationships (information exchange, training, etc.) among third parties” (Yasuhide Yamauchi; 1999). Recently, such opportunities for holding discussion among the parties concerned (including meetings via the Internet and in the real world) have often been called platforms.

It is appropriate to launch platforms as voluntary groups for the time being and develop their organizations along with the advancement of the activities of the parties concerned.

Such platforms should immediately study and promote measures to cope with the following issues.

a. Develop and implement total service provider strategies

It is necessary to develop strategies and implement them one by one to enhance sectoral cooperation and improve the total service provider capability of Japanese private enterprises so that they will be able to form a team with substantial international competitiveness. In the course of this, the necessity to promote cooperation with European and US enterprises should also be considered.

b. Promote standardization, etc.

Individual sectors should make cost reduction efforts by taking measures such as standardizations, cost checks for each operation process, and system improvements based on the

stimulation of the whole system.

Examples of standardizations are: STRASYA* for urban transportation; standardization of the Japanese specification of the technology for treating drinking water by filtering.

* Standard Urban Railway System for Asia (STRASYA)

STRASYA is a standard urban railway system based on the railway technology and know-how of Japan, the world's most successful state in terms of railway business. It was developed under the initiative of the Japan Railway Technical Service (JARTS) as the Collaborative Survey Committee (CTC) Secretariat, and disclosed at the CSC working group held in Fukuoka in January 2005. This system is considered to be most suitable for railway business in Asia. It will enable safe and on-time railway operation, while requiring less energy and maintenance because it uses light railway cars.

2. Promotion of dialogue with the counterpart governments at the PPP working groups and multilateral forums: Efforts by the Japanese government

In order to promote Asian PPP, it is essential to encourage the counterpart governments to take necessary measures as appropriate. Such measures include the following.

Firstly, a PPP executing organization should be established within the government, and its responsibility for designing and implementing PPP-related measures should be clarified.

Secondly, measures should be developed to ensure the reliability of the government commitment. Compared with projects implemented under the complete initiative of the government and those under the initiative of the private sector (e.g. PFIs), PPP projects require significantly high reliability in terms of government commitment. In light of this, new schemes should be developed and operated to ensure the government commitment.

The Japanese government needs to request the counterpart governments to take these measures comprehensively and promote studies thereon collaboratively. In this respect, an effective approach will be to establish bilateral PPP working groups with Asian states and develop discussions. At such working groups, it is also desirable to discuss collaboration with the governments of the United States and European states as well as multilateral development banks.

Preparation is currently being made for establishing a bilateral PPP working group with Thailand. A preliminary meeting was already held on March 7, 2005 (PPP Seminar held at the Japan-Thailand Joint Forum in Bangkok; officials from the Ministry of Finance of Thailand and other entities participated in the forum). It is hoped that preparation will also be made for establishing bilateral working groups with Indonesia, Vietnam, and other Asian states.

In addition to bilateral working groups, it is also necessary to hold multilateral forums for the primary purpose of explaining the significance of PPP to Asian states where PPP has yet to be

implemented and raising awareness of PPP among them.

3. Implementation of PPP-type Financing Package on Asian Development: Efforts by the government and private enterprise

As explained above, for the purpose of promoting Asian PPP, government spending (including overseas loans) is indispensable for market enhancement, and in the fields where commercial viability is realized by such market enhancement, financing methods such as revenue bond and project financing (loan) should be applied (the combination of these two typical methods is referred to as “PPP-type Financing Package on Asian Development”).

The details of these financing methods are as follows.

(i) Action program for the issue of revenue bonds

- [1] Establish a committee between private enterprises and the government to discuss technical matters concerning the issue of revenue bonds, including risk assessment methods, bond composition, responses to currency exchange, and the structure of SPC
- [2] Select a project for PPP through discussion at the government-level bilateral PPP working group
- [3] Establish a SPC and issue revenue bonds for the selected project

(ii) Policy measures for ODA

As mentioned above, in order to promote Asian PPP, various policy measures should be taken such as providing official credits for sub-sovereign entities (e.g. local governments), developing desirable forms of financial aids and public insurance for operation and maintenance (O&M), providing sector loans and grant assistance, and using yen loans and CDM for ESCO projects.

The government should make institutional improvements as appropriate to carry out these measures.

4. Human resource development

We need to promptly develop human resources possessing necessary capabilities for promoting Asian PPP regarding operation, total system management, risk assessment, and understanding of technical features.

