



# Regional Technical Assistance Report

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Project Number: 41225  
May 2008

## Bond Financing for Infrastructure Projects in the ASEAN+3 Region (Financed by the Japan Special Fund)

Asian Development Bank

## ABBREVIATIONS

ABMI	–	Asian Bond Markets Initiative
ADB	–	Asian Development Bank
APEC	–	Asia-Pacific Economic Cooperation
ASEAN	–	Association of Southeast Asian Nations
ASEAN+3	–	members of ASEAN and People's Republic of China, Japan, and Republic of Korea
EMEAP	–	Executives' Meeting of the East Asia-Pacific Central Banks
JBIC	–	Japan Bank for International Cooperation
MDB	–	multilateral development bank
OREI	–	Office of Regional Economic Integration
PRC	–	People's Republic of China
RETA	–	regional technical assistance
TA	–	technical assistance
UNESCAP	–	United Nations Economic and Social Commission for Asia and the Pacific
US	–	United States
WG	–	working group

## TECHNICAL ASSISTANCE CLASSIFICATION

<b>Targeting Classification</b>	–	General intervention
<b>Sector</b>	–	Finance
<b>Subsector</b>	–	Capital markets and funds
<b>Themes</b>	–	Sustainable economic growth, regional cooperation, capacity development
<b>Subthemes</b>	–	Promoting macroeconomic stability, promoting economic efficiency and enabling markets, money and finance, institutional development

## NOTE

In this report, "\$" refers to US dollars.

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## I. INTRODUCTION

1. The lack of well-developed local currency bond markets was one of the causes of the 1997 Asian financial crisis. At that time, overdependence on bank financing forced borrowers to take on excessive short-term foreign exchange exposure to finance long-term projects that could generate only local currency revenue, resulting in mismatches with respect to both loan maturity and exchange rates.<sup>1</sup> When international confidence in one local currency caused a rapid depreciation against the United States (US) dollar, a payment crisis ensued, exacerbating a loss in confidence across the region (the “contagion” effect). This led to banking and currency crises in several countries. Structural reforms were implemented throughout the region, and most crisis-affected economies have recovered and returned to robust growth. However, the absence of alternative sources<sup>2</sup> of long-term local-currency financing and the region’s lack of efficient bond markets continue to be a source of potential financial vulnerability.

2. The Association of Southeast Asian Nations (ASEAN)+3<sup>3</sup> finance ministers established the Asian Bond Markets Initiative (ABMI) in August 2003 to boost development of local currency bond markets to help mitigate the double mismatch problem, and channel Asian savings to the region. Currently, the ABMI Focal Group and four working groups<sup>4</sup> (WGs) focus on (i) expanding the number and diversifying the makeup of issuers on local currency bond markets, and (ii) developing an environment conducive and attractive to bond market participants. The Asian Development Bank (ADB) has supported the ABMI since its inception, particularly through the provision of technical assistance (TA). The ABMI also complements work done by other regional forums on bond market development, including the Executives’ Meeting of the East Asia-Pacific Central Banks (EMEAP) and Asia-Pacific Economic Cooperation (APEC).<sup>5</sup>

3. In March 2007, at the ASEAN+3 Finance Ministers’ Meeting in Japan, the ABMI Working Group on Creating New Securitized Debt Instruments (WG1) requested ADB to undertake a study on financing infrastructure projects with bond issues, particularly ASEAN+3 local currency bonds, and to identify available or possible debt instruments for financing domestic and cross-border infrastructure projects in the region. The concept paper was approved by ADB management on 17 July 2007.<sup>6</sup> The design and monitoring framework is in Appendix 1.

## II. ISSUES

4. A major priority for ASEAN+3 is finding a way to finance the region’s massive infrastructure demand. This is of particular concern in rapidly urbanizing areas. Various

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<sup>1</sup> Loan maturities became too divergent, to the detriment of both local creditors and borrowers, and the currencies in which the loans were made became vulnerable to exchange rate volatility or, worse, local currency exchange rate depreciation.

