



Technical Assistance Report

Project Number: 49130-001
Regional—Capacity Development Technical Assistance (R-CDTA)
February 2016

Enhancing Regional Capacity for Economic Surveillance and Financial Vulnerability Assessment (Financed by the Investment Climate Facilitation Fund under the Regional Cooperation and Integration Financing Partnership Facility)

This document is being disclosed to the public in accordance with ADB's Public Communications Policy 2011.

Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
AMRO	–	ASEAN+3 Macroeconomic Research Office
ASEAN+3	–	Association of Southeast Asian Nations plus the People’s Republic of China, Japan, and the Republic of Korea
DMC	–	developing member country
ERCD	–	Economic Research and Regional Cooperation Department
ESFVA	–	economic surveillance and financial vulnerability assessment
IMF	–	International Monetary Fund
TA	–	technical assistance
TASU	–	technical assistance supervising unit
IEWS	–	vulnerability indicators and early warning system
VRESN	–	virtual regional economic surveillance network

NOTE

In this report, “\$” refers to US dollars.

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CAPACITY DEVELOPMENT TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data		Project Number: 49130-001	
Project Name	Enhancing Regional Capacity for Economic Surveillance and Financial Vulnerability Assessment	Department /Division	ERCDC/ERCI
Country	REG, BHU, CAM, KGZ	Executing Agency	Asian Development Bank
2. Sector	Subsector(s)	Financing (\$ million)	
✓ Finance	Central banking systems		0.60
	Finance sector development		0.60
		Total	1.20
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 1: Economic opportunities, including jobs, created and expanded	Climate Change impact on the Project	Low
Regional integration (RCI)	Pillar 3: Money and finance		
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Institutional development	No gender elements (NGE)	✓
Knowledge solutions (KNS)	Application and use of new knowledge solutions in key operational areas		
Partnerships (PAR)	Pilot-testing innovation and learning Implementation International finance institutions (IFI)		
5. Poverty Targeting		Location Impact	
Project directly targets poverty	No	Not Applicable	
6. TA Category:	B		
7. Safeguard Categorization	Not Applicable		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		0.00	
None		0.00	
Cofinancing		1.20	
Investment Climate Facilitation Fund under RCIFPF		1.20	
Counterpart		0.00	
None		0.00	
Total		1.20	
9. Effective Development Cooperation			
Use of country procurement systems		No	
Use of country public financial management systems		No	

I. INTRODUCTION

1. Since 2006, the Asian Development Bank (ADB) has been supporting capacity development in Asia and the Pacific to undertake economic surveillance and financial vulnerability assessments (ESFVAs). For instance, the technical assistance (TA) for Supporting and Enhancing Regional Surveillance for ASEAN+3 and the Chiang Mai Initiative Multilateralization has strengthened the economic surveillance capacity of East and Southeast Asian (ASEAN+3) economies with the support from the institutional setup of the ASEAN+3 Macroeconomic Research Office (AMRO).¹ With help from the TA, emerging macroeconomic and financial vulnerabilities in the region were regularly monitored and analyzed by the ADB and AMRO. However, with new sources of vulnerabilities emerging after the global financial crisis, economic surveillance capacity of most Asian countries requires further support and upgrading.

2. Similarly, the TA for Enhancing the Capacity of Selected ASEAN+3 Countries for Assessing Financial Vulnerabilities has been successful in building a vulnerability indicators and early warning system (VIEWS) for ASEAN+3 economies.² Now being used in ADB's Economic Research and Regional Cooperation Department (ERCD) to assess the economic and financial sector risks and vulnerabilities of selected developing member countries (DMCs), VIEWS has been rolled out in 10 DMCs. It has also been used successfully to provide capacity-building activities, workshops, and training to policy makers in the region.³

3. This regional capacity development TA will build on the success of these two TA projects. It will also respond to (i) requests for assistance from Bhutan, Cambodia, and the Kyrgyz Republic to raise their ESFVA capabilities; and (ii) the need to strengthen the economic surveillance database and capacity for ASEAN+3 economies. Several ADB missions visited, consulted, and obtained full support from government officials during the TA preparation.

