JTTRI-AIRO
Japan Transport and Tourism Research Institute
ASEAN-India Regional Office

Aiming for Advanced Logistics in the Philippines

-Improvement of Logistics in ASEAN Island Region-

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19 February, 2025

Japan Transport and Tourism Research Institute

ASEAN-India Regional Office

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1. Logistics Situation in the Philippines and Its Challenges

2. Strengthening Infrastructure to Improve Logistics in the Philippines

3. Past Research and Application to Logistic Issues in the Philippines

4. Issues and Measures to Improve Logistics in the Philippines

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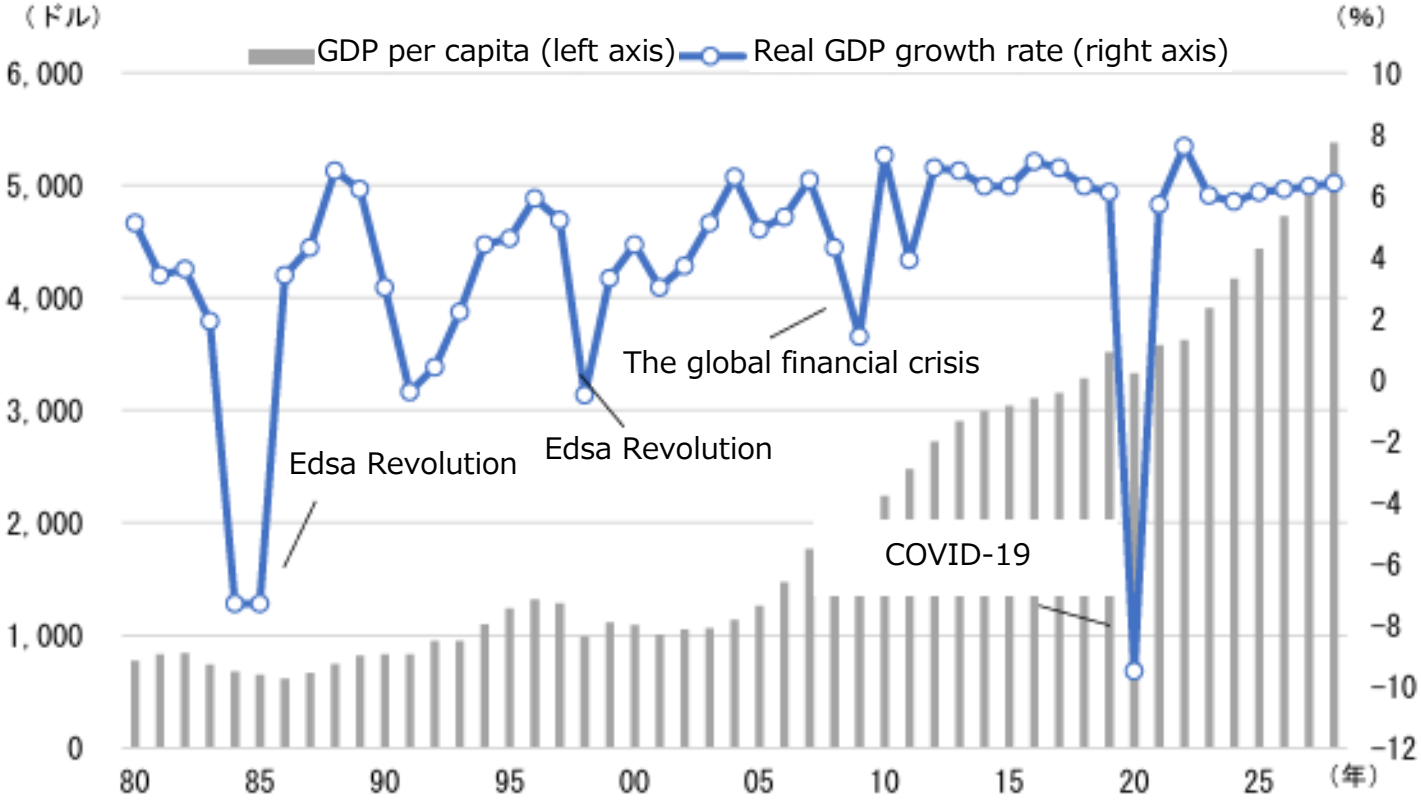
(1) Social and Economic Situation in the Philippines

- In recent years, real GDP growth rate has been stable at around 6% or more.
- The current administration of the Philippines is focusing on the development of infrastructures and plans to allocate 5-6% of government expenditure to infrastructure development in 2023-2028.
- Stable economic growth is expected to continue in the future.



