



Completion Report

PUBLIC

Project Number: 49130-001
Technical Assistance Number: 9077
August 2022

Enhancing Regional Capacity for Economic Surveillance and Financial Vulnerability Assessment

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TECHNICAL ASSISTANCE COMPLETION REPORT

TA Number, Country, and Name: TA 9077-REG: Enhancing Regional Capacity for Economic Surveillance and Financial Vulnerability Assessment		Amount Approved: \$1,200,000	
		Revised Amount: Not Applicable	
Executing Agency: Asian Development Bank (ADB)	Source of Funding: Investment Climate Facilitation Fund under the Regional Cooperation and Integration Financing Partnership Facility	Amount Undisbursed: \$117,549.93	Amount Used: \$1,082,450.07
TA Approval Date: 8 February 2016	TA Signing Date: 8 February 2016	TA Completion Date	
		Original Date: 31 January 2018	Latest Revised Date: 31 December 2020
		Financial Closing Date: 1 August 2021	Number of Extensions: 4
TA Type: Research and Development TA		TA Arrangement: Regional TA	

Description

The technical assistance (TA) was designed to bridge the gap in economic surveillance capacity, evident in countries' varying degrees of technical capacity to conduct their own surveillance functions, by extending assistance to small economies, and strengthening the national and regional surveillance mechanism to complement multilateral surveillance efforts. The TA responded to (i) requests for assistance from Bhutan, Cambodia, and the Kyrgyz Republic to raise their respective economic surveillance and financial vulnerability assessments capabilities; and (ii) the need to strengthen the economic surveillance database and capacity for ASEAN+3 economies. Several Asian Development Bank (ADB) missions visited, consulted, and obtained full support from government officials during the TA preparation.

Expected Impact, Outcome, and Outputs

The expected impact of the TA was the enhanced capacity of the ASEAN+3 Macroeconomic Research Office (AMRO) and selected developing members countries (DMC) to spot, assess, and mitigate economic and financial sector vulnerabilities. The expected outcome was the increased use of economic and financial vulnerability assessment tools in AMRO and selected DMCs. The outputs were (i) regional surveillance framework, database, and tools for ASEAN+3 economies through AMRO; (ii) regional surveillance and financial vulnerability assessment tool for Asia; and (iii) improved economic surveillance capacity and financial vulnerability assessment skills in Bhutan, Cambodia, and the Kyrgyz Republic.

Implementation Arrangements

ADB was the executing agency and the Regional Cooperation and Integration Division (ERCI) of the Economic Research and Regional Cooperation Department was the implementing division.

Planned inputs and activities were implemented. ADB's guidelines on the use of consultants and the Terms of References of the engaged consultants provided operational guidelines for the implementation of the TA. Actual consulting services inputs utilized were 27 person-months for international consultants, 57 person-months for national consultants, and 4.2 person-months for resource persons. The international consultants conducted background studies and research, led the development and/or enhancement of economic surveillance frameworks of selected economies, built their data analytics capabilities, and helped roll out their macrofinancial surveillance database system; the national consultants supported the international consultants in building up databases, drafted the corresponding manuals, conducted macrofinancial and economic surveillance training, and provided administrative and technical support for the delivery of the TA outputs; and resource persons were engaged as keynote speakers, presenters, panelists and/or discussants during the TA conferences, seminars, and trainings. Their inputs augmented considerable staff time that went into the organization and conduct of knowledge events and production of corresponding reports. The ADB team leader from ERCI supervised the team of consultants and managed the overall production of the TA's reports and other deliverables, with assistance from one economics officer, one operations coordinator, and one administrative assistant.

In accordance with ADB's guidelines on procurement, the TA financed the (i) purchase of two laptops with MS office 2016 for the Department of Macroeconomic Affairs, Ministry of Finance of Bhutan (DMEA) for use in the operation of early warning system (EWS) in Bhutan; and (ii) one-time subscription to Relucura database.

Six minor changes in TA scope and implementation arrangements were made during the TA implementation: (i) on 12 October 2016, to have a provision for a knowledge partnership agreement; (ii) on 11 August 2017, to reclassify national consultancy requirements to international as requested by beneficiary countries given lack of national experts, to consider firm engagement for database development, and to extend the TA from 31 January 2018 to 31 December 2018; (iii) on 25 September 2017, to provide representation expense for \$5,000 for the knowledge sharing events; (iv) on 22 November 2018, to conduct a regional knowledge sharing workshop at ADB Headquarters, include Nepal as an additional beneficiary country, and extend the TA from 31 December 2018 to 30 June 2019; (v) on 14 May 2019, to provide for ASEAN+3 Regional Financial Cooperation project covering the preparatory activities that would lead to publication of a knowledge product, and to extend the TA from 30 June 2019 to 30 June 2020; and (vi) on 2 March 2020, to extend the TA from 30 June 2020 to 31 December 2020 given the ongoing activities for the ASEAN+3 Regional Financial Cooperation knowledge product project.