4. The TA supports two core areas of ADB's Strategy 2020—financial sector development and regional cooperation and integration—which are substantiated in the Financial Sector Operational Plan and Regional Cooperation Integration Strategy.⁴ These strategies recognize the importance of creating regional knowledge to address common risks and enhance the capacity of supervisory authorities, and to contribute to greater financial stability in the region. The design and monitoring framework is in Appendix 1.⁵

II. ISSUES

5. Asia and the Pacific face a number of macroeconomic challenges. First, divergent monetary policies in the European Union, Japan, and the United States⁶ have affected the (i)

¹ ADB. 2011. *Technical Assistance for Supporting and Enhancing Regional Surveillance for ASEAN+3 and the Chiang Mai Initiative Multilateralization*. Manila (TA 7810-REG). ASEAN+3 comprises the 10 members of the Association of Southeast Asian Nations (Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam) plus the People's Republic of China, Japan, and the Republic of Korea.

² ADB. 2015. *Technical Assistance for Enhancing the Capacity of Selected ASEAN+3 Countries for Assessing Financial Vulnerabilities*. Manila (TA 6391-REG).

³ Since 2006, ADB's regional economic and financial monitoring courses have been using VIEWS in biannual training.

⁴ ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila; ADB. 2011. *Financial Sector Operational Plan*. Manila; ADB. 2006. *Regional Cooperation and Integration Strategy*. Manila.

⁵ The proposed TA first appeared in the business opportunities section of ADB's website on 1 October 2015.

⁶ These divergent monetary policies are characterized by the expected tightening of United States monetary policy and continued easing in Japan and the European Union.

volume, direction, and composition of cross-border trade and financial flows in the region; and (ii) capital flow volatility. Second, the international community, including the G20,⁷ has extensively discussed the importance of having a holistic view of global, regional, and national financial systems to assess the financial stability and vulnerability of the region, in particular, and any economy, in general. Third, as the market remains sensitive to the current moderation in the economic growth of the People's Republic of China, deeper understanding is needed of the risks inherent to capital markets, such as volatility and capital flight.

6. Presently, the economic surveillance mechanism in the region is fragmented. While multilateral organizations like the International Monetary Fund (IMF) focus on monitoring global economic performance, several regional bodies with similar tasks are limited and concentrated mostly on East and Southeast Asia. Gaps in economic surveillance capacity are also evident in countries' varying degrees of technical capacity to conduct their own surveillance functions. This TA hopes to bridge the gap by extending assistance to small economies, and strengthening the national and regional surveillance mechanism to complement multilateral surveillance efforts.

7. The TA will use VIEWS—developed by ADB in response to the Asian financial crisis—as a starting point, and will expand VIEWS' country and indicator coverage. It will upgrade VIEWS into VIEWS++, which will also be used to develop quantitative tools for Asian economies including customized version to suit the economic conditions of small DMCs such as Bhutan, Cambodia, and the Kyrgyz Republic.⁸ VIEWS is easy to customize as it largely depends on the selection of leading indicators and an estimation of interactions that are correlated with the occurrence of economic and financial crises. The TA will also use recent lessons learned and knowledge obtained about channels of contagion in East and Southeast Asia to assist policy makers—particularly from their central banks and finance ministries—to gain a holistic understanding of the propagation mechanisms that amplifies pro-cyclicality and vulnerabilities.

8. The direct beneficiaries of the TA include (i) ASEAN+3 economies; (ii) government staff in Bhutan, Cambodia, and the Kyrgyz Republic, whose small economies have limited capabilities to develop their own financial vulnerability assessment system, and enhance their risk assessment skills to manage the costs and risks of financial integration (e.g., from capital inflows); and (iii) Asia and the Pacific, as it will enhance the financial vulnerability assessment across the region, inclusive of spillover effects, and improve communication and sharing of knowledge between international and regional organizations⁹ and national economies in the region.¹⁰

9. Presently, target beneficiaries—ASEAN+3 economies, Bhutan, Cambodia, and the Kyrgyz Republic—are pursuing complementary efforts to raise their ESFVA capabilities. To support economic surveillance of ASEAN+3 economies, the AMRO has strengthened its staff and is focusing on improving its database to enhance its surveillance function. Similarly, efforts

⁷ The G20 major economies are Argentina, Australia, Brazil, Canada, the People's Republic of China, the European Union, France, Germany, India, Indonesia, Italy, Japan, the Republic of Korea, Mexico, Russian Federation, Saudi Arabia, South Africa, Turkey, the United Kingdom, and the United States.