Philippines's GDP per capita and real GDP growth rate

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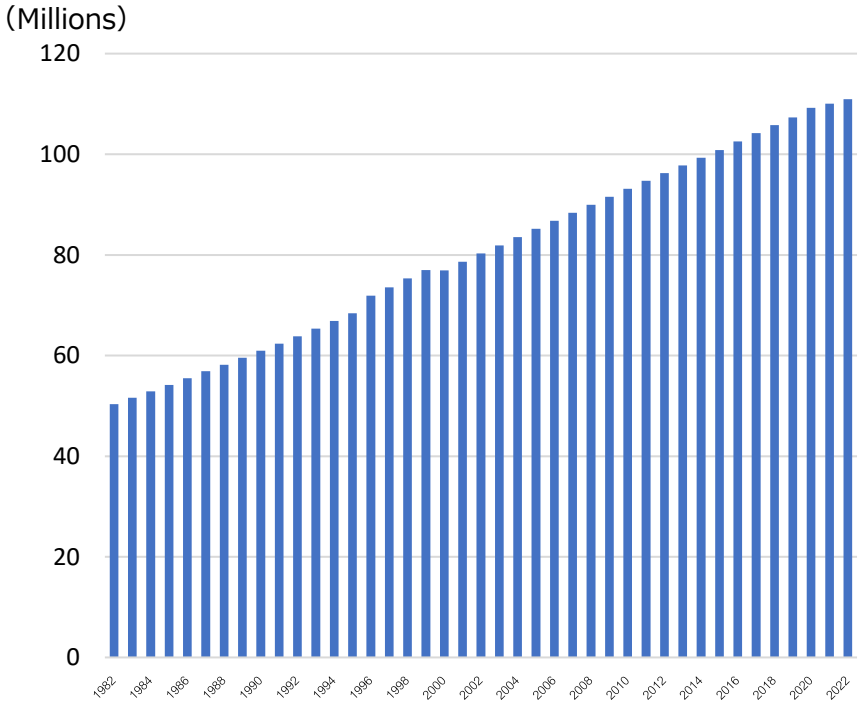
(1) Social and Economic Situation in the Philippines

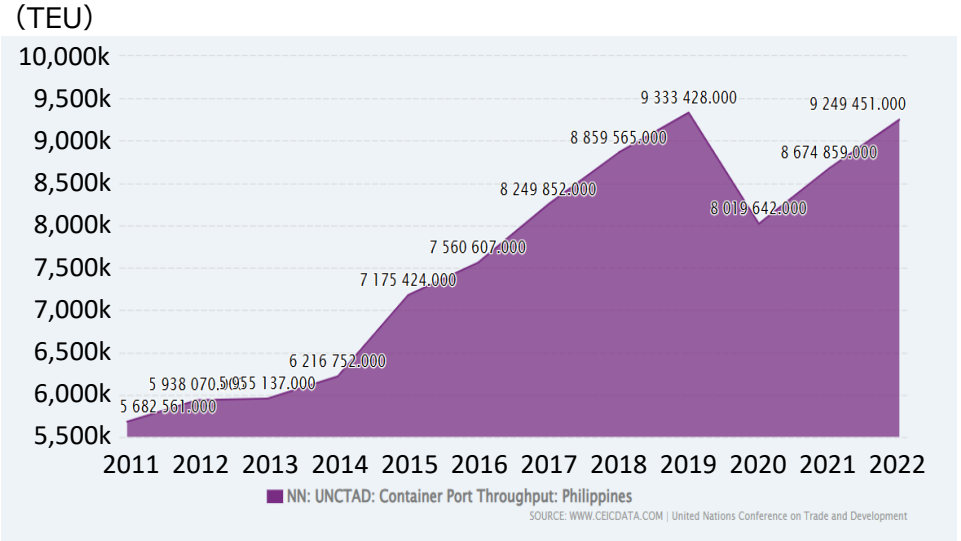
- The population has increased at a rate of 1.5-2% along with economic growth in recent years.
- The volume of containerized cargo handled at Philippine ports has been rising steadily according to the increasing population, although there was a temporary decline due to the COVID19.

Population Trends in the Philippines



Source：IMF

Port Cargo Volume in the Philippines



Source：CEIC

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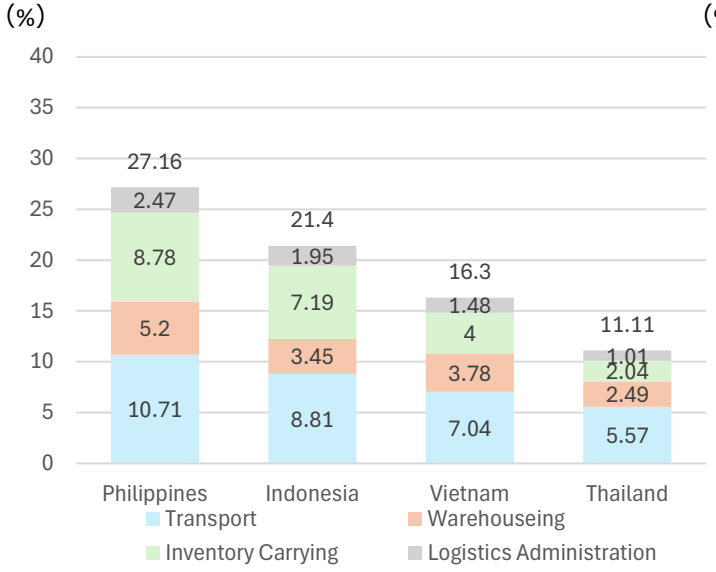
1． Logistics Situation in the Philippines and Its Challenges

(2) Recognition of the Philippine Government's Activities to Improve Logistics Efficiency

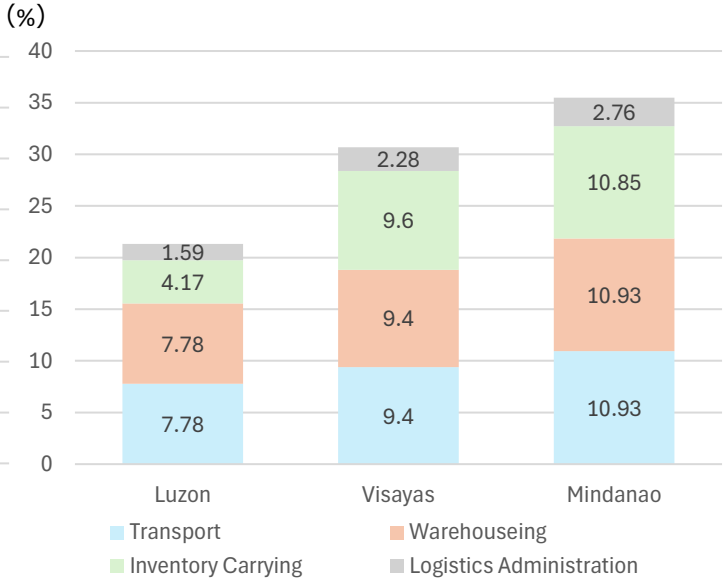
(a) An Assessment of Logistics Performance of Manufacturing Firms in the Philippines