<sup>2</sup> Bank loans have, in most cases, 5-10 years tenor.

<sup>3</sup> ASEAN+3 comprise the 10 members of ASEAN (Brunei Darussalam, Cambodia, Indonesia, Lao People’s Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam) and People’s Republic of China (PRC), Japan, and Republic of Korea.

<sup>4</sup> The four WGs are: WG1—New Securitized Debt Instruments (chaired by Thailand); WG2—Regional Credit Guarantee and Investment Mechanism (the PRC and the Republic of Korea); WG3—Foreign Exchange Transaction and Settlement Issues (Malaysia); WG4—Rating Systems and Dissemination of Information (Japan and Singapore). In addition to the four WGs are: (i) the TA Coordination (Indonesia, Malaysia, and the Philippines) and (ii) the Ad-Hoc Support Team to the Focal Group, an apex body that oversees overall ABMI progress.

<sup>5</sup> EMEAP initiatives include enhancing the demand-side for bond market development through the Asian Bond Funds 1 and 2. APEC initiatives include diversifying of bond products.

<sup>6</sup> The TA first appeared in *ADB Business Opportunities* on 24 July 2007.

estimates<sup>7</sup> indicate that East Asia needs approximately \$162 billion per year from 2005 to 2010 (equal to about 6.2% of the region's aggregate gross domestic product) for basic infrastructure spending (for electricity, telecommunications, water and sanitation and transportation). About 65% is for new investments and 35% for maintenance of existing facilities.<sup>8</sup> When other infrastructure needs (such as airports, ports, bridges, and urban transport) are included, the overall estimate rises to \$200 billion per year (footnote 7).

5. Given the globalization of financial markets and the growing array of sophisticated instruments available, infrastructure finance can now include a mix of local and international funding (e.g., syndicated bank loans, structured finance equipment leasing, and bonds). Private investment in East Asian infrastructure has totaled about \$190 billion since 1990; such investment peaked in the mid-1990s, and comprised a minor share (about 20% to 25%) of total infrastructure investment in the developing world, as well as in much of the developed world (footnote 7). The severe resource constraints make financing needed infrastructure a huge challenge for most of ASEAN+3.

6. Reasons for the recent slowdown in private sector investment in infrastructure projects include inefficient pricing policies, ineffective delivery systems, and inconsistent regulatory frameworks (bankruptcy proceedings and bureaucratic inefficiencies) (footnote 7). From 2001 to 2005, East Asia and the Pacific accounted for about 18% of total private investment in infrastructure in all developing countries, down from 27% for 1990–2000. This was despite consistently strong economic growth as the region recovered from the Asian financial crisis.

7. There are various types of bonds (government bonds, corporate bonds, revenue bonds and project bonds) that can be issued to finance infrastructure projects. Infrastructure bonds can be a more efficient form of financing as it meets the long term nature of infrastructure financing which is often not available from the banking system. It also brings more transparency to the transaction and the financial market as a whole. To convince the private sector to increase its participation in infrastructure financing, ASEAN+3 governments need to continue financial market reforms, and foster an investment environment conducive to private contractual activities to develop efficient market for infrastructure bond financing. Contractual, political, and regulatory risks and investor protection provisions have to be re-examined and adequate measures adopted to stimulate local, regional, and international investment in infrastructure bonds. Furthermore, given the considerable savings and accumulated foreign exchange reserves available in the region, the ASEAN+3 countries are looking to tap regional bond markets for long-term infrastructure investment. Infrastructure financing diversification—by adding bonds to existing sources, which include governments, external official development assistance, and loans—will benefit the region. Regional bond markets face several constraints, however, including their size, relative illiquidity, and regulatory environments, and these do not foster investor confidence. In addition, the lack of adequate investor protection measures and poor enforcement of securities laws by regulators can discourage investment in infrastructure bonds.

