



Technical Assistance Report

Project Number: 47067
Policy and Advisory Technical Assistance (PATA)
October 2013

People's Republic of China: Formulation of the Northeast Asia Logistics Information-Sharing Network Development Program and Organizational Mechanism

CURRENCY EQUIVALENTS

(as of 14 October 2013)

Currency unit	–	yuan (CNY)
CNY1.00	=	\$0.1634
\$1.00	=	CNY6.1210

ABBREVIATIONS

ADB	–	Asian Development Bank
LOGINK	–	China National Transport Logistics Public Information Platform
MOT	–	Ministry of Transport
NEAL-NET	–	Northeast Asia Logistics Information-Sharing Network
PRC	–	People's Republic of China
TA	–	technical assistance

TECHNICAL ASSISTANCE CLASSIFICATION

Type	–	Policy and advisory technical assistance (PATA)
Targeting classification	–	General intervention
Sector (subsector)	–	Transport and ICT (transport management and policies)
Themes (subthemes)	–	Economic growth (promoting economic efficiency and enabling business environment), regional cooperation and integration (trade and investments)
Location (impact)	–	National (high), regional (high)

NOTE

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

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I. INTRODUCTION

1. The Government of the People's Republic of China (PRC) has asked the Asian Development Bank (ADB) for policy and advisory technical assistance (TA) to support the development of the Northeast Asia Logistics Information-Sharing Network (NEAL-NET) based on international best practice. During missions in June and September 2013, ADB and the government reached an understanding on the impact, outcome, outputs, implementation arrangements, costs, financing arrangements, and terms of reference for consulting services for the TA.¹ The design and monitoring framework is in Appendix 1.

II. ISSUES

2. Northeast Asia, comprising the PRC, Japan, and the Republic of Korea, is an important region for the global economy. The aggregate gross domestic product of the three countries is approximately 17% of the world economy, with a total value of approximately \$4.5 trillion. Container throughput between the three countries accounts for 30% of the global total, constituting the biggest transport chain in Asia. Trade volume increased from \$130 billion in 1999 to \$690 billion in 2011. The PRC is now the largest trading partner of Japan and the Republic of Korea. Japan is the fourth largest trading partner of the PRC, and the Republic of Korea is the sixth.

3. Sustaining this trade growth requires continuing attention to competitiveness, including having a highly efficient and low-cost logistics system. This in turn needs real-time sharing of logistics information among the various logistics participants. Presently the three countries have no unified logistics information-sharing mechanism. The limitation in information sharing creates a bottleneck for logistics and results in higher costs and delays.

4. The PRC has a domestic information interchange platform, China National Transport Logistics Public Information Platform (LOGINK), initially developed in Zhejiang Province. The Ministry of Transport (MOT) is promoting its use as a national information-sharing platform, and as a result, enterprises across the PRC are gradually adopting the system. It already has 100,000 registered users with a daily average of 800,000 information interchanges. Japan and the Republic of Korea also have their own national information-sharing systems. The three countries have therefore conceptualized NEAL-NET, which will establish an information-sharing platform between them and attempt to build upon their respective domestic systems.

5. NEAL-NET, a mechanism to promote logistics information sharing, was proposed during the Third PRC–Japan–Republic of Korea Ministerial Conference on Transport and Logistics in March 2010. The countries signed the memorandum of understanding to establish NEAL-NET in December 2010 and a secretariat was established in Hangzhou in the PRC. The development of NEAL-NET is expected to strengthen regional cooperation.

6. NEAL-NET is a transnational, nonprofit cooperation mechanism for logistics information interchange, sharing, and technical cooperation. Its objective is to improve overall logistics information in Northeast Asia by providing an information exchange platform and unified standard. Presently the NEAL-NET initiative is focusing on international marine transport with a view to sharing information on container vessel status and associated container status. An information standard for real-time container vessel status is being defined, which should lay the foundation for effective promotion of port logistics information sharing among the three countries.

¹ The TA first appeared in the business opportunities section of ADB's website on 2 September 2013.

The three countries have selected ports where the unified information-sharing standard will be piloted: Ningbo–Zhoushan port (the PRC), Tokyo-Yokohama port (Japan), and Busan port (the Republic of Korea).

7. The TA will assist the NEAL-NET secretariat in these efforts. Development of the common information standard involves two stages:

- (i) **Stage 1: Finalization of specifications.** The governments of the PRC, Japan, and the Republic of Korea must reach an agreement on specifications for a common information-sharing standard.
- (ii) **Stage 2: Conformity with specifications.** The logistics nodes (such as ports) must reform their information interfaces in accordance with the standard. Potential users need to modify their systems to access the information-sharing interface.

