

ASIAN DEVELOPMENT BANK

TAR: OTH 36034

TECHNICAL ASSISTANCE

FOR

CAPACITY BUILDING FOR IMPLEMENTING EARLY WARNING SYSTEMS IN

ASEAN+3 COUNTRIES

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ABBREVIATIONS

ADB	–	Asian Development Bank
ASEAN	–	Association of Southeast Asian Nations
ASEAN+3	–	ASEAN and People's Republic of China, Japan and Republic of Korea
ASP	–	ASEAN Surveillance Process
DMC	–	developing member country
EWS	–	early warning system
PRC	–	People's Republic of China
REMU	–	Regional Economic Monitoring Unit
TA	–	technical assistance
VAR	–	vulnerability assessment report

NOTE

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

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I. INTRODUCTION

1. In response to requests by the Association of Southeast Asian Nations (ASEAN)+3¹ finance ministers to support the development of early warning systems (EWSs) for detecting economic and financial vulnerabilities, the Asian Development Bank (ADB) approved small-scale regional technical assistance (TA) in June 2001.² Under this TA, a regional EWS prototype was developed. The preliminary results of the prototype were presented to officials from the ministries of finance and the central banks/monetary authorities of the ASEAN+3 countries at the Workshop on Regional Early Warning Systems organized jointly by ADB, the Bank of Thailand, and the ASEAN Secretariat on 13-14 December 2001 in Bangkok, Thailand. Using the EWS prototype, ADB has started to prepare a vulnerability assessment report (VAR) that analyzes emerging economic and financial sector vulnerabilities in the region. The first VAR entitled "An Assessment of Current Economic and Financial Vulnerability in East Asia" was presented at the ASEAN+3 Finance Deputies Meeting in Myanmar in April 2002. Based on the feedback received from the workshop participants and the ASEAN+3 Finance Deputies Meeting, ADB has further improved the prototype. The improved EWS prototype will be discussed and finalized at the joint ADB/People's Bank of China/ASEAN Secretariat Workshop on Regional Early Warning Systems scheduled for 13 December 2002 in Beijing, People's Republic of China (PRC).

2. In the joint ministerial statement issued at their meeting in May 2002 in Shanghai, PRC, the ASEAN+3 finance ministers indicated their desire to see the early implementation of the EWS prototype in their countries. This TA is proposed in response to this joint ministerial statement and further discussion with the ASEAN Secretariat, with a view to facilitating the implementation of the regional EWS prototype developed under the small-scale regional TA, thereby continuing ADB's support for the ASEAN+3 group's efforts to strengthen regional economic monitoring and its broader objective to promote regional monetary and financial cooperation. The key objectives, scope, financing plan, and implementation arrangements of the TA are reflected in this paper.³ The TA framework is attached as Appendix 1.

II. ISSUES

3. The 1997 Asian financial crisis underscored the role of effective economic and financial surveillance, not only at the national and global levels but also at the regional level, in maintaining stability and sustaining growth in a highly globalized economic environment. Recognizing this, several initiatives have been taken after the crisis both within and among countries in Asia to strengthen economic and financial risk management mechanisms and monetary and financial cooperation. The Manila Framework Group involving 14 countries in the Asia and Pacific region was formed in November 1997 for the overriding purpose of regional surveillance. The ASEAN Surveillance Process (ASP) was established in October 1998 by the ASEAN member countries to strengthen policymaking capacity within the ASEAN group, based on the principles of peer review and mutual interest. ASP provides for the monitoring of exchange rates, macroeconomic aggregates, and social and sector policies. Under the Process, the ASEAN finance ministers meet twice a year for policy coordination. A further important

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

² ADB. 2001. *Technical Assistance for an ASEAN+3 Framework for the Development of Early Warning Systems*. Manila.

³ The TA first appeared in *ADB Business Opportunities* on 4 April 2002.

initiative was the ASEAN+3 Surveillance Process, formalized in November 1999 and now renamed the ASEAN+3 Economic Review and Policy Dialogue, under which the ASEAN+3 finance ministers meet twice a year to exchange information and discuss policy issues.