(DTI's survey to evaluate the logistics performance of Philippine manufacturing companies)

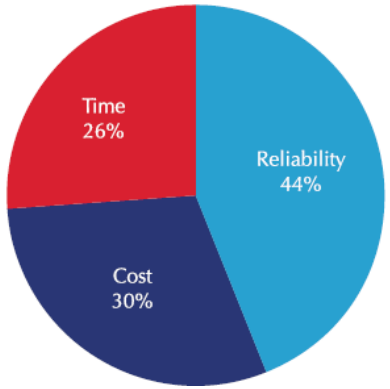
- The ratio of logistics costs/sales in the Philippines is high compared to some other ASEAN countries. Especially in domestic island areas, it is important to reduce costs by building highly connected transportation networks.
- Reliability is recognized as an important part of logistics performance.
- In the Philippines, it is necessary to <u>build a fast, high-quality, and reliable logistics system</u> to reduce logistics costs and increase competitiveness.



Logistics Cost/Sales by Component



Logistics Cost/Sales Components by Island Group and National Average



Logistics Performance Dimensions

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1． Logistics Situation in the Philippines and Its Challenges

(2) Recognition of the Philippine Government's Activities to Improve Logistics Efficiency

(b) Bridge across Oceans -Initial Impact Assessment of the Philippines Nautical Highway System and Lessons for Southeast Asia-

（ADB's assessment of sustainability of the Ro-Ro system in the Nautical Highway policy and lessons learned from its application to the Southeast Asian Island region）

- To develop rural areas such as island areas and to achieve economic growth, Ro-Ro transportation is promoted, which does not require a large amount of cargo handling equipment and labor.
- The movement of goods and people become more efficient, contributing to the reduction of transportation costs. In addition, regional markets and trade are expanding, leading to the economic development of the islands, and the formation of stable Ro-Ro networks is required continuously.
- Even in the absence of large-scale public investment, appropriate policies can have a beneficial impact on national and local economies.

Major Philippine Nautical Highways

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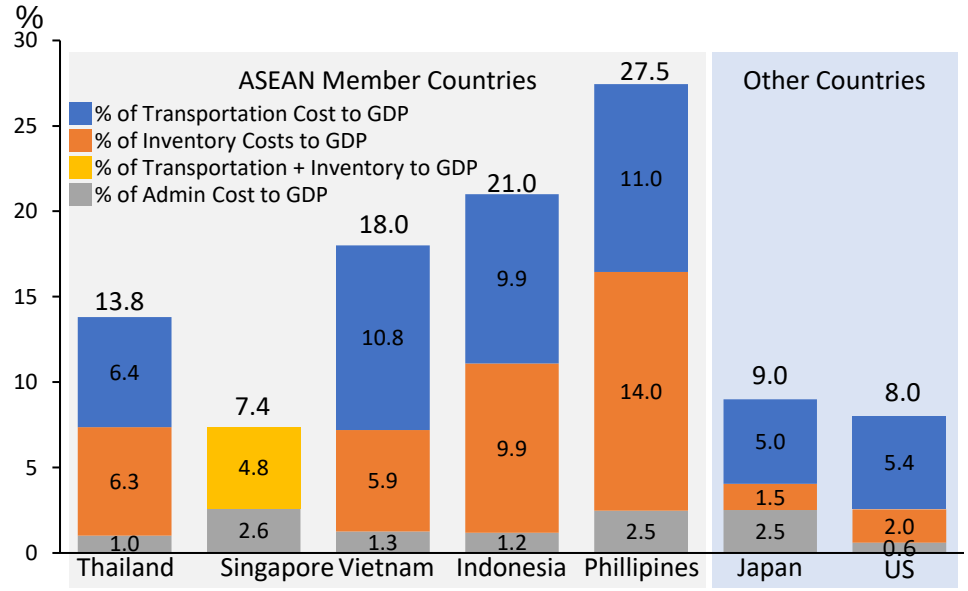
(3) Logistics Costs in the Philippines

- Logistics costs in the Philippines account for about 28% of GDP. This is higher compared to Japan, the United States, and other ASEAN countries.
- In terms of logistics performance index data, the score is lower than that of major developed countries, and it is also lower than that of ASEAN countries.