8. Improvements in the creditworthiness of potential bond issuers will be needed to attract local, regional, and international investors. The recent turbulence in the credit market<sup>9</sup> requires improving the transparency of the rating process for structured transactions through (i) better valuation and accounting of off-balance sheet risks, and (ii) strengthening of risk management

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<sup>7</sup> Such as the study jointly conducted by ADB, Japan Bank for International Cooperation (JBIC), and World Bank, 2005, and United Nations Economic and Social Committee for Asia and the Pacific (UNESCAP) study in 2006.

<sup>8</sup> ADB, JBIC, and World Bank. 2005. *Connecting East Asia: A New Framework for Infrastructure*. Manila, Tokyo, and Washington, DC.

<sup>9</sup> The proposed RETA Developing Securitization Market in ASEAN+3 is expected to examine this issue in detail.

techniques employed by financial institutions and credit rating agencies.<sup>10</sup> To minimize regulatory risk, reforms in the regulatory and supervisory frameworks in most member country financial sectors will also be needed. To meet developing countries' infrastructure project financing needs in the region, the role of multilateral development banks (MDBs) in helping ASEAN+3 countries develop the regional infrastructure bond market should also be explored.<sup>11</sup>

9. ADB has undertaken studies on infrastructure financing for developing member countries in the region, including a study on the development of bond markets for infrastructure financing in Asia.<sup>12</sup> Studies on infrastructure finance in the ASEAN+3 region<sup>13</sup> have also been undertaken by external parties such as JBIC and Fitch Ratings. This project will build on the studies and lessons learned from the ADB, JBIC and other projects on infrastructure bond financing. Previous studies will be reviewed and consolidated to avoid any duplication of previous efforts.

10. The size of the infrastructure financing gap for the ASEAN+3 region highlights the need for cooperative efforts to bring new sources of capital into the region. ASEAN+3 member countries need to work together to find effective financing mechanisms to stimulate infrastructure project investment; this would be more efficient than individual countries seeking to independently access the limited available funds to finance their own infrastructure needs.<sup>14</sup>

### III. TECHNICAL ASSISTANCE

#### A. Impact and Outcome

11. The TA aims to promote the development of infrastructure bonds denominated in local currency, facilitate the issuances of such bonds, and encourage investment in and trading of cross-border infrastructure bonds. Efficient local currency bond markets will help channel the region's substantial savings to fund long-term development needs, and could partially fill the huge demand for infrastructure financing. The TA will cover ASEAN+3 countries, focusing on People's Republic of China, Indonesia, Malaysia, Philippines, Thailand and Viet Nam. The expected outcome is that the ASEAN+3 officials will be provided with the basis to make an informed decision on the development of bond market for infrastructure projects.

12. The TA supports ADB's Office of Regional Economic Integration (OREI) strategy and the Regional Cooperation and Integration Strategy, including (i) Pillar 2 (Trade and Investment Cooperation), which supports cross-border infrastructure development as a means of fostering regional cooperation to facilitate trade and investment; and (ii) Pillar 3 (Monetary and Financial Cooperation), which supports the development of bond financing for infrastructure projects to (a) support regional financial cooperation and integration through increased cross-border transactions, and (b) promote greater financial stability in the region. The TA will complement activities to promote infrastructure projects by ADB's Regional and Sustainable Development Department, Private Sector Operations Department, and regional departments.

<sup>10</sup> ADB. 2008. *Securitization in East Asia*. Manila

<sup>11</sup> The former ABMI WG4 (Issuance of Bonds denominated in Local Currency by MDBs) achieved its objectives and was dissolved. However, the role of MDBs in financing infrastructure projects through bonds needs further study.

<sup>12</sup> ADB. 2005. *Financing Infrastructure Development: Asian Developing Countries Need to Tap Bond Markets More Rigorously* ERD Policy Brief No. 34. Manila

<sup>13</sup> Particular interest to this RETA would be JBIC. 2007. *Infrastructure Financing and Bond Issuance in Malaysia*. Tokyo; and Fitch Ratings. 2007. *Infrastructure Finance in Asia - Boom, Bust and In-Between*. New York.