⁸ These economies were chosen because (i) they have a very narrow economic base and receive significant but volatile capital inflows from neighboring economies, (ii) they have experienced some form of economic crisis since 2006 as a result of regional contagion, and (iii) they have very limited capacity and skills to undertake ESFVAs. Customization is important as the drivers and propagation of economic and financial vulnerabilities are different across economies.

⁹ These include ADB, AMRO, the Bank for International Settlements' Representative Office in Asia and the Pacific, and the IMF.

¹⁰ While these economies attract less attention from the global community as they are not key sources of risks, they are recipients of shocks from global and regional financial disturbances.

are under way to strengthen each target country's tools and capability to assess economic and financial vulnerabilities. In Bhutan, capacity development TA is providing support to establish an economic surveillance unit in the Ministry of Finance.¹¹ Similarly, the National Bank of Cambodia and the National Bank of the Kyrgyz Republic have been exploring ways to enhance their economic surveillance tools and processes. These complementary efforts would ensure the sustainability of the TA outputs after completion of the project.

III. THE CAPACITY DEVELOPMENT TECHNICAL ASSISTANCE

A. Impact and Outcome

10. The impact will be the enhanced capacity of AMRO and selected DMCs to spot, assess, and mitigate economic and financial sector vulnerabilities. The outcome will be the increased use of economic and financial vulnerability assessment tools in AMRO and selected DMCs.

B. Methodology and Key Activities

11. The TA will conduct knowledge work and capacity-building activities in target countries, and organize regional forums to promote cross-regional sharing of lessons and experiences.

12. An inception workshop will be held to present the latest regional and global crisis experiences, discuss global–regional best practices and techniques on financial vulnerability assessments, present the economic and financial conditions in selected target countries, assist in gathering knowledge that can help design a more effective regional economic surveillance framework for ASEAN+3 economies, and provide a framework for developing new regional economic tools that can be used for regional financial vulnerability assessments. This new knowledge will expand the policy options for target countries and strengthen their understanding of financial vulnerability assessments.

13. Consultations with regional centers (i.e., Bank for International Settlements and the IMF) engaged in economic and financial monitoring will be organized to learn from their existing ESFVA approaches and best practices.¹²

14. The development of knowledge products will be started immediately to improve regional economic surveillance framework and database for ASEAN+3, and enhance the region's financial vulnerability assessment tools.

15. Recognizing AMRO's role as an independent surveillance unit for regional economies, collaboration with AMRO is crucial to develop a regional economic surveillance framework for ASEAN+3, to improve its surveillance process and system, address any gaps, and incorporate best practices. AMRO's database system also will be reviewed, evaluated, rationalized, integrated, and automated to support the new economic surveillance framework.

16. New financial vulnerability assessment tools will be developed for the region using VIEWS as a starting point, applying the latest techniques, and incorporating other indicators, such as measures of cross-border flows, bank balance sheet indicators, and performance

¹¹ ADB. 2012. *Technical Assistance to the Kingdom of Bhutan for Enhancing Development Management for Sustainable and Inclusive Growth*. Manila (TA 8229-BHU).

¹² These regional centers—engaged in economic and financial monitoring—can contribute to this project by sharing the results of their work in this area and providing advice to improve the conduct of ESFVAs. Their staff will also act as resource persons during the regional workshops.

indicators of other systematically important economies in the region (the People's Republic of China, India, and the Russian Federation). This tool will be called VIEWS++, and will be customized for the use of ASEAN+3 economies, Bhutan, Cambodia, and the Kyrgyz Republic.