Government-affiliated agencies engaging in human resource development (AOTS, JICA, etc.) should take measures to satisfy such needs, e.g. establishing special training programs and increasing the number of trainees. In particular, priority should be given to human resource development in the service sector.

5. Implementation of preliminary surveys and pilot projects

In order to promote the planning of PPP projects in Asia, it is important to enhance preliminary surveys and feasibility surveys, while using existing systems including: JETRO F/S (environment protection/plant development surveys), support programs for the private-sector business environment in developing states, and JICA's overseas development program surveys. Also, for the purpose of effectively promoting the planning of PPP projects in the administrative service sector, it is recommended to implement IT-related pilot projects, using JETRO's J-FRONT projects. Other suggested measures are to carry out surveys with grants from the New Energy Development Organization (NEDO) for projects involving the rationalization of international energy use with respect to projects relating to energy conservation and alternative energy, and basic survey projects for the promotion of CDM/JI (Joint Implementation) through NEDO with respect to CDM-related projects.

6. Promotion of cooperation with third party markets

In promoting Asian PPP, the Japanese government is expected to develop collaboration with the governments of the United States and European states as well as multilateral development banks/organizations.* Also, Japanese private enterprises are expected to promote cooperation with private enterprises of the United States and European states.

*** Examples of notable collaboration**

- In May 2004, METI, the French Embassy, and the Institute for International Studies and Training (IIST) jointly held the AEM/PPP Seminar. European participants made presentations on PPP cases at the seminar.
- In March 2005, METI and the British Embassy held a networking seminar for PPP in East Asia, with the aim of developing collaboration for PPP among PPP-related parties in Japan and Europe (engineering companies, plant manufacturers, electricity companies, banks, law firms, consulting firms, etc.)
- In March 2005, the JBIC, World Bank, and the ADB jointly held a symposium under the theme of "New Framework for Infrastructure Development in East Asia." Presentation sessions and panel discussions were held regarding the future infrastructure development in Asia through PPP.

(Reference) **Roster of the Asia Public-Private Partnership (PPP) Study Group**

Chairman	Fukunari KIMURA	Professor, Faculty of Economics, Keio University
	Soshiro OSUMI	Professor, College of Economics, Kanto Gakuin University
	Hirokazu OKUMURA	Executive Vice President, Institute of Developing Economies, Japan External Trade Organization
	Naoki KAWAMURA	Director for Transportation Project, Public Services Headquarters, NTT DATA CORPORATION
	Masahiro KOIZUMI	PFI Director, KPMG AZSA&Co.
	Susumu KONDO	General Manager, Project & Export Finance Headquarters, Tokyo branch, Hongkong and Shanghai Banking Co. Ltd
	Makoto SUNAGAWA	Board Member, Board on Comprehensive ODA Strategy, Ministry of Foreign Affairs /Guest Specialist, Japan International Cooperation Agency
	Hideya TAKAISHI	Deputy Director General, Structured Finance Department, Bank of Tokyo-Mitsubishi
	Tatsuo HATTA	Professor, Department of Education, International Christian University
	Kaoru HARAGUCHI	Attorney, Haraguchi International Law Office
	Tomokazu HORIKOSHI	Director, Planning Division, Policy Promotion Department, Fujitsu
	Makoto MAEDA	Deputy Director General, Transportation Systems Engineering & Construction Division, MITSUBISHI HEAVY INDUSTRIES
	Yasuyuki MATSUMOTO	Vice President, Overseas Business General Control, Ebara Corporation
	Shigeo MIZUTANI	CEO, Japan Water Corporation
	Takashi MISE	Director, Overseas Companies Sales Promotion Office, Nippon Koei Co., Ltd.
	Toru MIHARA	General Manager, Project Engineering Department, Mitsui Global Strategic Studies Institute
	Morio MIYAZAKI	Executive Managing Director, Managing Director, International Division, UFJ Institute
	Yasuhide YAMANOUCHI	Professor, New Institute for Social Knowledge and Collaboration:Kumon Center, Tama University

Kazuo YAMAMOTO Professor, Environmental Science Center, University of Tokyo

○ **Observer**

Harumi NONAKA Director, Division 1, Sector Strategy Development Department, Japan Bank for International Cooperation

Kazuhiko TANAKA Director, Division 3, International Finance Department, Japan Bank for International Cooperation

Junichi OZAWA Councilor for Techniques, Economic Development Department, Japan International Cooperation Agency

Yuji FUNAYA Executive Director, Structured and Trade Finance Insurance Department, Nippon Export and Investment Insurance