<sup>14</sup> UNESCAP. 2006. *Enhancing Regional Cooperation in Infrastructure Development including that related to Disaster Management*. New York.

## B. Methodology and Key Activities

13. All stages of the study will be done in consultation with market participants through meetings and/or conferences and will increase existing dialogue with other stakeholders and policy makers. The design will be relatively flexible to accommodate views from the private sector and from government officials obtained throughout implementation. ADB and the TA consultants will communicate regularly with the WG1 chair and members to discuss output and to develop appropriate policy recommendations. The scope of the study, with preliminary agreement from WG1 members, includes the following components.

14. **Debt Market Analysis for Infrastructure Projects.** The study will (i) provide a short background on the infrastructure demands of the region, (ii) describe the existing sources of funding and mechanisms employed by the ASEAN+3 countries in funding infrastructure projects, and (iii) identify the benefits of bond financing. The study will first discuss the different types of bonds that can be issued to finance infrastructure. It will then identify legal, regulatory, and market constraints to issuing bonds to finance infrastructure projects in the region, including constraints that hinder private sector participation in infrastructure investment. Where bond markets are relatively developed, it will analyze the readiness of such markets to issue infrastructure bonds, define market conditions for available bond products, and identify risk mitigation instruments (including hedging instruments and guarantee mechanisms) that are available or in use. Taking into consideration the differences in the stages of bond market development in these countries, the study will identify particular issues relating to structured finance that hinder, or even prevent, the use of bond financing to fund infrastructure projects. Potential investors in and issuers of infrastructure bonds from the local, regional, and international markets will be identified. Country studies in nascent markets such as Viet Nam will focus on basic information about their bond markets. The study will also examine existing policy and regulatory frameworks for bond issuance and the role of governments in promoting private sector participation in infrastructure financing.

15. **Lessons.** Innovative infrastructure bond financing schemes are thriving in developed markets in countries outside the region, including the US and Europe. Firms in the US are even beginning to market infrastructure as a separate asset class, one with risks similar to those of bonds, but with returns similar to those in the stock market.

16. Only a few countries in the region have successfully and actively issued infrastructure project bonds. The study will include a review of the policy framework that helped foster a favorable environment for infrastructure bond financing in these countries. Successful government incentive schemes, such as those employed by Singapore,<sup>15</sup> will be analyzed. ADB's extensive experience and perspective in financing infrastructure projects and providing assistance in bond market development efforts in the region will also be reviewed and relevant lessons taken into account, where these can assist ASEAN+3 governments formulate their own infrastructure financing incentives and schemes. The study will also identify the types of infrastructure projects and project schemes most suitable for bond financing.

17. **Role of Government and Infrastructure Bond Development Strategies.** The study will examine the government's role in promoting infrastructure bond financing, and in particular the provision of incentives to encourage private sector participation. The findings of the debt market review and the experiences of both developed and developing markets will be presented

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<sup>15</sup> Singapore facilitates infrastructure bond financing through incentives such as tax exemptions on interest income and favorable tax rates for services such as arranging, underwriting, and distributing projects.

to the ASEAN+3 governments. Based on the results of the review, the study will develop a regional action plan to create an environment conducive to infrastructure bond development; this may also include a list of infrastructure projects eligible for bond financing.

18. **Case Studies and Best Practices.** The study will identify the conditions necessary for infrastructure project bond financing. Based on a review of financing schemes used in more developed economies, five case studies and a set of best practices for infrastructure bond financing will be prepared to guide ASEAN+3 authorities in reviewing their financing strategies to determine the adjustments needed to attract local, regional, and international investors to invest in their infrastructure bonds.

19. **Recommendations.** A set of recommendations will be submitted to WG1 on an appropriate strategy and policies that may be adopted by individual ASEAN+3 countries to achieve the objective of increasing bond financing for infrastructure projects across the region.