17. To ensure sustainability and maintain the link between and among VIEWS++ stakeholders and users, a virtual regional economic surveillance network (VRESN) will be created online to provide data, quantitative economic tools, and resources on regional ESFVA. The online network will allow discussions among its members on issues related to the tools or models being used. The VRESN will also be used as a platform for sharing the tools, knowledge products, and experiences gained from using VIEWS++. Members of the network will meet once a year to discuss regional and national developments. ERCD will act as the host for the network and keep it as part of other research think tank networks that ERCD maintains.

18. Field visits to local authorities (mainly, central banks and finance ministries) in Bhutan, Cambodia, and the Kyrgyz Republic will start after the inception workshop. ADB and local authorities will (i) develop data systems and skills to account for interconnectedness among banks and nonbank financial institutions, including identification of systematically important financial institutions, and analyze interactions between the financial and real sectors through an examination of the relationship between macroeconomic and aggregate financial variables; (ii) conduct interviews with key stakeholders to complement the data analysis; and (iii) develop risk scenarios for the target countries with best efforts for quantification. Subsequently, the TA will help local authorities customize VIEWS++ to suit their economic and financial conditions.

19. Training for the relevant local officials will be designed and conducted using their local authorities' own resources, which will cover financial vulnerability assessment, including the data collection process, identifying risks and developing scenarios under changing situations. The training module will cover the theoretical and empirical framework of the ESFVA system. It will be circulated to the relevant ministries to ensure that it responds to their training demand. A regional dissemination workshop will be organized to share post-project experiences and lessons on regional ESFVA. The TA will have three outputs.

20. **Output 1: Regional surveillance framework, database, and tools for ASEAN+3 economies through AMRO.** The TA will develop AMRO's regional economic surveillance framework, indicator and database system, and quantitative economic tools (derived from VIEWS++) to help strengthen its regional economic surveillance capacity. This output is a follow-up to ADB's support for AMRO's institutional setup (footnote 1).

21. **Output 2: Regional surveillance and financial vulnerability assessment tool for Asia.** The TA will develop VIEWS++, a new regional surveillance and vulnerability assessment tool that will be better suited to the emerging economic and financial environment in Asia. This output is linked to output 1, as AMRO's knowledge and experience will be used in developing VIEWS++. AMRO will also benefit from output 2, as quantitative tools will be derived from VIEWS++ for use by AMRO. To facilitate knowledge sharing, the project will (i) bring AMRO resource persons in some field visits, and (ii) create a VRESN to serve as an institutional linkage mechanism and point of contact for all VIEWS++ users. The network will also function as a knowledge products repository and a knowledge dissemination platform.

22. **Output 3: Improved economic surveillance capacity and financial vulnerability assessment skills in Bhutan, Cambodia, and the Kyrgyz Republic.** The TA will develop customized versions of VIEWS++ for use in Bhutan, Cambodia, and the Kyrgyz Republic, taking into account the unique economic and financial structures of these target countries. Output 3 is

also related to output 1 as VIEWS++ customization for small countries could generate knowledge that may be useful for AMRO, such as deeper understanding of the nature of risks and vulnerabilities for small economies.¹³

23. A key risk is that changing priorities and staff turnover in partner agencies could delay the delivery of the TA. Limited data and/or poor data quality could reduce the effectiveness of regional vulnerability assessment tools developed under the TA as well. Geopolitical risks could also overshadow the importance of financial vulnerability assessment exercises.

C. Cost and Financing

24. The TA is estimated to cost \$1,200,000, which will be financed on a grant basis by the Investment Climate Facilitation Fund¹⁴ under the Regional Cooperation and Integration Financing Partnership Facility and administered by ADB.

D. Implementation Arrangements

25. ADB will be the executing agency for this TA and the implementing agency for output 2. ADB will work with AMRO to implement output 1, and with the Ministry of Finance in Bhutan, the National Bank of Cambodia, and the National Bank of the Kyrgyz Republic to implement output 3. ERCD's Regional Cooperation and Integration Division will act as the TA supervising unit. The division will coordinate closely with ADB operational units (regional departments and resident mission offices) and other involved entities like AMRO to ensure the benefits are maximized. The project will be implemented from February 2016 to January 2018.