*Prepared by JTTRI-AIRO based on the data of OECD

Comparison of Logistics cost per GDP

	ASEAN						Japan	US	China	UK	EU		
	Philippines	Indonesia	Viet Nam	Thailand	Singapore	Malaysia					Germany	Neitherland	France
LPI Score	3.3	3.0	3.3	3.5	4.3	3.6	3.9	3.8	3.7	3.7	4.1	4.1	3.9
Custom	2.8	2.8	3.1	3.3	4.2	3.3	3.9	3.7	3.3	3.5	3.9	3.9	3.7
Infrastructure	3.2	2.9	3.2	3.7	4.6	3.6	4.2	3.9	4.0	3.7	4.3	4.2	3.8
International shipments	3.1	3.0	3.3	3.5	4.0	3.7	3.3	3.4	3.6	3.5	3.7	3.7	3.7
Logistics competence	3.3	2.9	3.2	3.5	4.4	3.7	4.1	3.9	3.8	3.7	4.2	4.2	3.8
Tracking & tracing	3.3	3.0	3.4	3.6	4.4	3.7	4.0	4.2	3.8	4.0	4.2	4.2	4.0
Timeliness	3.9	3.3	3.3	3.5	4.3	3.7	4.0	3.8	3.7	3.7	4.1	4.0	4.1

Source: World Bank

Comparison of logistics performance indicators

In addition to the island structure, high logistics cost might also have been caused by the lack of reliability of the logistics system and the function of the logistics infrastructure, and early improvement is required to strengthen international competitiveness.

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(4) Issues for Improving Logistics Efficiency in the Philippines

In order to build a fast, high-quality, and highly reliable logistics system, the following initiatives are important.

- Integrating and enhancing the functions of metropolitan ports
- Mitigation of chronic traffic congestion in metropolitan area

->In Chapter 2, JTTRI-ARO focuses on ports, which are one of the main infrastructures in international logistics.

- Establishment of stable RORO network
- Development of logistics hubs
- Establishment of stable logistic network outside metropolitan area
- Establishment of cold chain logistics

->In Chapter 3, an overview of the past researches is introduced and further discussion is proposed.

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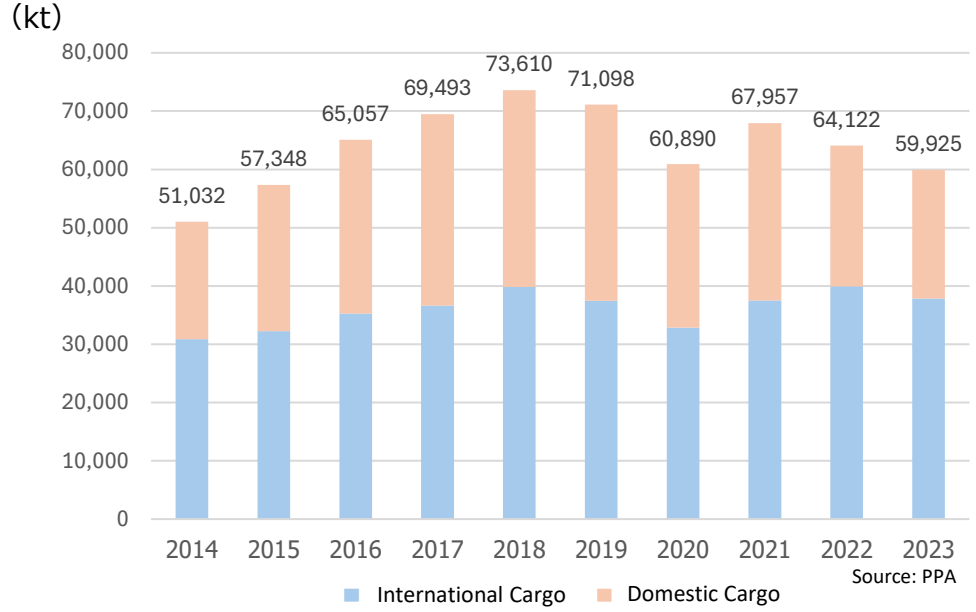
(1) Overview of Port Infrastructure

(a) Manila Port

- Manila Port is located approximately 15 km from the center of Metro Manila and consists of three areas (MICT, North Port, and South Port). These are operated by private operators under the PPP.
- Although the volume of handled cargo has remained flat in recent years, approximately 70% of domestic container cargo is concentrated in Manila port, resulting in constant congestion.

*MICT : Manila International Container Terminal



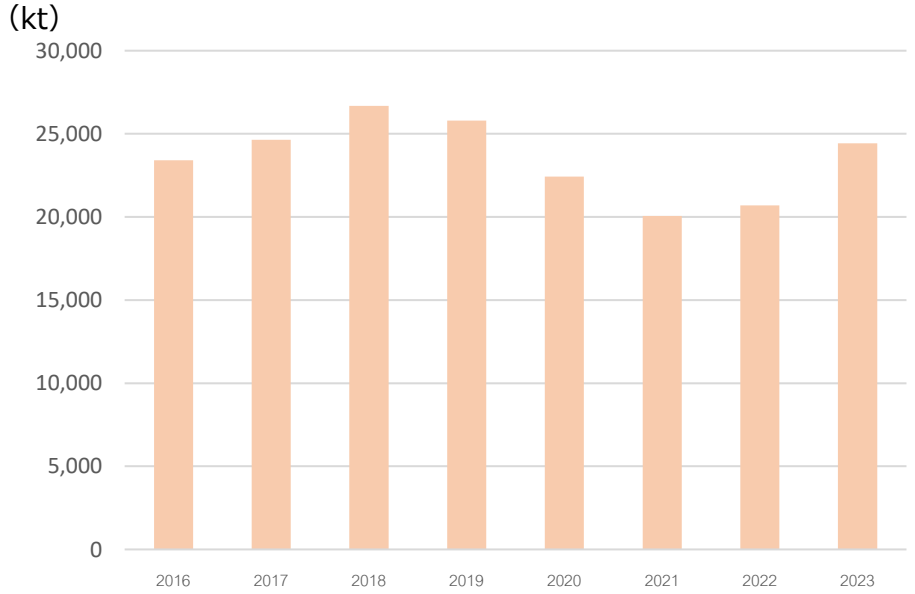
Changes in the total cargo volume handled