### **C. Cost and Financing**

20. The total cost of the study is estimated at \$700,000 equivalent. The study will be financed on a grant basis by the Japan Special Fund, funded by the Government of Japan. Detailed cost estimates and a financing plan are in Appendix 2. ASEAN+3 members will finance the costs of individual WG1 activities and of participation in WG1 activities.

### **D. Implementation Arrangements**

21. ADB will be the Executing Agency for the TA, which will be administered and implemented by OREI in close consultation with WG1 member countries, particularly Thailand (the WG1 chair). ADB will supervise the work of the TA consultants.

22. Three international consultants and one national consultant will be engaged for a total of 17 person-months of international consultancy services and 12 person-months of national consultancy services. The consultants will be hired and engaged by ADB as individual consultants in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time). The outline of the terms of reference for the consultants is in Appendix 3.

23. The study will be implemented over a 14-month period, and is expected to start in May 2008 and to end by June 2009. A series of market consultations with market players and government officials will be held within 5 months after commencement. With these inputs, as well as those from government officials, the interim report will be submitted to WG1 within 6 months. A final presentation to WG1 is expected in June 2009. The outline of the final report is in Appendix 4. Upon completion, the report will be disseminated within ADB and on appropriate websites,<sup>16</sup> with external publication of the report subject to approval by WG1 members.

## **IV. THE PRESIDENT'S DECISION**

24. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$700,000 on a grant basis for Bond Financing for Infrastructure Projects in the ASEAN+3 Region, and hereby reports this action to the Board.

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<sup>16</sup> For example, <http://www.asianbondsonline.adb.org>.

## DESIGN AND MONITORING FRAMEWORK

<b>Design Summary</b>	<b>Performance Targets/Indicators</b>	<b>Data Sources/Reporting Mechanisms</b>	<b>Assumptions and Risks</b>
<p><b>Impact</b> Developed local currency bond markets reduce financial vulnerabilities and encourage the use of Asian savings within the ASEAN+3 region</p>	<p>Higher trading volume of local currency bonds from \$6 trillion in 2007 to at least double in 5 years</p> <p>Increased size of local currency bond issuances from \$3.5 trillion in 2007 to at least double in 5 years</p>	<p>Bond market data Internet (e.g., asianbondsonline)</p> <p>Asia Bond Monitor</p>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• Commitment of ASEAN+3 governments to continue reforms to promote local currency bond market development</li> <li>• Capital market conditions remain stable not only in ASEAN+3 region but also in the global market</li> </ul> <p><b>Risk</b></p> <ul style="list-style-type: none"> <li>• ASEAN+3 governments fail to adopt reforms</li> </ul>
<p><b>Outcome</b> ASEAN+3 officials come up with an informed decision on the development of bond market for infrastructure projects</p>	<p>At least 3 ASEAN+3 member countries consider adopting the recommendations of the policy by 2009</p>	<p>Market consultations with ASEAN+3 member countries</p>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• Relative stability of financial sector</li> <li>• Infrastructure projects eligible for bond financing</li> </ul>
<p><b>Outputs</b></p> <p>1. Analysis of case studies on infrastructure bond and best practice recommendations</p> <p>2. Analysis of legal and regulatory framework and policies to support infrastructure bond financing</p> <p>3. Analysis of readiness of markets to issue infrastructure bonds, and identification of conducive market conditions for infrastructure bonds</p> <p>4. List of infrastructure projects suitable for bond financing.</p> <p>5. Draft policy recommendations for bond financing for infrastructure projects</p>	<p>1. Within 12 months, at least 1 best practice recommendation and 3 case studies presented to ASEAN+3 officials at working group meetings</p> <p>2. Within 12 months, lessons learned to be presented to ASEAN+3</p> <p>3. Within 12 months, at least 3 ASEAN+3 member countries create conducive market conditions for infrastructure bond issues</p> <p>4. At least 2 sample projects for each type of infrastructure project</p> <p>5. Majority of consulted officials support general outline and recommendations</p>	<p>Market participants such as financial institutions</p> <p>Market participants such as financial institutions</p> <p>Market consultations with ASEAN+3 member countries</p> <p>Market participants such as financial institutions</p> <p>Publications on infrastructure bond projects</p> <p>Market consultations with ASEAN+3 member countries</p>	<p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>• Governments as well as market participants willing to participate in market consultations and conferences to discuss development of infrastructure bond projects</li> </ul>