26. The TA will require 27 person-months of international consulting services, 118 person-months of national consulting services, and 120 days of resource persons' participation. Consultants and resource persons will be hired individually by ADB in accordance with Guidelines on the Use of Consultants (2013, as amended from time to time), and all disbursements will be done in accordance with *Technical Assistance Disbursement Handbook* (2010, as amended from time to time). The scope of work and outline terms of reference for the consultants are in Appendix 3. To implement the TA successfully, a team from Regional Cooperation and Integration Division will manage consultants and consolidate their output.

27. ADB will conduct workshops, local training events, seminars, and conferences, with ADB staff participating as resource persons in some of the workshops. All disbursements under the TA will be made in accordance with ADB's *Technical Assistance Disbursement Handbook*.

IV. THE PRESIDENT'S DECISION

28. The President, acting under the authority delegated by the Board, has approved ADB administering technical assistance not exceeding the equivalent of \$1,200,000 to be financed on a grant basis by the Investment Climate Facilitation Fund under the Regional Cooperation and Integration Financing Partnership Facility for Enhancing Regional Capacity for Economic Surveillance and Financial Vulnerability Assessment, and hereby reports this action to the Board.

¹³ AMRO covers small economies such as the Lao People's Democratic Republic, Myanmar and Viet Nam. Similar to Bhutan and the Kyrgyz Republic, these economies rely on a few sectors, have underdeveloped financial markets, and receive massive and volatile cross-border capital flows. Officials from finance ministries and central banks of selected DMCs will also be trained to use VIEWS++.

¹⁴ Established by the Government of Japan.

DESIGN AND MONITORING FRAMEWORK

Impact the Technical Assistance is Aligned with			
Enhanced capacity of AMRO and selected DMCs to spot, assess, and mitigate economic and financial sector vulnerabilities (reports from AMRO and selected DMCs) ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
<p>Outcome</p> <p>Increased use of economic and financial vulnerability assessment tools in AMRO and selected DMCs</p>	<p>a. By 2017, AMRO and selected DMCs have their own economic surveillance tools.</p> <p>b. By 2017, the new surveillance tools are used in various ADB training modules.</p>	<p>a. ADB review of reports submitted by AMRO and three DMCs</p> <p>b. Survey and feedback from participants</p>	<p>Financial vulnerabilities are overshadowed by other risks, such as geopolitical conflicts.</p>
<p>Outputs</p> <p>1. A regional surveillance framework, database, and tools for ASEAN+3 economies through AMRO developed</p> <p>2. A quantitative regional surveillance and financial vulnerability assessment tool (VIEWS++) for Asia developed</p> <p>3. VRESN formed</p>	<p>1a. A comprehensive report on AMRO's regional economic surveillance framework is completed by 2017 (2015 baseline: 0)</p> <p>1b. An integrated database system is developed for AMRO by 2017 (2015 baseline: 0)</p> <p>1c. A customized version of VIEWS++ is developed for AMRO by 2017 (2015 baseline: 0)</p> <p>2a. A prototype version of VIEWS++ is rolled out to ASEAN+3^b by 2017 (2015 baseline: 0)</p> <p>2b. A memorandum of understanding is signed between ADB and ASEAN+3^b regarding the use of VIEWS++ by 2017 (2015 baseline: 0)</p> <p>3. An internet page for the network is launched by 2017 (2015 baseline: 0)</p>	<p>1a. AMRO reports</p> <p>1b–c. Monitoring report done by ADB including the VIEWS++ manual</p> <p>2a. Monitoring report done by ADB</p> <p>2b. Monitoring report done by ADB</p> <p>3. Report on the website traffic for VIEWS++ users</p>	<p>High staff turnover rate in national surveillance units</p>