Manila Port

(1) Overview of Port Infrastructure

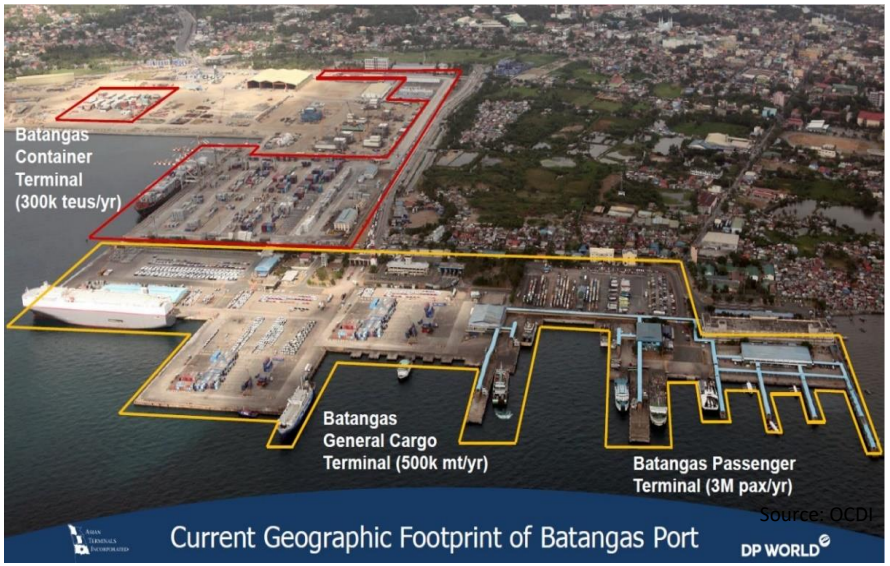
(b) Batangas Port

- Batangas Port is located approximately 100 km south of Metro Manila, and it is a natural harbor located in the depths of Batangas Bay.
- It mainly handles cargo from the industrial parks located between Manila and Batangas and agricultural products from Mindoro Island.
- A new container terminal is planned to be built, with an annual processing capacity of more than 2 million TEUs, which is expected to be the second largest in the Philippines after MICT.



Changes in the total cargo volume handled

Source: PPA



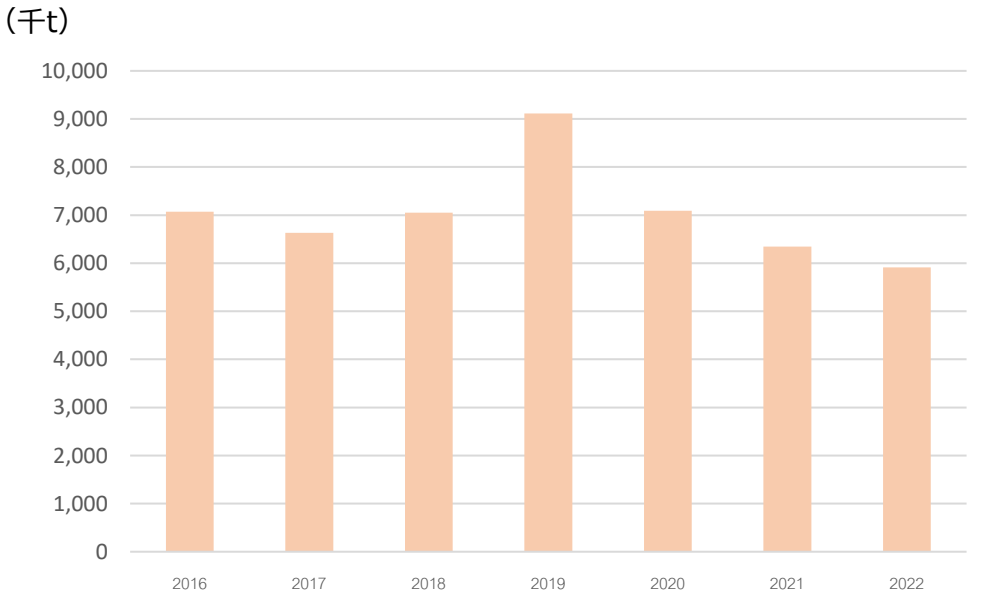
Source: OCDI

Batangas Port

(1) Overview of Port Infrastructure

(c) Subic Port

- Subic Port is located approximately 100 km northwest of Metro Manila, and it was installed on the site of the former U.S. Navy base, which was returned in 1992.
- It is a special economic zone to attract investment inside and outside the port area, and preferential measures such as corporate tax reduction and deregulation of foreign companies are taken.
- Expansion of the container terminal and construction of a new cruise terminal are planned.