<b>Activities with Milestones</b>	<b>Inputs</b>
<p>1.1 Analyze how infrastructure projects are financed in the ASEAN+3 region (August 2008)</p> <p>1.2 Review ADB's extensive experience and perspective in financing infrastructure projects in the region and incorporate lessons learned in the report (August 2008)</p> <p>1.3 Identify and analyze impediments that hinder the use of bond financing to fund infrastructure projects in the ASEAN+3 region (November 2008)</p> <p>1.4 Develop case studies based on best practices for promoting bond financing for infrastructure projects (December 2008)</p> <p>1.5 Present preliminary findings to WG1 (December 2008)</p> <p>2.1 Cite lessons learned from the experiences of the US and other developed economies on infrastructure bond financing (August 2008)</p> <p>2.2 Review how the US and other countries developed innovative debt financing schemes and provide recommendations on how these experiences can be applied to the ASEAN+3 region (October 2008)</p> <p>2.3 Market consultations/policy dialogues involving both public and private sectors to prepare development strategies to remove barriers to bond financing as alternative scheme to fund infrastructure projects (January 2009)</p> <p>2.4 Develop best practice recommendations, and propose legal and regulatory framework and policies to support infrastructure bond financing (January 2009)</p> <p>2.5 Present interim report to WG1 (February 2009)</p> <p>3.1 Readiness of the bond markets for infrastructure projects in the ASEAN+3 region (February 2009)</p> <p>3.2 Impediments to the use of bonds to finance infrastructure projects (February 2009)</p> <p>3.3 Risks in financing projects by bonds (February 2009)</p> <p>3.4 Hedging instruments and guarantee mechanisms available in the ASEAN+3 region (March 2009)</p> <p>4.1 List of infrastructure projects suitable for bond financing (March 2008)</p> <p>5.1 Policy recommendations for bond financing for infrastructure projects (April 2009)</p> <p>5.2 Regional conferences to obtain feedback from market participants on how to promote infrastructure bond financing within ASEAN+3 region (May 2009)</p> <p>5.3 Present final report to WG1 (June 2009)</p>	<p>ADB</p> <ul style="list-style-type: none"> <li>• 29 person-months of consulting services, \$510,000</li> <li>• Travel expenses for consultants \$50,000</li> <li>• Printing reports and communications \$10,000</li> <li>• Training, seminars, and conferences \$50,000</li> <li>• Miscellaneous and contingencies \$80,000</li> <li>• Total cost including contingencies: \$700,000</li> </ul> <p>Governments</p> <ul style="list-style-type: none"> <li>• Expenses to participate in WG1 activities</li> <li>• Feedback</li> </ul> <p>Private sector</p> <ul style="list-style-type: none"> <li>• Market consultations and feedback</li> <li>• Participation in conferences, policy dialogues and interviews</li> </ul>

ADB = Asian Development Bank; ASEAN+3 = Association of Southeast Asian Nations plus People's Republic of China, Japan, and Republic of Korea; US = United States; WG = Working Group.

**COST ESTIMATES AND FINANCING PLAN**  
(\$'000)

<b>Item</b>	<b>Total Cost</b>
<b>Asian Development Bank Financing<sup>a</sup></b>	
1. Consultants	
a. Remuneration and Per Diem	
i. International Consultants <sup>b</sup>	450.0
ii. National Consultants <sup>c</sup>	60.0
b. International and Local Travel <sup>d</sup>	50.0
c. Reports, Printing, and Communications	10.0
2. Training, Seminars, and Conferences <sup>e</sup>	50.0
3. Miscellaneous Administrative and Support Costs	10.0
4. Contingencies	70.0
<b>Total</b>	<b>700.0</b>

<sup>a</sup> Financed by the Japan Special Fund, funded by the Government of Japan.