4. At their May 2000 meeting held in Chiang Mai, Thailand, the ASEAN+3 finance ministers developed the Chiang Mai Initiative, which calls for, among others, an expanded ASEAN swap arrangement that would include all ASEAN countries; a network of bilateral swap and repurchase agreement facilities among ASEAN countries, PRC, Japan, and Republic of Korea; and the establishment of an appropriate mechanism (EWS) that could enhance the ability to provide financial stability in the East Asian region. The ASEAN+3 finance ministers further highlighted their determination to carry forward the process of establishing EWS in the joint ministerial statement issued when they met in Honolulu in May 2001. Subsequently, they requested ADB's assistance in developing a regional EWS prototype.

5. ADB has been supporting these regional initiatives ever since they were started. In early 1999, ADB established the Regional Economic Monitoring Unit (REMU) as a focal point for supporting the efforts of its developing member countries (DMCs) to strengthen regional economic monitoring and to promote monetary and financial cooperation. Since its establishment, REMU has been supporting the Manila Framework Group, ASP, and ASEAN+3 Economic Review and Policy Dialogue through the preparation of high frequency reports and special studies, capacity building, and promotion of policy dialogue. In response to the requests from the ASEAN+3 finance ministers to develop a regional EWS prototype, ADB approved the small-scale regional TA in June 2001. The purpose of the TA was to support collaborative efforts among the ASEAN+3 countries leading to the development of a regional EWS that would help detect emerging macroeconomic, financial, and corporate sector vulnerabilities, in an attempt to prevent financial crises in the future. The TA financed (i) the development of a regional EWS prototype, and (ii) two workshops participated in by ministry of finance and central bank officials from the ASEAN+3 countries to discuss and finalize the prototype model.

6. The regional EWS prototype developed under the previous TA consists of (i) a nonparametric EWS model, and (ii) a parametric EWS model. The two EWS models, which follow the latest developments in the field, were developed based on data for East Asian countries, making them more suited for use by the regional economies. The preliminary results show that their performance is reasonably good. A natural extension of ADB assistance in this area is to help DMCs in the ASEAN+3 group to implement the EWS prototype and make it operational. This would involve making necessary modifications to the regional EWS prototype to suit individual countries' circumstances, developing special computer software, and training concerned government officials to operate EWS models.

III. THE TECHNICAL ASSISTANCE

A. Purpose and Output

7. The main objective of the present TA is to continue ADB's support for collaborative efforts among the ASEAN+3 countries to develop EWS models against potential economic and financial sector vulnerability, as part of a broader set of self-help arrangements involving the exchange of information, economic monitoring, and policy dialogue. Specifically, the TA will assist DMCs in the ASEAN+3 group to implement and operationalize the regional EWS prototype developed under the earlier TA.

B. Methodology and Key Activities

8. The present TA will cover DMCs in the ASEAN+3 group, i.e., Cambodia, PRC, Indonesia, Republic of Korea, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam.

9. The TA will finance (i) the modification of the regional EWS prototype developed under the earlier TA to suit individual countries' circumstances, leading to the development of country-specific EWS models; (ii) the development of special computer software and operational manuals; and (iii) training of concerned government officials of participating countries to operate the EWS models. Possible modifications of the prototype include exploring alternative data sources (e.g., use of national data vs. international sources of data and access to confidential country data), fine-tuning model variables (e.g., the relevance or irrelevance of certain variables to a country-specific model), and accommodating specific requests from governments.

C. Cost and Financing

10. The total estimated cost of the TA is \$300,000, of which \$250,000 will be financed on a grant basis by ADB's TA funding program. The governments of participating countries will provide counterpart contributions in the form of salaries of local staff to be trained to operationalize the EWS, office accommodation, equipment, and other overhead expenses in kind, estimated at \$50,000 equivalent. The cost estimates and financing plan are in Appendix 2.

D. Implementation Arrangements

11. ADB has supported the establishment of national surveillance units in the ministries of finance, so far, of six ASEAN member countries, namely, Cambodia, Indonesia, Lao People's Democratic Republic, Philippines, Thailand, and Viet Nam.⁴ In countries where they exist, national surveillance units will be the implementing agencies for the TA. In others, implementation will be the responsibility of designated agencies. REMU will be the executing agency for the TA.