8. The TA will assist in developing a road map outlining how to expand logistics information-sharing services to include other transport modes. The TA will assist NEAL-NET, which presently focuses on maritime transport, to explore inclusion of other transport modes such as land transport, railways, and air transport. The TA will identify challenges that would need to be overcome and outline the expansion of the service coverage area to the Association of Southeast Asian Nations, the European Union, and other regions.

9. The TA is consistent with the PRC's Twelfth Five-Year Plan, 2011–2015 and is aligned with ADB's country partnership strategy, 2011–2015, for the PRC, which seeks to improve transport efficiency through intermodal transport and related logistics services development. The TA will support the government in defining the development strategy for logistics information-sharing services and research international logistics information technology and platforms. The TA is closely aligned with ADB's Sustainable Transport Initiative Operational Plan,² which emphasizes the need to develop quality logistics information and environmentally sustainable and inclusive growth.

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

10. The impact of the TA will be improved logistics services in Northeast Asia. The outcome will be the development of logistics information-sharing services.

B. Methodology and Key Activities

11. The TA will support the development and adoption of a new NEAL-NET logistics information-sharing standard. The new standard is expected to build upon existing standards and be suitable for all three countries to adopt and implement in their maritime ports. The TA will assist the three countries in reaching an agreement on this common standard. It will also help the NEAL-NET secretariat prepare a development strategy that includes a road map expanding the international logistics information platform to include other transport modes from maritime transport to land, railway, and air transport. It will recommend ways to enhance intergovernmental cooperation among the NEAL-NET countries and with other geographic regions, such as the Association of Southeast Asian Nations and the European Union.

² ADB. 2010. *Sustainable Transport Initiative Operational Plan*. Manila.

12. The TA will assist in reviewing other information-sharing standards such as those developed by the United Nations Centre for Trade Facilitation and Electronic Business and the International Standards Organization, and support work to develop a single harmonized NEAL-NET standard that can be adopted as the information-sharing standard by ports in NEAL-NET countries. The TA will provide an expert facilitator to help the countries reach an agreement on the common standard. It will review efforts required by the designated pilot ports to adopt the agreed common standard, and provide recommendations to help guide other ports seeking to adopt the common information-sharing standard.

13. The TA outputs will be (i) a report and recommendations on the common logistics information-sharing standard, and (ii) recommendations on a development strategy for NEAL-NET.

14. The key activities will involve the following tasks:

- (i) Review the ongoing work for developing the common logistics information-sharing standard, including attending technology group meetings to understand outstanding issues and obtain feedback from technical experts attending these meetings.
- (ii) Survey the major shipping companies, freight forwarders, and others involved in the logistics chain to collect their feedback on the implementation and adoption of the common information-sharing standard.
- (iii) Recommend measures for developing a unified information-sharing standard and for wide-scale adoption of LOGINK and NEAL-NET by a range of enterprises and users.
- (iv) Study the existing systems in the Association of Southeast Asian Nations and European Union countries and recommend a development strategy for NEAL-NET, including a road map for expanding the international logistics information platform to include different transport modes such as maritime transport, inland waterways, railways, and air transport.
- (v) Organize international training (study tour) to exchange ideas with other regions and include recommendations to enhance the geographic scope of NEAL-NET. This will involve promoting further logistics cooperation among the three countries and expanding service coverage area to ASEAN, the European Union, and other regions. The study tour will also provide an opportunity to engage with countries in the European Union, with a similar initiative called e-Freight Project.

15. The TA assumes that the PRC, Japan, and the Republic of Korea are willing to develop a common logistics information-sharing service and will actively collaborate for this purpose. The TA is proposed as a PRC TA as the secretariat of NEAL-NET is based in Hangzhou and the consultants recruited through the TA will work with the secretariat. The TA will mainly support PRC's efforts in adopting the common information interchange platform.

C. Cost and Financing

16. The TA is estimated to cost \$500,000, of which \$400,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-other sources). The government will provide counterpart support in the form of suitably furnished office accommodation with utilities; telecommunications access; materials, maps, data, and documents required by the TA; counterpart professional and support staff; and other in-kind contributions. Details of the cost estimates and financing plan are in Appendix 2.