<sup>b</sup> Assuming \$30,000 per month for team leader x 5 months, \$25,000 per month for other international consultants x 12 months.

<sup>c</sup> Assuming \$5,000 per month x 12 months for project coordinator

<sup>d</sup> Assuming 10 trips at \$5,000 per trip.

<sup>e</sup> Assuming one regional conference at \$50,000 or two smaller seminars at \$25,000 per seminar.

Source: Asian Development Bank estimates.

## OUTLINE OF TERMS OF REFERENCE FOR CONSULTANTS

### A. International Consultants

#### 1. Infrastructure Bond Finance Specialist and Team Leader (5 person-months)

1. The team leader will have extensive experience in international financial markets, particularly infrastructure financing. He or she will coordinate with and review the work of other consultants and consolidate their views into the final report. The team leader should leverage on information from existing studies and research to the extent possible. The team leader will perform the following tasks:

- (i) Define infrastructure bonds and discuss the various types of bonds that can be issued to finance infrastructure projects.
- (ii) Lead the review of the infrastructure financing program of selected members of the Association of Southeast Asian Nations (ASEAN), plus People's Republic of China, Japan, and Republic of Korea (collectively, ASEAN+3) with a focus on People's Republic of China, Indonesia, Malaysia, Philippines, Thailand, and Viet Nam. Analyze (a) bond market conditions in these countries, including defining market conditions; (b) policy frameworks that govern bond issuance; (c) trading and settlement; and (d) risk management systems.
- (iii) Assess infrastructure bond financing schemes in developed markets in countries outside the region, such as the United States and Europe, as well as selected markets in the region, and draw lessons relevant to the ASEAN+3 countries.
- (iv) Review the experience of the Asian Development Bank (ADB) in debt financing for infrastructure projects, particularly in providing guarantees and other risk mitigation measures.
- (v) Together with the project finance transaction specialist, identify factors that hinder issuance of cross-border infrastructure bonds, and efforts by ASEAN+3 governments to address these. Examine potential demand from cross-border investors for infrastructure bonds that may be issued by selected ASEAN+3 countries. Assess and determine the availability of hedging instruments that could mitigate risks to investors and identify incentives provided by governments to encourage investments in infrastructure bonds.
- (vi) With the assistance of other consultants, conduct market consultations with major market players and government policymakers to facilitate the formulation of a regional action and implementation plan promoting infrastructure bond development, which may include a list of potential infrastructure projects eligible for bond financing.
- (vii) Based on the review of market conditions, lessons, and market consultations, and with the assistance of other international consultants, prepare case studies and draft a set of best practices on infrastructure bond financing that may serve as a guide for the region.
- (viii) Together with other international consultants and in close coordination with relevant government officials, draft policy recommendations on how to promote bond financing to fund the region's infrastructure needs.
- (ix) Prepare and submit to ADB and Working Group 1 inception, interim, and final reports with the assistance of the other consultants.
- (x) Perform other tasks as reasonably requested by ADB.

## **2. Infrastructure Financing Legal and Regulatory Specialist (6 person-months)**

2. The specialist will have extensive experience in regulation of infrastructure finance, issuance of project bonds, and private sector involvement in infrastructure finance. The specialist will assist the team leader and will coordinate with other international consultants and incorporate their views into the requested outputs. The specialist should leverage on information from existing studies and research to the extent possible. The specialist will perform the following tasks:

- (i) Assist the team leader in reviewing the infrastructure financing program of selected ASEAN+3 countries, i.e., review the various schemes used, verify the estimated infrastructure financing requirement over the next 5 years, and identify successful infrastructure financing schemes. Countries include People's Republic of China, Indonesia, Malaysia, Philippines, Thailand, and Viet Nam.
- (ii) Assess the extent and effectiveness of private sector participation in infrastructure projects, including legal and regulatory frameworks that provide incentives and/or disincentives to successful private sector participation.
- (iii) Assess ASEAN+3 observance of international standards or best practices in investor protection, accounting and auditing, transparency and disclosure, and corporate and public governance.
- (iv) Assist the team leader to conduct market consultations with major market players and government policy makers to draw lessons, identify cases to be further analyzed in the study, and identify projects, which may include a list of potential infrastructure projects eligible for bond financing.
- (v) Assist the team leader to prepare a draft set of best practices on infrastructure bond financing.
- (vi) Act as a resource person at conferences to formulate a regional action plan.
- (vii) Perform other tasks as reasonably requested by ADB.

## **3. Project Finance Transaction Specialist (6 person-months)**

3. The consultant will have extensive experience in international infrastructure project bond financing and cross-border bond transactions for infrastructure projects. The specialist should leverage on information from existing studies and research to the extent possible. He or she will perform the following tasks:

- (i) Assist the team leader to review the international experiences of developed countries in using bond issues to fund infrastructure projects, such as the experience of the United States in providing the legal framework to enable states to issue infrastructure bonds. Review experience with issuance of long-term infrastructure bonds.
- (ii) Draw lessons learned from these various country experiences that may be relevant to ASEAN+3 situations and conditions.
- (iii) Identify hindrances to issuance of cross-border bonds and recommend measures to address these.
- (iv) Assist the team leader to conduct market consultations with major market players and government policy makers to facilitate the formulation of a regional infrastructure bond financing development strategy, which may include a list of potential infrastructure projects eligible for bond financing.
- (v) Identify and analyze five case studies on infrastructure bond financing, highlighting success factors in issuing infrastructure bonds.

- (vi) Assist the team leader to design, prepare, and conduct conference (s) and/or workshop (s) and/or seminar(s).
- (vii) Assist the team leader in preparing and presenting inception, interim and final reports to Working Group 1, together with the infrastructure financing legal and regulatory specialist.
- (viii) Perform other tasks as reasonably requested by ADB.

## **B. National Consultant**

### **1. Project Coordinator (12 person-months)**

4. The project coordinator will have adequate experience in project management and will assist ADB, the team leader, and the other consultants. The consultant will perform the following tasks:

- (i) Assist ADB, the team leader, and the other consultants in the review of ADB's experience in infrastructure development, particularly in financing infrastructure projects and providing guarantees and hedging measures.
- (ii) Assist in designing and conducting the regional conference and seminars.
- (iii) Assist in editing and consolidating the reports of the consultants.
- (iv) Provide research and technical assistance to international consultants in the preparation of reports.
- (v) Submit a status report on the project every 2 months and be responsible for coordinating and fielding consultants, arranging meetings for consultants, obtaining background materials for consultants, and overseeing project deliverables and their timely delivery.
- (vi) Perform other tasks as reasonably requested by ADB.

## OUTLINE OF THE FINAL REPORT

- I. EXECUTIVE SUMMARY
- II. INTRODUCTION
- III. BACKGROUND
  - A. Infrastructure Demands in the Region
  - B. Sources of and Mechanisms for Financing Infrastructure Projects in the Region
  - C. Rationale and Benefits of Bond Financing for Infrastructure Projects
  - D. Analysis of Project Risks for Bond Financing
- IV. DEBT MARKET OVERVIEW FOR INFRASTRUCTURE PROJECTS
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  - B. Impediments to the Use of Bonds to Finance Infrastructure Projects
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  - D. Hedging Instruments and Guarantee Mechanisms Available in the Region
  - E. Potential Investors
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- V. LESSONS LEARNED
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  - B. Government and Policy Frameworks
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- VII. CASE STUDIES AND BEST PRACTICES
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