12. The TA will be carried out over 18 months by REMU staff with the assistance of international and domestic consultants, who will help to develop country-specific EWS on the basis of the regional prototype, develop special computer software, conduct training workshops, and provide on-site training to concerned government officials. The terms of reference for consultants are in Appendix 3. The TA will require approximately 5.5 person-months of international consulting services and 5.5 person-months of domestic consulting services spread over the period of the TA. One of the international consultants will be a computer programmer who will help to develop special computer programs for the EWS models and operational manuals. Other international consultants will be economists with specialist knowledge of economic surveillance and with experience in the East Asian region. One of the domestic consultants will be a computer programmer who will assist the international consultant to develop special computer software for EWS models and operational manuals. Other domestic consultants will be economists/statisticians with extensive experience in economic and financial

⁴ The national surveillance units are responsible for providing data and analytical inputs to the ASEAN Surveillance Coordination Unit located at the ASEAN Secretariat. Under *Technical Assistance for Capacity Building of Ministries of Finance in Selected DMCs for the ASEAN Surveillance Process*; *Technical Assistance for Capacity Building of Ministries of Finance in Selected DMCs for the ASEAN Surveillance Process (Phase II)*; and *Technical Assistance for Capacity Building of Ministries of Finance in Selected DMCs for the ASEAN Surveillance Process (Part II)*, ADB provides capacity building support to these units in the form of training workshops, establishment of databases, and provision of equipment.

data processing and analysis, familiarity with the Asian region, and proficiency in using standard computer programs particularly statistical packages. The consultants will be engaged by ADB in accordance with its *Guidelines on the Use of Consultants* and other arrangements satisfactory to ADB for the engagement of domestic consultants. Procurement by the executing agency will be in accordance with ADB's *Guidelines for Procurement*. Procurement will take place in coordination with ADB's Office of Information Systems and Technology and Office of Administrative Services. After completion of the TA, any procured equipment will be disposed of in accordance with Project Administration Instruction 5.11.

13. The TA will begin in January 2003 and is expected to be completed by the end of June 2004.

IV. THE PRESIDENT'S DECISION

14. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$250,000 on a grant basis for Capacity Building for Implementing Early Warning Systems in ASEAN+3 Countries, and hereby reports this action to the Board.

TECHNICAL ASSISTANCE FRAMEWORK

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
<p>Goal To attain greater economic and financial stability and sustained growth in East Asia through enhanced regional monetary and financial cooperation</p>	<ul style="list-style-type: none"> • Economic and financial stability in the region • Sustained regional growth 	<ul style="list-style-type: none"> • ASEAN+3 finance ministers and deputies meetings • Regular monitoring by ADB 	<ul style="list-style-type: none"> • Continued commitment by East Asian countries to greater monetary and financial cooperation
<p>Purpose To assist DMCs in the ASEAN+3 group to implement and operationalize the regional EWS prototype developed under the earlier TA</p>	<ul style="list-style-type: none"> • Country-specific EWS models are up and running in participating countries as one of the tools for alerting policymakers to accumulating weaknesses or vulnerabilities in the economy 	<ul style="list-style-type: none"> • ASEAN+3 finance ministers and deputies meetings • ADB staff review missions • Feedback from participating countries 	<ul style="list-style-type: none"> • Commitment of participating countries to establish, maintain, and develop the EWS • Cooperation of concerned government units to provide relevant data • Timely recruitment of consultants with the required expertise • Adequate supervision by ADB staff
<p>Outputs (i) Country-specific EWS based on the regional prototype (ii) Databases, special computer software for EWS models, and operational manuals (iii) Government officials and staff trained to operate the EWS</p>	<p>(i) Country-specific EWS for each participating country (ii) Databases, computer software, and manuals (iii) Officials and staff trained in participating DMCs</p>	<ul style="list-style-type: none"> • ADB staff review missions and overall supervision • Consultants' reports • Feedback from participating countries 	<ul style="list-style-type: none"> • Cooperation of participating countries to provide relevant data and release officials and staff for training • Timely recruitment of consultants with the required expertise • Productivity of consultants • Satisfactory training by consultants • Adequate supervision by ADB staff
<p>Activities (i) Development of country-specific EWS by modifying the regional prototype developed under the earlier TA. (ii) Development of special computer software for EWS models and operational manuals</p>		<ul style="list-style-type: none"> • ADB staff review missions and overall supervision • Consultants' reports • Feedback from participating countries 	<ul style="list-style-type: none"> • Participation of government officials and staff assigned to implement the EWS in the training and dedication of the needed time • Timely recruitment of consultants with the required expertise