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
4. Economic surveillance and financial vulnerability assessment skills for selected DMCs improved	<p>4a. A customized version of VIEWS++ developed for Bhutan, Cambodia, and the Kyrgyz Republic by 2017 (2015 baseline: 0)</p> <p>4b. Reporting skills on vulnerability assessment of 15 officials from the finance ministries and central banks of Bhutan, Cambodia, and the Kyrgyz Republic improved by 2017 (2015 baseline: NA)</p> <p>4c. One working paper on regional economic surveillance by 2017 (2015 baseline: 0)</p>	<p>4a. ADB review of reports submitted by Bhutan, Cambodia, and the Kyrgyz Republic</p> <p>4b. Survey of training participants</p> <p>4c. ADB website for working papers</p>	Limited data availability and poor data quality.
<p>Key Activities with Milestones</p> <p>Output 1: Regional surveillance framework, database, and tools for AMRO</p> <p>1.1 Engage international consultants (Q1 2016)</p> <p>1.2 Assess AMRO's database system and requirements (Q1 2016)</p> <p>1.3 Submit draft report on AMRO's surveillance framework (Q1 2016)</p> <p>1.4 Roll out the beta version of AMRO's database system (Q1 2016)</p> <p>1.5 Finalize the report on AMRO's surveillance framework (Q2 2016)</p> <p>1.6 Finalize AMRO's database system (Q2 2016)</p> <p>1.7 Develop customized version of VIEWS++ for AMRO (Q2–Q3 2016)</p> <p>Output 2: Regional surveillance and financial vulnerability assessment tool for Asia</p> <p>2.1 Engage international consultant (Q1 2016)</p> <p>2.2 Conduct consultations on economic surveillance systems in Asia (Q1 2016)</p> <p>2.3 Conduct inception workshop (Q2 2016)</p> <p>2.4 Develop VIEWS++ (Q1–Q3 2016)</p> <p>2.5 Create regional economic surveillance network (Q4 2016)</p> <p>2.6 Conduct regional dissemination workshop (Q2 2017)</p> <p>Output 3: Virtual regional economic surveillance network formed</p> <p>3.1 Engage consultant (Q1 2016)</p> <p>Output 4: Improved economic surveillance and financial vulnerability assessment skills for selected developing member countries</p> <p>4.1 Conduct field visits for each of the selected DMCs (Q1–Q2 2016)</p> <p>4.2 Engage national consultants (Q2 2016)</p> <p>4.3 Conduct assessment workshop for each of the selected DMCs (Q3 2016)</p> <p>4.4 Develop customized version of VIEWS++ for selected DMCs (Q3–Q4 2016)</p> <p>4.5 Conduct training workshop in each of the selected DMCs (Q2 2016–Q2 2017)</p>			
<p>Inputs</p> <p>Investment Climate Facilitation Fund under the Regional Cooperation and Integration Financing Partnership Facility: \$1,200,000</p>			

Assumptions for Partner Financing

Not applicable.

ADB = Asian Development Bank, AMRO = ASEAN+3 Macroeconomic Research Office, DMC = developing member country, Q = quarter, VIEWS = vulnerability indicators and early warning system, VRESN = virtual regional economic surveillance network.

^a ADB. 2011. *Financial Sector Operational Plan*, Manila; ADB. 2006. *Regional Cooperation and Integration Strategy*. Manila.

^b ASEAN+3 comprises the 10 members of the Association of Southeast Asian Nations (Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam) plus the People's Republic of China, Japan, and the Republic of Korea.

Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Amount
Investment Climate Facilitation Fund^a under the Regional Cooperation and Integration Financing Partnership Facility	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	368.00
ii. National consultants	480.00
b. International and local travel	19.00
c. Reports and communications	25.00
2. Training, seminars, and conferences ^b	
a. Facilitators ^c	147.00
b. Workshops and/or training	53.00
3. Equipment ^d	16.00
4. Miscellaneous administration and support costs ^e	27.00
5. Contingencies	65.00
Total	1,200.00

^a Established by the Government of Japan and administered by the Asian Development Bank.

^b Estimate for one inception workshop, three country workshops, and one regional workshop.