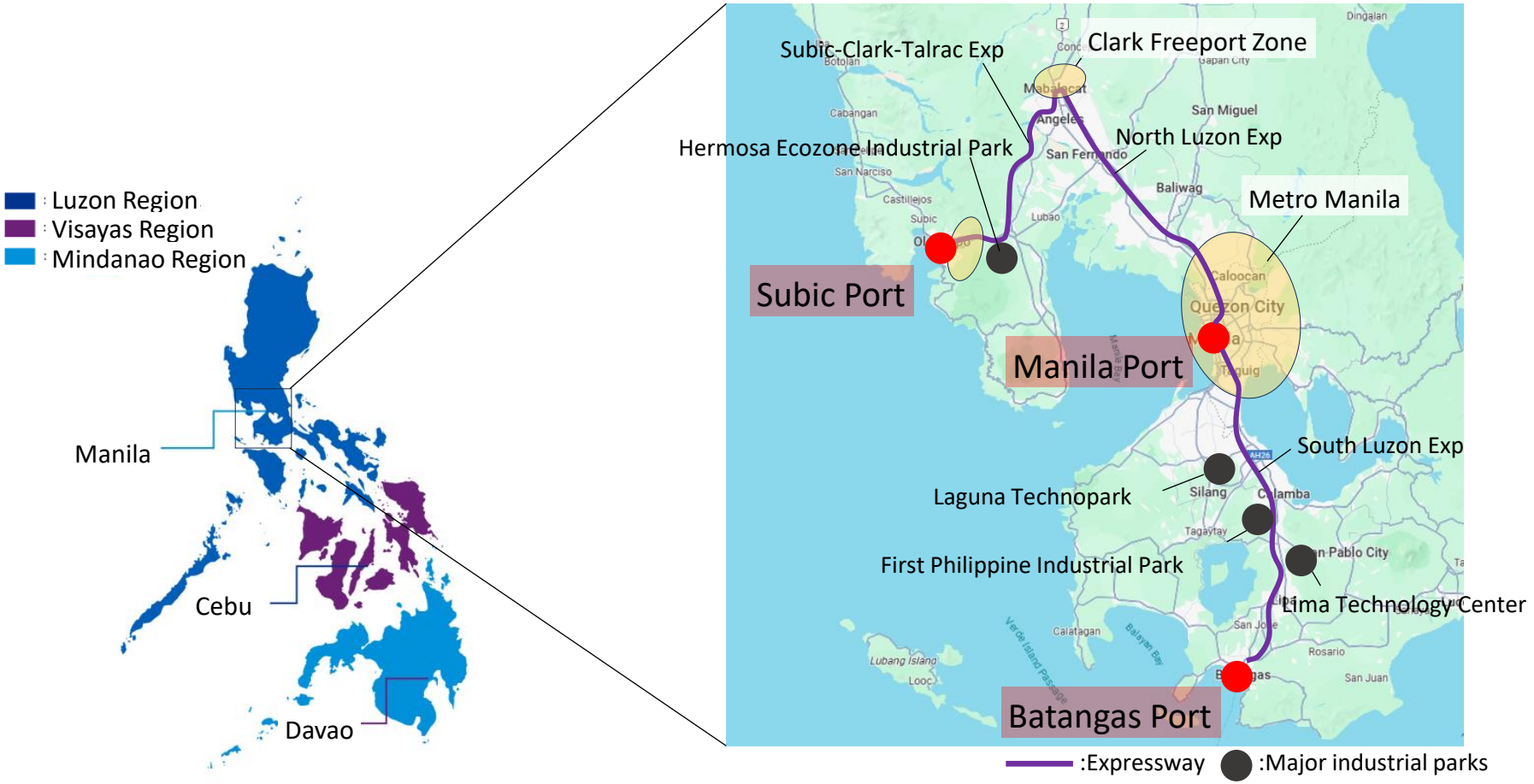
Changes in the total cargo volume handled

Source: SBMA

Subic Port

(1) Overview of Port Infrastructure

- Expressways connecting Subic Port and Batangas Port to Manila are in place, with economic zones and industrial parks located along the route.
- Both ports function as a complementary port to the constantly congested Manila Port.



(1) Overview of Port Infrastructure

- In the various plans for improving logistics efficiency formulated by the Philippine government, it is positioned as follows.
  - 「Philippine Development Plan (2023-2028)」

    To improve the efficiency of logistics, it is necessary to strengthen port functions and develop multimodal transportation facilities.
  - 「Logistics Efficiency and Transport Seamlessness for Growth Outcomes」

    Infrastructure needs to be improved to ensure that modes of transportation work together seamlessly and that goods can move quickly and at a lower cost.

It is important to strengthen the integrated functions of Manila Port, Batangas Port and Subic Port.

2． Strengthening infrastructure to improve logistics in the Philippines

(2) Integrating and Enhancing the Functions of Metropolitan Ports

(a) Significance of Integrating and Enhancing the Functions of Metropolitan Ports

1. Response to the expansion of port handling cargo demand

2. Expansion and relocation of port cargo generation centers to the suburbs of the capital

3. Response to the growing demand for port land

4. Response to the increase in the size of vessels entering ports

5. Measures against road congestion in the city center

(2) Integrating and Enhancing the Functions of Metropolitan Ports

(b) Points to Keep in Mind When Integrating and Enhancing the Functions of Metropolitan Ports

①Concept of Division of Roles

It is necessary to assess the transportation costs to each port and understand the needs of users to establish appropriate role distribution.

②Changes in the Industrial Structure

It is necessary to quantitatively examine trends that affect cargo demand, such as changes in the composition of major industries.

③Participation of Private Companies in Operation and Maintenance

The project should be attractive for participating private companies.

④Management of Ports and Terminals

Since there is a risk of investment restraint or monopoly due to the pursuit of profits in terminal operations, it is important for the public to induce timely investment in response to increased demand so that ports do not become a bottleneck in the economy.