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
(iii) Three regional workshops (iv) On-site training of government officials and staff			
Inputs (i) Consulting services (ii) ADB staff inputs (iii) Economic and financial data and feedback from participating countries	<ul style="list-style-type: none"> • International consulting for 5.5 person-months • Domestic consulting for 5.5 person-months 	<ul style="list-style-type: none"> • Progress monitoring and review of output of consultants by ADB staff • Consultants' reports 	<ul style="list-style-type: none"> • Timely recruitment of consultants with the required expertise • Consultants' productivity and timely submission of output

ADB = Asian Development Bank; ASEAN = Association of Southeast Asian Nations; ASEAN+3 = ASEAN and People's Republic of China, Japan, and Republic of Korea; DMC = developing member country; EWS = early warning system; TA = technical assistance.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Foreign Currency	Local Currency	Total Cost
A. Asian Development Bank Financing^a			
1. Consultants			
a. Remuneration and Per Diem			
i. International Consultants	110.0	0.0	110.0
ii. Domestic Consultants	15.0	0.0	15.0
b. International and Local Travel	30.0	0.0	30.0
2. Equipment, Databases, Computer Software, and Other Related Items	30.0	0.0	30.0
3. Workshops	35.0	0.0	35.0
4. Miscellaneous Administration and Support Costs	5.0	0.0	5.0
5. Contingencies	25.0	0.0	25.0
Subtotal (A)	250.0	0.0	250.0
B. Government Financing			
1. Office Accommodation, Facilities, and Administrative Support	0.0	22.0	22.0
2. Remuneration and Per Diem of Counterpart Staff	0.0	18.0	18.0
3. Others	0.0	10.0	10.0
Subtotal (B)	0.0	50.0	50.0
Total	250.0	50.0	300.0

^a Financed by ADB's TA funding program.
Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. International Consultants (5.5 person-months)

1. One of the international consultants will be a computer programmer. In consultation with Regional Economic Monitoring Unit (REMU) staff and other international consultants (the economists), the consultant will help to develop special computer software for the early warning system (EWS) models and operational manuals.

2. Other international consultants will be economists with expertise in economic and financial surveillance and experience in the East Asian region. In consultation with REMU and the implementing agencies, the consultants will

- (i) develop country-specific parametric and nonparametric EWSs for currency and banking crises for ASEAN+3 countries¹ using economic and financial data provided by the Asian Development Bank (ADB) and participating countries; the country-specific systems will be based on the prototype model developed by ADB;
- (ii) develop alternative sets of indicators and scenarios in order to get optimal results, and evaluate the performance of the system using in- and out-samples;
- (iii) prepare and submit a draft technical report on the results of the systems; and
- (iv) train ASEAN+3 officials on site or through workshops in the operation of the systems.

B. Domestic Consultants (5.5 person-months)

3. One of the domestic consultants will be a computer programmer. Under the supervision of REMU staff and the international consultants, the consultant will assist in the development of special computer software for the EWS models and operational manuals.

4. Other domestic consultants will be economists/statisticians with extensive experience in economic and financial data processing and analysis, familiarity with the East Asian region, strong communication skills (including in English), and good proficiency in using standard computer applications software. Under the supervision of REMU staff, the international consultants, and the implementing agencies, the consultants will

- (i) assist in the collection and processing of economic and financial data, and
- (ii) assist the international consultants in the initial operation of the system and other tasks related to the implementation of the country-specific system.

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