Isao KAWAHARA Director General, JCI EPIC Center, Japan Consulting Institute

○ **Secretariat**

Katsuhide NAGAYAMA Director, Resources Development & Management Division, Pacific Consultants International

Michitoshi NAKAJIMA Director, Urban & Rural Issues, Mizuho Information & Research Institute

Hisashi TAKANASHI Director, Engineering and Consulting Firms Association, Japan

○ **Ministry of Economy, Trade and Industry**

Makoto NAKAJIMA Director-General, Trade and Economic Cooperation Bureau

Shinya KUWAYAMA Deputy Director-General, Trade and Economic Cooperation Bureau

Sadahiro SUGITA Director, Trade Finance and Economic Cooperation Division, Trade and Economic Cooperation Bureau

Hisanori NEI Director, Technical Cooperation Division, Trade and Economic Cooperation Bureau

Kiyoshi OGAWA Director, Financial Cooperation Division, Trade and Economic Cooperation Bureau

Kenichi TOMIYOSHI Director, Trade Insurance Division, Trade and Economic Cooperation Bureau

Tsutomu MURASAKI	Director, International Projects Promotion Office, Manufacturing Industries Bureau
Mitsuhiro MAEDA	Senior Planning Officer for Trade Finance and Economic Cooperation, Policy Planning and Coordination Division, Minister's Secretariat
Tadayuki YOSHIMURA	Senior Planning Officer for Financial Cooperation, Policy Planning and Coordination Division, Minister's Secretariat

Roster of Expert Meetings (Urban Transportation), PPP Study Group

Chairman	Fukunari KIMURA	Professor, Faculty of Economics, Keio University
Vice-Chairman	Hiroataka YAMAUCHI	Professor, Graduate School of Commerce and Management, Hitotsubashi University
	Susumu UCHIDA	Board Member, Vice General Manager, Machinery Headquarters, MITSUBISHI HEAVY INDUSTRIES
	Masafumi OTA	Director, Administrative Division, Business General Control Department, Railroad Business Headquarters, TOKYU CORPORATION
	Gaku SUZUKI	Director, Transportation Systems Division, Hitachi, Ltd.
	Hidemi SOMEYA	Director, International Affairs, Public Relations Dept., Tokyo Metro
	Hideya TAKAISHI	Deputy Director General, Special Finance Group, Structured Finance Department, Bank of Tokyo-Mitsubishi
	Tatsuhiko TANAKA	Deputy Director General, Logistics & Life Team, Industrial Survey Department, Mizuho Corporate Bank
	Hisashi CHUJO	Director, Transport Project Department, Sumitomo Corporation
	Ryuji NISHIZAKI	Head of Project Finance Group 2, Structured Finance Dept., Sumitomo Mitsui Banking Corporation
	Shimon TOKUYAMA	General Manager of the Transportation Systems Unit, Power & Electrical Systems Div., Mitsubishi Corporation
	Munetaka HORIGUCHI	Director, Division 1, International Finance Department I, Japan Bank for International Cooperation
	Yoichi MERA	Director, Transportation & Infrastructure Department, ITOCHU Corporation
	Hiroki YASUDA	Project Team No.3 Director, Structured and Trade Finance Insurance Department, Nippon Export and Investment Insurance
	Kenji YAMAUCHI	Corporate Adviser, Rolling Stock & Construction Machinery Company, Kawasaki Heavy Industries
	Seigo WATANABE	Director, Transportation Project Department No.1, Power Transportation & Plant Projects Business Unit, MITSUI & CO., LTD.

○ Secretariat

Isao KAWAHARA Director General, JCI EPIC Center, Japan Consulting Institute

○ Observer

Hiroshi KOMATSU Director for International Exchanges, International Dept, Corporate Planning Headquarters, East Japan Railway Company

Hisashi TAKANASHI Director, Engineering and Consulting Firms Association, Japan

Tokio NISHIBASHI Deputy Director, Utility & Infrastructure Headquarters, Marubeni Corporation

Kazuo FUKASE Director, Business Promotion Department, Pacific Consultants International

Koji TODA Director, Transportation Overseas Section, Transportation Systems Div., Industrial and Power Systems & Services Company, TOSHIBA CORPORATION

○ Engineering Advisor

Atsushi TOKUTAKE Full-time Corporate Adviser, Japan Overseas Rolling Stock Association