D. Implementation Arrangements

17. MOT will be the executing agency for the TA, and will be responsible for overall supervision and monitoring of TA activities. The NEAL-NET secretariat at Hangzhou will be the implementing agency and be responsible for guiding TA activities on a day-to-day basis. A project coordinator from the NEAL-NET secretariat will be assigned to ensure timely implementation and will supervise and coordinate day-to-day TA activities, including monitoring progress, resolving problems, arranging meetings, and liaising with relevant departments in MOT and other concerned agencies. MOT will provide sufficient counterpart staff with relevant work experience during TA implementation.

18. The consultants will be based in Hangzhou and their work will directly contribute to the working of the NEAL-NET secretariat. They will attend the technology group meetings in which the three NEAL-NET countries participate. These meetings are conducted regularly to discuss technical issues related to developing a common information-sharing standard.

19. The TA will require about 7 person-months of international and about 14 person-months of national consulting services. The outline terms of reference for consultants are in Appendix 3. The consultants will be engaged by ADB in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time).

20. ADB will engage a team of national consultants through a consulting firm, on the basis of the quality of the proposal (90%) and the cost of services to be provided (10%), using simplified technical proposal procedures. The 90:10 weighting is appropriate since the TA is a highly specialized assignment requiring specialized technical expertise in networking technologies and logistics.

21. ADB will engage international consultants as individuals. Individual consultants are needed, as the TA is an advanced assignment requiring specialized expertise in logistics information harmonization. This is a relatively new concept, even within developed countries, and the required skill sets are unlikely to be readily available through regular consulting firms. The individuals may be hired from academia in order to have a suitable research background to meaningfully contribute to ongoing research efforts.

22. The government will provide complementary inputs. The office space will be arranged at the NEAL-NET secretariat in Hangzhou. Procurement of TA relevant equipment will be carried out in accordance with ADB's Procurement Guidelines (2013, as amended from time to time). Ownership of equipment will be transferred to MOT after TA completion. Disbursement will be undertaken in line with ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time).

23. The TA will be implemented from 1 December 2013 to 31 December 2015. The consultants will submit inception, interim, draft final, and other reports in English and Chinese. The structure of these reports and timing of submission is outlined in Appendix 3. The consultants will hold regular workshops to present findings and recommendations, and solicit feedback from key stakeholders. The consultants will attend the NEAL-NET technical group meetings and other coordination events, and report on the discussions and agreements reached. Other relevant ministries and agencies will be closely consulted and involved during TA implementation and the review of the TA outputs. They will be invited to participate in the review workshops and discussions pertaining to the TA.

24. ADB missions will monitor the progress and performance of the TA. The ADB project team is expected to prepare and disseminate working papers describing key findings, recommendations, and lessons from TA implementation.

IV. THE PRESIDENT'S DECISION

25. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$400,000 on a grant basis to the Government of the People's Republic of China for the Formulation of the Northeast Asia Logistics Information-Sharing Network Development Program and Organizational Mechanism, and hereby reports this action to the Board.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Improved logistics services in Northeast Asia	By 2020: The PRC's logistics performance index country ranking is improved by at least five places (baseline: 26 in 2012)	Logistics performance index maintained by the World Bank	Assumption The NEAL-NET countries continue to implement the road map developed through the TA
Outcome Development of logistics information-sharing services	By 2015: The information standard and road map recommendation is accepted by NEAL-NET countries	TA progress or performance report TA main report TA completion report Government feedback and actions following TA implementation	Assumptions The NEAL-NET countries maintain political will and commitment to improve logistics information services. MOT has strong project implementation capability and sufficient counterpart funds to ensure smooth implementation of the project. MOT supports key TA recommendations. Risk The three countries are unable to reach agreement on a common information-sharing standard.
Outputs 1. Report and recommendations on a common logistics information-sharing standard 2. Recommendations on a development strategy for NEAL-NET	Recommendations on an information-sharing standard are submitted to the NEAL-NET technical group and ADB by June 2015 Report on development strategy submitted to the government and ADB by June 2015	Final report, review meeting, and workshop presentation Final report, review meeting, and workshop presentation	Assumptions Stakeholders participate actively and provide support. MOT provides data and information needed to support logistics information-sharing services.