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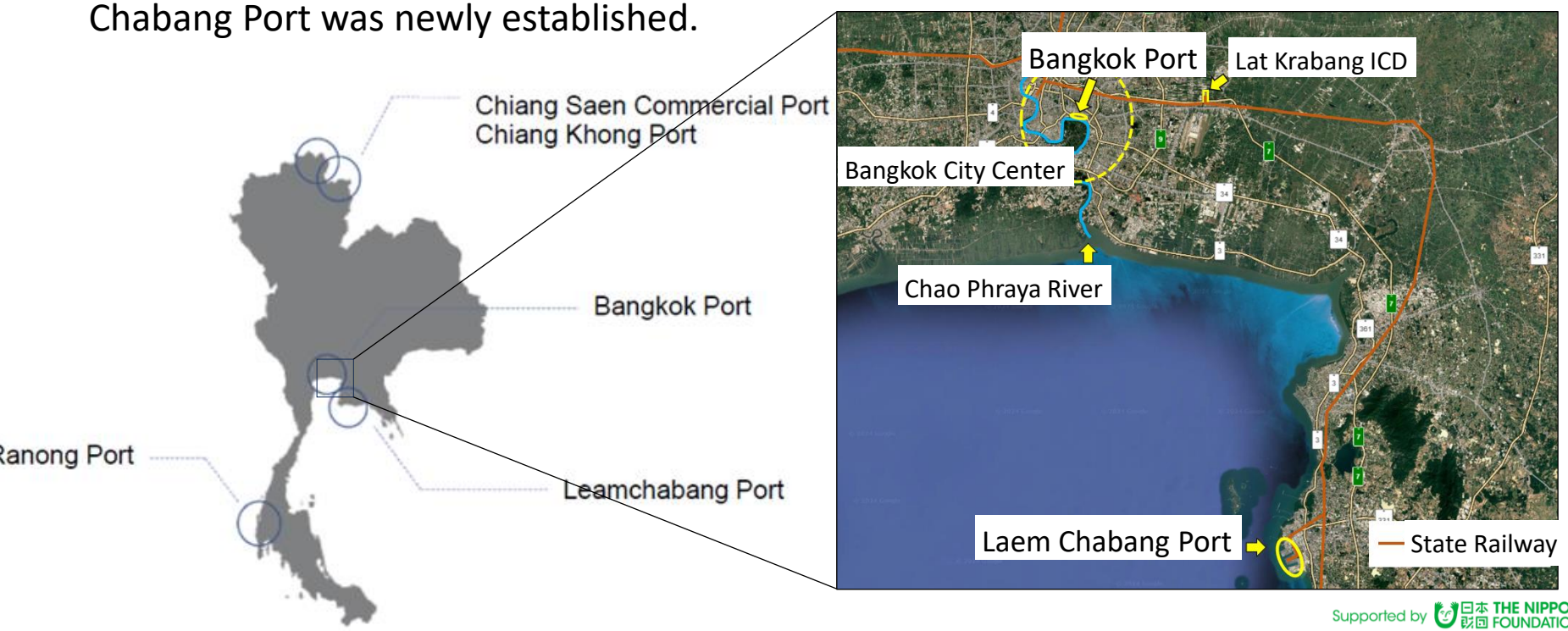
(3) Examples of Integrated Port Operations in Other Countries

(a) Bangkok, Thailand

- The Port Authority of Thailand (PAT), under the Ministry of Transport, manages a total of five ports, including Laem Chabang Port, the largest port in Thailand.
- Bangkok Port, which was built along the Chao Phraya River, had no room for terminal expansion, and it was difficult to meet future cargo demand due to draft restrictions, so Laem Chabang Port was newly established.

Bangkok Port



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(3) Examples of Integrated Port Operations in Other Countries

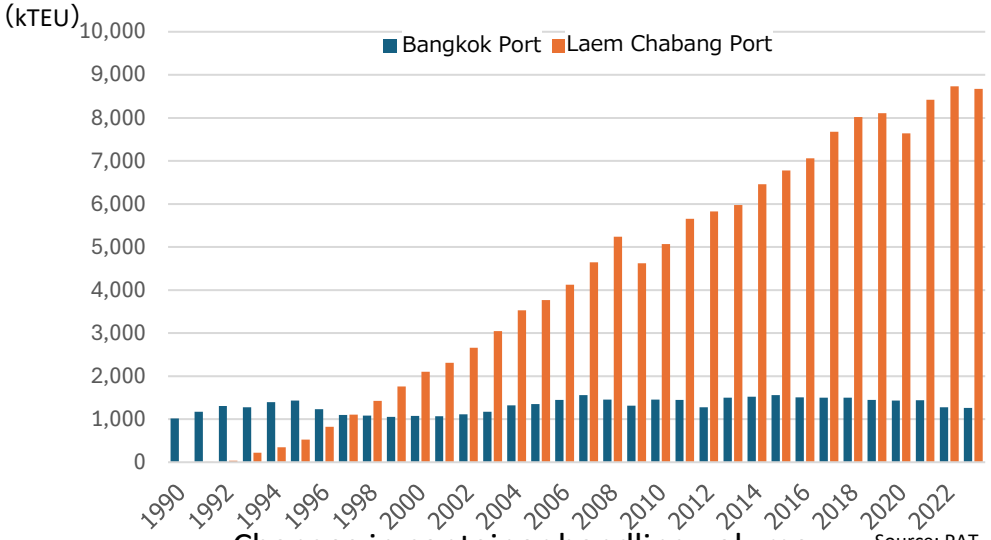
Success factors for the integrated operation of Bangkok Port and Laem Chabang Port

-Large vessels that cannot enter Bangkok Port due to draft restrictions inevitably use Laem Chabang Port.

-The inland container depot in the eastern part of Bangkok and Laem Chabang Port was connected by rail to mitigate road congestion.