Katsushige TAKAHASHI Director, Sales Department, Japan Railway Technical Service

○ Financial Advisor

Hiroshi YOSHIDA Executive Managing Director, Product Railway Finance

○ Ministry of Economy, Trade and Industry

Tsutomu MURASAKI Director, International Projects Promotion Office, Industrial Machinery Division, Manufacturing Industries Bureau

Kiyoshi OGAWA Director, Financial Cooperation Division, Trade and Economic Cooperation Bureau

Tadayuki YOSHIMURA Senior Planning Officer for Financial Cooperation, Policy Planning and Coordination Division, Minister's Secretariat

Sadahiro SUGITA Director, Trade Finance and Economic Cooperation Division, Trade and Economic Cooperation Bureau

Mitsuhiro MAEDA	Senior Planning Officer for Trade Finance and Economic Cooperation, Policy Planning and Coordination Division, Minister's Secretariat
Masakazu ICHIKAWA	Director, Trade Insurance Division, Trade and Economic Cooperation Bureau
Hisanori NEI	Director, Technical Cooperation Division, Trade and Economic Cooperation Bureau
Keita NISHIYAMA	Director, Asia and Pacific Division, Trade Policy Bureau

○ Ministry of Land, Infrastructure and Transport

Masato Ohno	Director of Rolling Stock Industry and International Affairs Office, Engineering Planning Division, Railway Bureau
-------------	--

Roster of Expert Meetings (Water and Sewage), PPP Study Group

Chairman	Kazuo YAMAMOTO	Professor, Environmental Science Center, University of Tokyo
	Itsu ADACHI	Director, Group No.3, Global Environment Department, Japan International Cooperation Agency
	Hirotugu ISHIYAMA	General Manager of the Plant Project Div., Environment & Water Business Unit (Water Business), Mitsubishi Corporation
	Akira KAWAMURA	Director, Finance Department, Mizuho Corporate Bank
	Makoto SUNAGAWA	Board Member, Board on Comprehensive ODA Strategy, Ministry of Foreign Affairs /Guest Specialist, Japan International Cooperation Agency
	Hideya TAKAISHI	Deputy Director General Structured Finance Department, Bank of Tokyo-Mitsubishi
	Ryo TSUJI	Director, Sales Headquarters, NIPPON JOGESUIDO SEKKEI
	Yasunori NAKAYAMA	Director, Sales Section, International Sales Division, Hitachi Plant Engineering & Construction
	Toshiro NISHIZAWA	Deputy Director General, International Finance Department I, Japan Bank for International Cooperation
	Motokazu NOGUCHI	Corporate Adviser, NIHON HELS INDUSTRY CORPORATION
	Kozo BANDO	Director, Sales Department, Overseas Project Headquarters, KAJIMA CORPORATION
	Hisatsugu HIRAI	Director, Environmental Infrastructure Project Department, Marubeni Corporation
	Ko HOSOKAWA	Deputy Director, Sales Division No.1, Overseas Business General Control project, Sales Headquarters, Ebara Corporation
	Toshio HONDA	Full-time position, Overseas Civil Engineering DivisionNo.1, Overseas Civil Engineering Business Department, Obayashi Corporation
	Shuichi MURAMOTO	Director, Training International Department, Japan Water Works Association

Hiroki YASUDA Project Team No.3 Director, Structured and Trade Finance Insurance Department, Nippon Export and Investment Insurance

Secretariat

Hideo SHIOBARA Director, NPM Development Office, Management Business Department, Pacific Consultants Co., LTD.

Masato HIROZANE Director, PFI Business Division, Management Business Department, Pacific Consultants Co., LTD

Tetsushi SAITO Researcher, Urban & Rural Issues Office, Mizuho Information & Research Institute

Hisashi TAKANASHI Director, Engineering and Consulting Firms Association, Japan

Observer

• Ministry of Economy, Trade and Industry

Atsuyuki TAKEGAMI Director, Industrial Facilities Division, Regional Economic and Industrial Policy Group

Sadahiro SUGITA Director, Trade Finance and Economic Cooperation Division, Trade and Economic Cooperation Bureau

Kiyoshi OGAWA Director, Financial Cooperation Division, Trade and Economic Cooperation Bureau

Masakazu ICHIKAWA Director, Trade Insurance Division, Trade and Economic Cooperation Bureau

Tsutomu MURASAKI Director, International Projects Promotion Office, Manufacturing Industries Bureau

Mitsuhiro MAEDA Senior Planning Officer for Trade Finance and Economic Cooperation, Policy Planning and Coordination Division, Minister's Secretariat