Conduct of Activities

The TA outputs were delivered through the following activities:

- (i) **Development of regional surveillance framework, database, and tools for ASEAN+3 economies through AMRO.** To achieve this output, the TA undertook the following: (i) studies and research including holistic review of AMRO's economic surveillance framework; development of surveillance models, methods and tools, and identification of new databases; research on the importance of the Chiang Mai Initiative Multilateralisation (CMIM) as part of the regional financial safety net in the region; and holding of workshop on Strengthening Regional Surveillance and Financial Safety Net Mechanisms in Asia on 14 August 2018, and publication of its [highlights](#); and (ii) development of tools and database including the development of a comprehensive macro-financial surveillance framework for AMRO; the enhancement and implementation of the Economic Review and Policy Dialogue (ERPD) Matrix; the development of an ERPD web-based tracker, stress test model, and simulations; identification and collection of the ERPD Matrix data requirements for ASEAN+3 economies; and initiation of the macro-financial database for ASEAN+3 surveillance (MiDAS). The virtual regional economic surveillance network (VRESN) was also developed as an automated generation module in the macroeconomic surveillance database. This module generates the ERPD matrix indicators which enhance the quality of the data that are submitted electronically into ERPD Matrix scorecard and the ERPD web-based tracker of AMRO.
- (ii) **Development of regional surveillance and financial vulnerability assessment tool for Asia.** The TA kicked off with the conduct of a regional inception workshop on macro-financial challenges and vulnerabilities on 12 April 2016 at the Bangko Sentral ng Pilipinas, Manila, which was followed by the International Conference on Financial Cycles, Systemic Risk, Interconnectedness, and Policy Options for Resilience held on 8–9 September 2016, which built directly on the outcome of the aforementioned inception workshop. The discussion in the workshop was published as a workshop proceeding and it was used for theme chapter of the 2017 Asian Economic Integration Report (AEIR).

A knowledge partnership was also formed with the Institute of Global Finance, University of New South Wales to consult more widely on financial vulnerabilities and EWS. The knowledge partnership produced the following outputs: (i) as mentioned above, joint conduct of "Financial Cycles, Systemic Risk, Interconnectedness, and Policy Options for Resilience" Conference in 2016 in Sydney, Australia; (ii) publication of the [conference proceedings](#) and the [summary of conference papers](#); (iii) publication of a set of conference papers and ADB working papers in the Institute of Global Finance (IGF) Research Paper Series (vol. 3, no. 1, 3 Jan 2017 and Vol. 3, No. 2, 29 Jun 2017); (iv) publication of ADB Economics Working Papers (Nos. 528, 530, and 532); (v) Joint organization of the conference on 20 Years After the Asian Financial Crisis: Lessons, Challenges, and the Way Forward in April 2017 in Tokyo, this time together with ADB Institute as well; and (vi) publication of the conference proceedings: [20 Years After the Asian Financial Crisis: Lessons, Challenges, and the Way Forward](#).

The workshops and the knowledge partnership became an input into the preparation of two new approaches to building an EWS for Systemic Events in the region. These new approaches use dynamic factor model and classification and regression tree (CART) approach to model the evolution of risks and vulnerability. The models were tested for six selected Asian economies: i) Indonesia; ii) Republic of Korea; iii) Malaysia; iv) the Philippines; v) Singapore; and vi) Thailand. The dynamic factor model was published in the [Journal of Financial Stability](#). The existing Vulnerability Indicators and Early Warning System (VIEWS) of the ADB has also been upgraded and improved.

(iii) Improved economic surveillance capacity and financial vulnerability assessment skills in Bhutan, Cambodia, and the Kyrgyz Republic.

(a) Bhutan: An EWS has been developed and estimated for Bhutan for which three inception and training workshops have been conducted. All EWS-related tools, database, equipment; including the EWS model, vulnerability scorecard and heatmaps, and report templates for Bhutan's macroeconomic surveillance report have been handed over to Bhutan in 2018. The TA also helped the DMEA of the Ministry of Finance publish its first Macroeconomic Surveillance Report in March 2018, which led to regular preparation and publication of such reports.