^c Includes travel expenses and per diem of Asian Development Bank staff as resource person/s or speakers; and honoraria, per diem, and travel expenses of other resource persons.

^d Includes three desktops, one notebook, and the purchase of econometric or statistical software.

^e Includes communications, report preparation and publication, dissemination activities, and others.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. International Consultants

1. **Financial economist** (1 consultant, 9 person-months, intermittent). The consultant should be knowledgeable in international finance, preferably with 5–7 years of relevant experience, and should have extensive professional experience working in government institutions and/or international financial institutions. The consultant should have a master's degree in economics or finance, although a doctorate in economics or a related field is preferred. Under the overall guidance of the ASEAN+3 Macroeconomic Research Office (AMRO) director, the consultant will undertake necessary work required to build AMRO's regional economic surveillance framework and database. The consultant's outputs include a regional economic surveillance framework for AMRO and a multicountry database that will support AMRO's regional economic surveillance function. To do these, the consultant will:

- (i) develop a regional economic surveillance framework for AMRO that can (a) identify, classify, and monitor emerging vulnerabilities in ASEAN+3 economies;¹ and (b) deliver an integrated macroeconomic and financial database for AMRO;
- (ii) write background papers on drivers and propagation of economic and financial crises, financial sector risks and vulnerabilities, and linkages between financial and real sectors in Asia, among other topics;
- (iii) present the background papers at the regional and/or country workshops;
- (iv) coordinate with members' authorities regarding AMRO's regional economic surveillance work; and
- (v) undertake other work relevant to improving the surveillance activities of AMRO, as instructed by the AMRO director.

2. **Macroeconomists** (2 consultants, 18 person-months, intermittent). The consultants preferably will have 5–7 years of relevant experience, and should be knowledgeable in economic surveillance, financial vulnerability assessment, and the literature on crisis theories and propagation, including the latest policy discussions. They should have a master's degree in economics or finance, although a doctorate in economics or a related field is preferred. Deep knowledge of economic developments in Asia is also required. The consultants' outputs include background papers, presentation materials, regional and/or country economic surveillance and financial vulnerability assessment (ESFVA) reports, and delivery of capacity building to raise the capacity of the selected developing member countries (DMCs) in their financial vulnerability assessment work. To do these, the consultants will:

- (i) write and present background papers on economic and financial sector risks and vulnerabilities in Asia, among other topics, at regional and/or country workshops;
- (ii) help develop and implement work plans to improve the ESFVA capacity of each selected DMC;
- (iii) provide guidance to the development and implementation of the selected DMCs' ESFVA tool;
- (iv) train officials from the selected DMCs to operate the ESFVA tool; and
- (v) provide other related inputs for the regional and/or country workshops and research activities as requested by the technical assistance supervising unit (TASU).

¹ ASEAN+3 comprises the 10 members of the Association of Southeast Asian Nations (Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam) plus the People's Republic of China, Japan, and the Republic of Korea.

B. National Consultants

3. **Macroeconomists** (3 consultants, 36 person-months, intermittent, to be assigned to Bhutan, Cambodia, and the Kyrgyz Republic). The consultants preferably will have 5–7 years of relevant experience, and should be knowledgeable in the selected DMCs' economies, financial development, and financial institutions. They should have a bachelor's degree in economics, although a master's degree in economics or a related field is preferred. They will be engaged locally and must be based in the DMC where the study is being conducted. Experience in conducting economic and financial surveillance to analyze real and financial sector linkages is desirable. The outputs of the national consultants include an ESFVA tool per DMC, workshop and meeting proceedings, a progress report on the development of the tools, and a research report on the ESFVA tool. To deliver this work, and under the supervision of the TASU and international consultants, the national consultants will:

- (i) lead the implementation of the selected DMCs' ESFVA work and tool;
- (ii) liaise with key national officials in dovetailing the ESFVA work and tool, according to the DMC's economic peculiarity;
- (iii) guide other locally based consultants and ensure that outputs are delivered on time;
- (iv) closely coordinate with the TASU and international consultants on the status of development of the country's ESFVA work and tool;
- (v) prepare workshop and meeting proceedings to feed into the international consultant's documentation of country experiences and processes; and
- (vi) prepare and submit progress reports to the TASU on the status of implementation of the work plan, including progress of the data collection, and research work associated with the development of the ESFVA tools.