Tadayuki YOSHIMURA Senior Planning Officer for Financial Cooperation, Policy Planning and Coordination Division, Minister's Secretariat

• Ministry of Land, Infrastructure and Transport

Yoshihiro FUJIMORI Counsellor for International Construction, Minister's Secretariat

- Ministry of Health, Labour and Welfare

Yusuke FUKUDA

Director, Office of International Cooperation, International
Affairs Division, Minister's Secretariat

Roster of Expert Meetings (Port and Harbor), PPP Study Group

Chairman	Fukunari KIMURA	Professor, Faculty of Economics, Keio University
	Shuhei ODA	Logistics Business Team, Logistics Business Dept., Marubeni Corporation
	Kazuhiro YAMAKAJI	Assistant Director, Cranes & Systems Sales Dept., Steel Structure & Logistic Systems Hq., Mitsui Engineering & Shipbuilding
	Minoru KAKEE	Submanager, Yokohama Branch, Mitsubishi Logistics Corporation
	Haruhiko KODAMA	Board Member, Director, International Sales Division, Sumitomo Warehouse
	Takanori ONO	Deputy Director General, International Sales Division, Sumitomo Warehouse
	Kengo YAMAMOTO	Director, Technical Environment Department, NISSAN RINKAI CONSTRUCTION CO., LTD
	Hiroyuki TAKEDAGAWA	Director, International Construction Division, International Business Department, Penta-Ocean Construction Co., Ltd
Secretariat		
	Masato HIROZANE	Director, PFI Business Division, Management Business Department, Pacific Consultants Co., LTD
	Seiji NAITO	PFI Business Division, Management Business Department, Pacific Consultants Co., LTD
	Ryo MATSUMARU	Director, IT Business Center, Pacific Consultants International
	Kazuo UEZUMI	Port & Harbor Development Department, Project Management Division, Pacific Consultants International
	Hiroyuki TATEYAMA	Port & Harbor Development Department, Pacific Consultants International
	Tetsushi SAITO	Researcher, Urban & Rural Issues Office, Mizuho Information & Research Institute
	Hisashi TAKANASHI	Director, Engineering and Consulting Firms Association, Japan

Ministry of Economy, Trade and Industry

Sadahiro SUGITA	Director, Trade Finance and Economic Cooperation Division, Trade and Economic Cooperation Bureau
Hisanori NEI	Director, Technical Cooperation Division, Trade and Economic Cooperation Bureau
Masakazu ICHIKAWA	Director, Trade Insurance Division, Trade and Economic Cooperation Bureau
Takashi ISHIZAKI	Assistant Director, Technical Cooperation Division, Trade and Economic Cooperation Bureau
Kiyoshi OGAWA	Director, Financial Cooperation Division, Trade and Economic Cooperation Bureau
Mitsuhiro MAEDA	Senior Planning Officer for Trade Finance and Economic Cooperation, Policy Planning and Coordination Division, Minister's Secretariat
Tadayuki YOSHIMURA	Senior Planning Officer for Financial Cooperation, Policy Planning and Coordination Division, Minister's Secretariat

Roster of Expert Meetings (Administrative Service), PPP Study Group

Chairman	Yasuhide YAMANOUCHI	Professor, New Institute for Social Knowledge and Collaboration:Kumon Center, Tama University
	Hiroshi Ota	Senior Manager, Sales Department, MIGHTY CARD CORPORATION
	Mikihide KATSUMATA	Partner, Nippon Mirai Capital Co., Ltd.
	Naoki KAWAMURA	Director, Transportation Business Project, Service Integration Business Unit, Public Business Sector, NTT DATA CORPORATION
	Kazunari KODAMA	IC Technology Group Manager, Development Division, Information Media Business Department, Toppan Forms Co., Ltd.
	Tadao KOBAYASHI	CEO, NTT Broadband Platform, Inc
	Fuminori SUGINO	CEO, BeMap Inc.
	Hiroshi SUZUKI	Director in charge, Sales Division, International Branch, Taisei Corporation
	Tatsuo TANAKA	Associate Professor, Faculty of Economics, Keio University
	Hidehiko TSUKAMOTO	Director, AFC Sales Division, AFC Business Department, Nippon Signal Co., Ltd
	Tomoaki FUKAYA	Director, Policy Project Division, Policy Promotion Department, Fujitsu
	Akira FUKUDA	Director in charge, Engineering Department, Narita International Airport Corporation
	Makoto WATANABE	General Manager, Policy Research Department, NEC Corporation
Secretariat		
	Kei HARA	Board of Director, Pacific Consultants International
	Hiroaki KURITA	Director, Development Division, IT Business Center, Pacific Consultants International
	Tetsushi SAITO	Researcher, Urban & Rural Issues Office, Mizuho Information & Research Institute
	Hisashi TAKANASHI	Director, Engineering and Consulting Firms Association, Japan