(b) Cambodia: The TA supported the development of the economic and financial surveillance database for the National Bank of Cambodia (NBC); preparation of data dictionary for the database, database templates, indicator systems, and score cards; and capacity building workshops to assist staff and enhance their capacity in macroeconomic and financial analysis, economic forecasting, and financial econometrics, including the IT aspect of the project. Four workshops were held at the NBC to: a) discuss improvements to the report structure; b) deliver training on vulnerability assessment, financial stability, EWS, as well as macroeconomic management policies; c) roll out the web-based Macroeconomic Surveillance Database System (MSDS) including a training on the User's manual. In addition, the ADB Team also helped form an EWS Team across NBC departments. With the roll out of the MSDS, support to Cambodia is now completed.

(c) Kyrgyz Republic: The TA assessed and reviewed the economic and financial surveillance framework, system, tools, and report at the National Bank of Kyrgyz Republic (NBKR). A report of the assessment was prepared and discussed with NBKR officials. A Macroeconomic Surveillance Paper was also prepared for the Kyrgyz Republic. These were not finalized for publication due to a change in management of NBKR in 2018.

(d) Nepal: Nepal was added as a beneficiary in response to its request for assistance. The TA conducted a two-day training on vulnerability assessment and EWS for the Nepal National Planning Commission (NPC) and other government officials. ADB provided technical and advisory support to a small EWS Team within the NPC—with the purpose of developing an EWS for the NPC in Nepal.

Technical Assistance Assessment Ratings

Criterion	Assessment	Rating
Relevance	The TA was rated highly relevant as the outcome was fully aligned with two core areas of ADB's Strategy 2020—financial sector development and regional cooperation and integration (RCI). The TA is also aligned with Strategy 2030's RCI operational priority which indicates focus on creating regional knowledge solutions to address common risks and vulnerabilities and strengthening regional cooperation in the macroeconomic and financial sector. The knowledge products and services (publications and knowledge events) tackled regional challenges on economic and financial surveillance, financial interconnectedness, EWS, and vulnerability, and which have informed policy makers and enhanced awareness thereof. It is aligned with OP 6 "Strengthening Governance and Institutional Capacity", and in particular, 6.1 "Improved public and corporate sector management functions and financial stability" which is highly relevant. The TA also has the innovative feature of having deeper engagement with clients to provide them with: a) state of the art surveillance tools and databases; b) staff training to upgrade their understanding of financial risks, vulnerabilities, and transmission mechanisms; and c) review and development of their surveillance reports to incorporate these enhancements.	Highly relevant
Effectiveness	The TA is effective as it delivered the expected outcome and outputs. Performance indicators were mostly achieved (see Appendix 1: Design Monitoring Framework). An indicator of the TA's effectiveness in improving AMRO's surveillance capability is the adoption of the ERPD matrix scorecard which was developed with funding from the TA and the eventual absorption of the ADB TA consultant as Group Head of AMRO's Financial Surveillance. The TA, through the engagement of high-caliber authors, practitioners, and policy makers, and the series of consultations that followed which also included ADB, ADBI, and AMRO colleagues, contributed to the preparation of the ADB publication on <i>Redefining Strategic Routes to Financial Resilience in ASEAN+3</i> which explores how regional financial cooperation could support greater financial	Effective

Criterion	Assessment	Rating
	resilience in ASEAN+3 amid rapid economic and financial development and technological change.	
Efficiency	The TA was managed as planned (within budget and as projected), while employing alternative and apt implementation mechanisms in support of achieving TA objectives. The TA utilized 90.2% of its budget (see Appendix 2: Technical Assistance Cost). However, changes in implementation arrangement particularly in the engagement of consultancy services necessitated the extension of TA implementation. The management decision to embark on a history book project on ASEAN+3 regional financial cooperation jointly with AMRO also led to further TA extension. If not for these extensions, the TA would have been rated highly efficient. Nonetheless, the TA generated socioeconomic benefits in the form of strengthened economic surveillance that would allow governments and policy makers to address warning indicators and thwart impending crisis.	Efficient
Overall Assessment	Overall, the TA is rated highly successful, following the TA Completion Report Validation Guidelines which prescribes a highly successful rating for an overall weighted average that is greater than 2.30. Although there were sporadic shortfalls in the achievement of a few performance targets, it achieved the goal of bridging the gap in economic surveillance by extending assistance to selected economies, and strengthening the national and regional surveillance mechanism to complement multilateral surveillance efforts. Based on the weighted average of the following subratings: highly relevant (3 x 0.35), effective (2 x 0.35), and efficient (2 x 0.30), overall weighted average is 2.35, which is higher than 2.30.	Highly successful
Sustainability	As the TA supported the production of one of ADB's flagship publications, there is high degree of support from ADB Management. The TA is part of the Bank's TA Corporate Priority program. Complementary efforts were already present in the targeted beneficiary countries even before the start of TA implementation. Some support for economic surveillance work was already being provided to Bhutan from SARD and to Cambodia from the IMF. ADB support to economic surveillance capacity will continue to be needed by the small economies in Asia. These efforts would ensure the sustainability of the TA outputs after completion of the project. Also, the databases that were developed were transferred to our partner institutions; and these tools helped them improve their data collection, data processing, and data reporting thus improving the quality of their surveillance reports.	Most likely sustainable