Activities with Milestones	Inputs														
1. Report and recommendations on a common logistics information-sharing standard	ADB: \$400,000														
1.1 Conduct desk review of existing information standards and platforms in Northeast Asia by March 2014 1.2 Identify challenges and opportunities in creating a uniform information standard in Northeast Asia by June 2014 1.3 Survey shipping companies, freight-forwarding companies, and other users to identify requirements by December 2014 1.4 Provide recommendations for developing and adopting a logistics information-sharing standard by June 2015	<table border="1"> <thead> <tr> <th>Item</th> <th>Amount (\$'000)</th> </tr> </thead> <tbody> <tr> <td>1. Consultants</td> <td>287.0</td> </tr> <tr> <td>2. Equipment</td> <td>3.0</td> </tr> <tr> <td>3. Workshops and seminar</td> <td>35.0</td> </tr> <tr> <td>4. International training</td> <td>30.0</td> </tr> <tr> <td>5. Surveys</td> <td>8.0</td> </tr> <tr> <td>6. Contingencies</td> <td>37.0</td> </tr> </tbody> </table>	Item	Amount (\$'000)	1. Consultants	287.0	2. Equipment	3.0	3. Workshops and seminar	35.0	4. International training	30.0	5. Surveys	8.0	6. Contingencies	37.0
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2. Recommendations on a development strategy for NEAL-NET 2.1 Conduct research on logistics information-sharing standards in land transport nodes and development by June 2014 2.2 Conduct research on NEAL-NET cooperation mechanism and mechanism of cooperation with other international organizations by October 2014 2.3 Conduct desk review of existing policies and strategies on how to improve logistics services in Northeast Asia by December 2014 2.4 Conduct desk review of logistics information-sharing practices in ASEAN, the European Union, and North American regions by December 2014 2.5 Conduct international training (study tour) organized to study the practices in other regions by June 2015 2.6 Identify challenges and opportunities to improve logistics services in Northeast Asia by June 2015 2.7 Develop recommendations on a development strategy for NEAL-NET by September 2015	<p>The government will provide counterpart support through in-kind contributions, including suitably furnished office accommodation with utilities; telecommunications access; materials; maps, data, and documents required by the TA; utilities for the consultants; and counterpart professional staff and support staff.</p>														

ASEAN = Association of Southeast Asian Nations, MOT = Ministry of Transport, NEAL-NET = Northeast Asia Logistics Information-Sharing Network, TA = technical assistance.
 Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Amount
Asian Development Bank^a	
1. Consultants	
a. Remuneration and per diem	
i. International consultants (7 person-months)	147.0
ii. National consultants (14 person-months)	84.0
b. International and local travel	31.0
c. Reports, translation, and communications	25.0
2. Equipment ^b	3.0
3. Workshops and seminar ^c	35.0
4. International training ^d	30.0
5. Surveys ^e	8.0
6. Contingencies	37.0
Total	400.0

Note: The technical assistance (TA) is estimated to cost \$500,000, of which contributions from the Asian Development Bank are presented in the table above. The government will provide counterpart professional and support staff, office space with furniture, utilities (including high-speed internet and telecommunications access), materials (maps, available data, and documents) required by the TA, local transportation to field study sites, counterpart cost and services, and other in kind contributions. The value of government contribution is estimated to account for 20% of the total TA cost.

^a Financed by the Asian Development Bank's Technical Assistance Special Fund (TASF-other sources).

^b Includes computers, printers and facsimile machine, and software to be procured under the contract for consulting services. The equipment described will be procured by the consulting firm in accordance with ADB's Procurement Guidelines (2013, as amended from time to time) and will be turned over to the executing agency upon completion of the TA.

^c Workshops and seminars will be implemented by the national consulting firm and the costs administered through the consulting contract.

^d Costs will be incurred in Asian Development Bank member countries.

^e Surveys will be implemented by the national consulting firm.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

1. The consultants will work in close consultation with the Ministry of Transport (MOT) and the secretariat of the Northeast Asia Logistics Information Sharing Network (NEAL-NET) based in Hangzhou. They will attend NEAL-NET technical group meetings and expert workshops.

A. Individual International Consultants

2. **Transport and logistics specialist and team leader** (4 person-months, international). The consultant should be a senior engineer or manager with a degree in transport logistics engineering or management, with preferably 10 years of relevant international experience in planning, programming, and managing logistics information-sharing projects in various countries. The consultant will carry out the following tasks:

- (i) Coordinate research activities, build a research team, create a research plan, and supervise and operate the project.
- (ii) Maintain effective communication with the NEAL-NET secretariat, MOT, and Asian Development Bank (ADB).
- (iii) Stay in close contact with related departments and international institutions for information sharing and effective resource utilization, and act as major coordinator in high-level dialogue and discussions.
- (iv) Organize a survey of shipping companies, freight forwarders, and other potential users.
- (v) Coordinate with the consulting team regarding the process; adopt reasonable advice from the government, consultants, and ADB; and submit quality reports as scheduled.