Ministry of Economy, Trade and Industry

Sadahiro SUGITA	Director, Trade Finance and Economic Cooperation Division, Trade and Economic Cooperation Bureau
Kiyoshi OGAWA	Director, Financial Cooperation Division, Trade and Economic Cooperation Bureau
Masakazu ICHIKAWA	Director, Trade Insurance Division, Trade and Economic Cooperation Bureau
Mitsuhiro MAEDA	Senior Planning Officer for Trade Finance and Economic Cooperation, Policy Planning and Coordination Division, Minister's Secretariat
Katsuya MAKIUCHI	Director, Information Project Office, Commerce and Information Policy Bureau
Takashi ISHIZAKI	Assistant Director, Technical Cooperation Division, Trade and Economic Cooperation Bureau
Terumitsu YAMAUCHI	Assistant Director, Trade Finance and Economic Cooperation Division

Roster of the Asia-Japan Electricity Task Force

Chairman	Toshihiko KINOSHITA	Professor, Graduate School of Commerce, Waseda University
	Munenori NOMURA	Professor, Faculty of Economics, Kansei Gakuin University
	Masayasu ISHIGURO	Senior Consultant, Nomura Research Institute
	Hideaki TANAKA	Acting General Manager, Internationals Affairs Department, Tokyo Electric Power Co., Inc.
	Akihisa MIZUNO	General Manager, International Business Department, Associated Business Promotion Headquarters, Chubu Electric Power Co., Inc.
	Makoto SUTOH	Chief Manager, International Network Group, Corporate Planning Department, Kansai Electric Power Co., Inc.
	Kenji TSUGAMI	General Manger, Overseas Business Department, Kyushu Electric Power Co., Inc.
	Seigo MIZUNUMA	Division Chief, International Activities Dept., J.Power
	Kazumichi ARAKI	General Manager, Business Development Department, Tokyo Gas Co., Ltd
	Yasuo KURODA	General Manager, Power & Water Investment Department No.1, Sumitomo Corporation
	Takeshi KITAMURA	Deputy General Manager, IPP Project Division (A7S1), Marubeni Power Systems Corp.
	Koichi Tsunematsu	General Manager, First International Dept., First Power Projects Division, MITSUI & CO., LTD.
	Yu SAITO	General Manager, Power Generation & Marketing International Unit, Mitsubishi Corporation
	Motoharu FUJIKURA	Director, Tokyo Office, International Finance Corporation
	Toshiro NISHIZAWA	Deputy Director General, International Finance Department I, Japan Bank for International Cooperation
	Manabu HOMMA	Director, Division 2, International Finance Department I, Japan Bank for International Cooperation
	Keiichi AOKI	Deputy Director General, Development Assistance Department I, Japan Bank for International Cooperation
	Keiichiro NAKAZAWA	Director, Development Assistance Department II, Japan Bank for International Cooperation

Kentaro ENDO Director, Group No.2, Economic Development Department,
Japan International Cooperation Agency

Haruyoshi UEDA Director, Project Group No.2, Structured and Trade Finance
Insurance Department, Nippon Export and Investment
Insurance

<Observer>

Koichi KAWANA General Manager, Business Development & Promotion
Division, JGC Corporation

Masataka KOMIYA Corporate Adviser, Mitsubishi Corporation

Makoto SUNAGAWA Board Member, Board on Comprehensive ODA Strategy,
Ministry of Foreign Affairs

Kunihiko TAKAHASHI Director, Overseas Business Department, Gas and Power
Investment co.,Ltd.

Yasushi NODA Director, Operation Department, Japan Consulting Institute

Masatoshi FURUICHI Deputy Director, International Cooperation Center, Japan
Electric Power Information Center, Inc.

Norihisa Hoshino General Manager, Plant Business Group, Japan Machinery
Center for Trade and Investment

Hideo YADA Energia Business Promotion Office (General Control &
Overseas Business), The Chugoku Electric Power Co.,Inc.

Sigeru WATANABE Vice Director, Global Development Office, Global Power
Systems Sales Management Division, Hitachi, Ltd.