4. **Senior economic analysts** (3 consultants, 48 person-months, continuous, to be assigned to Bhutan, Cambodia, and the Kyrgyz Republic). The consultants preferably will have 5–7 years of relevant experience, and should be knowledgeable in macroeconomics, financial markets, or statistics, with extensive experience in economic and financial data processing and analysis. They should have strong communication skills and the ability to coordinate with government offices, possess advanced skills in data gathering and processing, and be proficient in using software with standard statistical applications. The consultants will be engaged locally and be based in the DMC where the study is being conducted. The outputs of the consultant include processed economic and financial data in an Excel file, processed results of the country survey, inputs for the workshop proceedings and meetings, worksheets containing data for use in ESFVA, and briefing notes. To deliver these outputs, and under the supervision of the macroeconomist, the consultants will:

- (i) collect and process economic and financial data;
- (ii) respond to user requests for support;
- (iii) liaise with technical staff from various government agencies and private institutions;
- (iv) provide support to other aspects of implementing the project in the DMC;
- (v) assist in the conduct of country surveys and process their results;
- (vi) regularly update the senior country researchers on the progress of the data collection and research work associated with development of the ESFVA tools;
- (vii) organize and assist in the conduct of country workshops, training sessions, and meetings; and
- (viii) assist in the preparation of the final report of the project and perform other tasks as needed by the TASU or the macroeconomist.

5. **Economic analyst** (1 consultant, 18 person-months, continuous, to be assigned in the Philippines). The consultant preferably will have 5–7 years of relevant experience; and be an economist or financial expert with experience in financial sector-related research, familiarity in handling financial sector data, and knowledge in handling research projects. The analyst should have a bachelor's degree in economics, although a master's degree in economics or a related field is preferred. The consultant should possess advanced skills in gathering, processing and analyzing data; and be proficient in using statistical software applications. The consultant's outputs include research materials, data, literature review, draft reports, and inputs for workshops and/or training sessions. To deliver these outputs, and under the TASU's supervision, the consultant will:

- (i) assist in implementing and monitoring the technical assistance research requirements;
- (ii) provide research assistance to TASU and international consultants, including data gathering and literature review;
- (iii) draft progress reports and proceedings;
- (iv) provide technical and administrative assistance to country and/or regional workshops and/or training sessions; and
- (v) perform other tasks as may be needed from time to time.

6. **Data specialist and programmer** (2 consultants, 16 person-months, to be assigned in the Philippines). The consultants preferably will have 5–7 years of relevant experience and be a computer programmer and/or software specialist with a strong background in economics or statistics. The consultants should be very knowledgeable in handling financial and economic databases and have experience in user interface design or engineering. The outputs of the consultants include a user interface to store, update, process, and retrieve data; briefing notes; and training material for the user interface. The consultants will be engaged locally. Under the supervision of the TASU, the consultants will:

- (i) assist in enhancing user support for the ESFVA tool;
- (ii) assist in and provide inputs for the preparation of briefing notes regarding the processed data;
- (iii) develop a user-friendly interface to store, update, process, and retrieve data used in ESFVA assessment;
- (iv) conduct training on the use of the interface;
- (v) assist in the preparation of the final report of the project;
- (vi) provide technical and administrative support to the TASU and other national consultants as may be requested from time to time;
- (vii) produce system requirements specification and system design specification documentation; and
- (viii) develop a system installer.

C. Resource Persons

7. **Resource persons** (6 resource persons, 10 days each, international). Under the supervision of the TASU, six resource persons will be hired to participate in the inception and regional workshops. The resource persons will discuss different areas and issues concerning ESFVA.

8. **Resource persons** (6 resource persons, 10 days each, international or national). Resource persons, preferably from local institutions, will be hired to discuss current country conditions and/or issues concerning ESFVA in Bhutan, Cambodia, and the Kyrgyz Republic.