3. **Regional logistics information networking specialist** (3 person-months, international). The specialist should have an advanced degree in logistics or networking technologies, at least 5 years of experience in the design and implementation of logistics information-sharing standards and maintenance, strong English writing and speaking abilities, and demonstrated capacity to work effectively in international teams to produce results. The specialist will work closely with the team leader on the following:

- (i) Provide technical inputs for establishing an information-sharing standard.
- (ii) Recommend measures for wide-scale adoption of the information standard.
- (iii) Research logistic information-sharing standards in use by other countries or regions.
- (iv) Research logistics information-sharing standards for land transport and other modes.

B. National Firm

4. The consulting firm will be responsible for organizing an inception meeting and two workshops. To maximize attendance at minimal cost, the inception meeting and workshops should be organized and conducted in conjunction with regularly scheduled NEAL-NET technical meetings and expert workshops. The inception meeting will review the inception report and provide guidance to the consultants for implementing the various tasks specified under the terms of reference. The first workshop will be conducted after the submission of the interim report and will discuss the findings and recommendations. It will also seek feedback from various stakeholders and potential users of the NEAL-NET information-sharing platform. The second workshop will be conducted after the submission of the draft final report and will discuss

the findings and recommendations, particularly relating to the development road map for NEAL-NET. The following national experts will be engaged through the national firm.

5. **Regional cooperation and logistics specialist** (7 person-months, national). The specialist should have (i) a master's degree in logistics or transport engineering, (ii) preferably at least 8 years of relevant work experience, (iii) good communication skills in English, (iv) experience in logistics information-related work, (v) experience organizing international cooperation between governments, and (vi) experience conducting research on development strategy for logistics technology. The specialist will work closely with the team leader in the following:

- (i) Assist in developing a NEAL-NET development strategy and road map.
- (ii) Research and recommend measures to enhance and improve current container and vessel information-sharing service.
- (iii) Research and recommend measures for NEAL-NET's extension to other transport modes.
- (iv) Carry out research on international logistics information-sharing standards.
- (v) Assist in carrying out surveys of potential users.
- (vi) Assess the training needs of key government officials and plan an international training program.

6. **Networking specialist** (7 person-months, national). The specialist will (i) assist the team in its research work related to a NEAL-NET cooperation mechanism, (ii) possess a bachelor's degree from a recognized university, (iii) have a minimum of 3 years of relevant experience in logistics information technologies, (iv) have an understanding on logistics information sharing and (v) have experience in transnational logistics cooperation. The specialist will assist with the following:

- (i) Assess the suitability of the existing standard LOGINK.
- (ii) Review and recommend strategies to encourage further adoption of the domestic standard.
- (iii) Carry out research on prevalent information-sharing mechanisms.
- (iv) Conduct research and analysis on how to promote wide implementation in the PRC and the northeast region.
- (v) Assist in collating and analyzing the results of the survey of potential users;
- (vi) Help with report presentation and review.
- (vii) Document the infrastructure requirements and the measures needed for operating and maintaining a common logistics information sharing platform.

C. Reporting Requirements

7. The consultants will submit the following reports:

- (i) An inception report, submitted 3 weeks after commencement of services, will detail the consultant team's understanding of the issues to be addressed in the TA; the approach, methodology, and information required to complete the TA; and the initial thinking of the team on the recommended policy directions.
- (ii) A first interim report, submitted 24 weeks after commencement of services, should comprise three parts: (a) a review paper on past and ongoing work of developing a common logistics information standard; (b) a summary of findings from the survey of shippers, freight-forwarding companies, and other users; and (c) recommendations for developing the standard and for incentives for its adoption by a large number of users.

- (iii) A second interim report, submitted 48 weeks after commencement of services, should comprise three parts: (a) implementation requirements for the common logistics standard; (b) needs of end users, and recommendations for implementing and adopting the standard; and (c) recommendations for extending the standard to other transport modes.
- (iv) A draft final report, submitted 72 weeks after commencement of services, should build upon the interim report and comprise (a) recommendations for the common logistics information standard, (b) a marketing strategy to encourage widespread adoption of the standard, and (c) a road map for partnering with other countries and regions.
- (v) A final report (including an executive summary with key findings and recommendations) to be submitted 8 weeks after receipt of comments from MOT and ADB.

8. All reports will be written in English and translated into Chinese. Three hard copies and a soft copy of the inception, interim, and draft final and final reports in English will be submitted to ADB. Three hard copies and a soft copy of these reports in English and Chinese will be submitted to the executing agency.