Lessons Learned and Recommendations

Design and/or planning	Inasmuch as sources of vulnerabilities are not fixed as there would always be new sources of vulnerabilities (e.g., COVID-19 pandemic), the design of the TA should be flexible enough to accommodate such emerging factors in economic surveillance.
Implementation and/or delivery	Quarterly or semi-annual progress reports, even if self-monitored, to monitor the delivery of outputs, and compiling performance indicators are useful. The project team would be alerted whenever targets are not met, prompting discussions to improve TA implementation or re-evaluation of TA processes and outputs.
Management of staff and consultants	Timely consultant recruitment and regular monitoring should ensure quality and on-time implementation and completion of the TA. Hiring individual consultants proved to be a more efficient and effective modality than consulting firms, given the broad range of topics and concerns under macro-financial and economic surveillance.
Knowledge building	With the fast-changing means of information sharing, consultation and coordination with the Department of Communications is vital to better disseminate the knowledge products and ensure that they reach the intended audience. Multimedia (such as videos, blogs, and infographics) and social media (Facebook and Twitter) should be tapped more actively in order to reach more users and readers.
Stakeholder participation	The TA was able to pool together experts in economic surveillance and regional financial stability and resilience in knowledge events and training workshops. Consultation with and feedback from ADB's Sustainable Development and Climate Change Department, particularly the Finance Sector Group have been useful in shaping the TA's knowledge products and events.

Partnership	Partnership with other regional partners and research institutions has been the most efficient and effective way of conducting and organizing seminars and conferences, and disseminating the TA's knowledge work. Knowledge partnership and cooperation agreements may be explored as avenues to formalize collaboration with external organizations to jointly produce publications and host dissemination events.
Replication and/or scaling up	ADB's existing VIEWS has been upgraded and improved under the TA. Additional criteria in evaluating indicators for inclusion in the model have been added: relative usefulness and loss-minimization of indicator signals. The output gap model is now part of the VIEWS software.
Post-TA financial resource	With new sources of vulnerabilities emerging after the global financial crisis, economic surveillance capacity of most Asian countries, as well as the Pacific subregion, would require further support and upgrading.

Follow-up Actions

With the successful implementation of this TA, we recommend continuing this kind of TA support which focuses on knowledge events and producing and disseminating high-quality knowledge products to help policy makers and other stakeholders in raising their awareness and capabilities in economic surveillance. ADB regional departments, such as East Asia Department, have signified interest in future collaboration on economic and financial surveillance for selected DMCs, such as Mongolia. Collaboration with reputable regional and research institutions has proved to be a very effective and efficient way of organizing seminars and conferences on economic surveillance and EWS, and disseminating the TA's knowledge products, the partnership through ADB's knowledge partnership agreements framework can be further explored.

Prepared by:

James Villafuerte

Designation and Division:

Senior Economist, Regional Cooperation and Operations
Coordination Division

Results Chain	Performance Indicators with Targets and Baselines	Achievements
2. A quantitative Regional surveillance and financial vulnerability assessment tool (VIEWS++) for Asia developed	2a. A prototype version of VIEWS++ is rolled out to ASEAN+3 ^b by 2017 (2015 baseline: 0)	2a. Mostly Achieved. The Macroeconomic and financial database was updated and posted in the ARIC website every 1st week of the month from 2016 to 2018. The prototype version was rolled out to Bhutan and Cambodia.
	2b. A MOU is signed between ADB and ASEAN+3 ^b regarding the use of VIEWS++ by 2017 (2015 baseline: 0)	2b. Achieved. This was done instead through an MOU between ADB and AMRO entered into in May 2017. The MOU is active until December 2023 subject to extension.
3. VRESN formed	3. An internet page for the network is launched by 2017 (2015 baseline: 0)	Achieved. The virtual regional economic surveillance network (VRESN) was developed as an automated generation module in the macroeconomic surveillance database. This module generates the ERPD matrix indicators which enhance the quality of the data that are submitted electronically into ERPD Matrix scorecard and the ERPD web-based tracker of AMRO.
4. Economic surveillance and financial vulnerability assessment skills for selected DMCs improved	4a. A customized version of VIEWS++ developed for Bhutan, Cambodia, and the Kyrgyz Republic by 2017 (2015 baseline: 0)	Mostly Achieved. This was done for Bhutan and Cambodia, but not on Kyrgyz Republic. In Bhutan, an EWS was developed based on Output Gap for Bhutan, and a Macroeconomic Surveillance Report for Bhutan was published, adopted as the first ever government report on the subject. In Cambodia, a Macroeconomic Surveillance Database System was developed for the National Bank of Cambodia, based on an EWS model developed for Cambodia.
	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)	Mostly Achieved. This was done through the various training workshops done for Bhutan, Cambodia, the Kyrgyz Republic, and for Nepal. However, only a needs assessment for macroeconomic surveillance report was done for Kyrgyz Republic due to change in NBKR management.
	4c. One working paper on regional economic surveillance by 2017 (2015 baseline: 0)	Achieved. Three working papers (Nos. 528, 530, and 532) were published under ADB's economics working paper series.

Actual Key Activities with Milestones**Output 1: Regional surveillance framework, database, and tools for AMRO**

- 1.1 Engage international consultants (July 2016, June 2017)
- 1.2 Assess AMRO's database system and requirements (June 2017)
- 1.3 Submit draft report on AMRO's surveillance framework (September 2017)
- 1.4 Roll out the beta version of AMRO's database system (2018)
- 1.5 Finalize the report on AMRO's surveillance framework (2018)
- 1.6 Finalize AMRO's database system (2018)
- 1.7 Develop customized version of VIEWS++ for AMRO (2017-2018)

Output 2: Regional surveillance and financial vulnerability assessment tool for Asia

- 2.1 Engage international consultant (April 2016)
- 2.2 Conduct consultations on economic surveillance systems in Asia (April – September 2016)
- 2.3 Conduct inception workshop (April 2016)
- 2.4 Develop VIEWS++ (2017)
- 2.5 Create regional economic surveillance network (2017)
- 2.6 Conduct regional dissemination workshop (2017, 2018)

Output 3: Virtual regional economic surveillance network formed

- 3.1 Engage consultant (July 2018)

Output 4: Improved economic surveillance and financial vulnerability assessment skills for selected developing member countries

- 4.1 Conduct field visits for each of the selected DMCs (June 2017, October 2017, February 2018)
- 4.2 Engage national consultants (August 2017, October 2017, February 2018)
- 4.3 Conduct assessment workshop for each of the selected DMCs (August 2017–December 2018)
- 4.4 Develop customized version of VIEWS++ for selected DMCs (2017)
- 4.5 Conduct training workshop in each of the selected DMCs (August 2017–December 2018)

Actual Inputs

Investment Climate Facilitation Fund under the Regional Cooperation and Integration Financing
Partnership Facility: \$1,082,450.07

ADB = Asian Development Bank, AMRO = ASEAN+3 Macroeconomic Research Office, ARIC = Asia Regional Integration Center, CMIM = Chiang Mai Initiative Multilateralisation, DMC = developing member country, ERPD = Economic Review and Policy Dialogue, EWS = Early Warning System, MOU = Memorandum of Understanding, 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.

TECHNICAL ASSISTANCE COST

Table A2: Technical Assistance Cost by Activity
(\$'000)

Item	Amount		
	Original	Revised ^a	Actual
1. Consultants	892.0	984.0	843.9
2. Equipment	16.0	12.0	4.9
3. Training, seminars, and/or conferences	200.0	184.0	213.1
4. Miscellaneous TA administration	27.0	10.0	20.6
5. Contingency	65.0	10.0	0.0
Total	1,200.0	1,200.0	1,082.5

^a Per Request for Minor Change in Project Implementation approved on 9 May 2017.
Source: Asian Development Bank estimates.