-Since both ports are managed and operated by PAT, it is easy to have a fee policy for adjusting use.

-Under the "Eastern Coastal Port Development Plan", which is a national policy, PAT and organizations such as the Ministry of Industry, the State Railway of Thailand (SRT), and the Expressway Authority have worked well together to develop the infrastructure.



Changes in container handling volume at Bangkok Port and Laem Chabang Port

Source: PAT

Laem Chabang Port

Source: PAT

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(3) Examples of Integrated Port Operations in Other Countries

(b) Tokyo, Japan

Tokyo Port, Yokohama Port and Kawasaki Port are operated integratedly as Keihin Port. The roles of each of them have been clarified. The comprehensive plan has been formulated.

Tokyo Metropolis, Kawasaki City, and Yokohama City signed the 'Basic Agreement on Strengthening Wide Area Cooperation in Keihin Port' in March 2008, promoting the following initiatives to enhance the international competitiveness of Keihin Port.

Comprehensive plan for Keihin Port

○To realize the envisioned future of Keihin Port, the early 2040s have been set as the target year, and the plan was formulated in September 2011.

○This plan was developed by the Keihin Port Cooperation Council based on the Local Autonomy Act, and it also serves as the foundation for the port plans formulated by each port in Keihin.

Based on this plan, the three Keihin ports will deepen their cooperation further and promote various initiatives aimed at strengthening the international competitiveness of Keihin Port

Unification of port fees

The port entry fee for container ships that continuously call at the three Keihin ports will be charged as a single port fee (effectively treating it as one port).

Exemption of port entrance fee from barge

Exemption from port entry fees for barges (container barges) that transport container cargo between the three ports of Keihin and Chiba Port.

Incentives for LNG-fueled vessels

To contribute to international environmental measures as soon as possible, port entry fees for LNG-fueled vessels and LNG bunkering vessels will be waived.

Current initiatives at each port

○Tokyo Port is enhancing the functionality of its port facilities to accurately respond to the actual needs of the metropolitan area and eastern Japan as an import port, by developing and reorganizing container terminals, and strengthening the road network, thereby creating a user-friendly port that finely addresses user needs.

○Yokohama Port and Kawasaki Port established Yokohama Kawasaki International Port Corporation in January 2016 to implement effective cargo collection measures, while Yokohama Port plays the role of a transshipment port facing Busan and Shanghai ports by utilizing deep-water berths, and Kawasaki Port is developing a port characterized by the collection of high-function logistics facilities.

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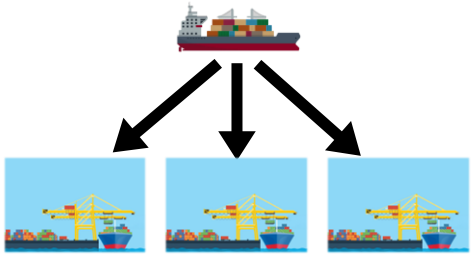
(4) Proposal of Measures to Improve Logistics Efficiency

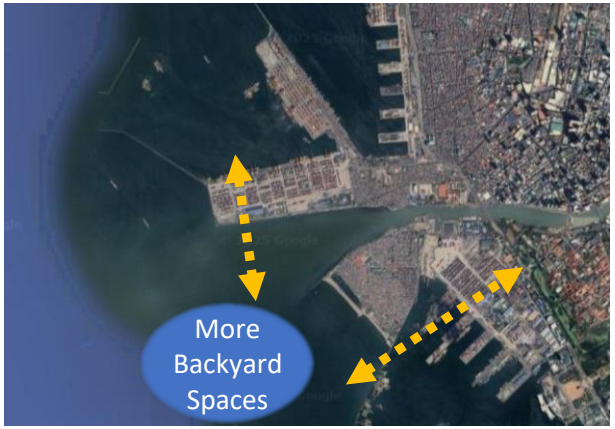
(a) Measures to be Taken Continuously

- Strengthening cooperation between administrators and terminals
- Reducing the load on roads around ports by barge transportation
- Updating regularly demand forecasts and enhancing management strategies, services, and marketing
- Securing more backyard spaces in Manila Port



Enhancement of Management Strategy, Service and Marketing

Barge Transportation



Securing More Backyard Spaces

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(4) Proposal of Measures to Improve Logistics Efficiency

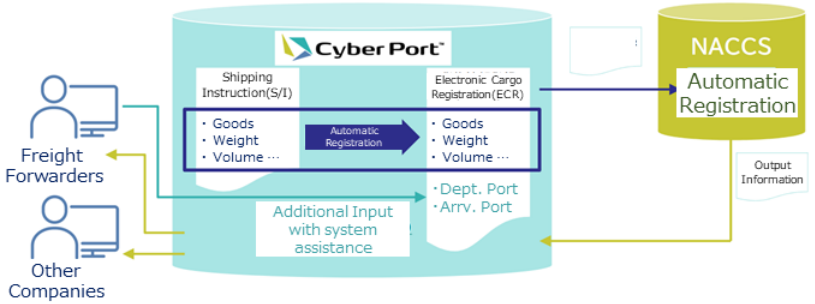
(b) Measures to be Taken More Intensively : Improving Cargo Handling Efficiency with ICT

- Further promoting the dissemination of TABS, which is being introduced.
- Streamlining the procedure by introducing MSW(Maritime Single Window)
- Utilizing technologies such as "AI Terminal" and “Cyber Port"

TERMINAL APPOINTMENT BOOKING SYSTEM

An innovative web-based platform sustaining supply-chain efficiency

Developed by: 1-stop



Source: Port Calls

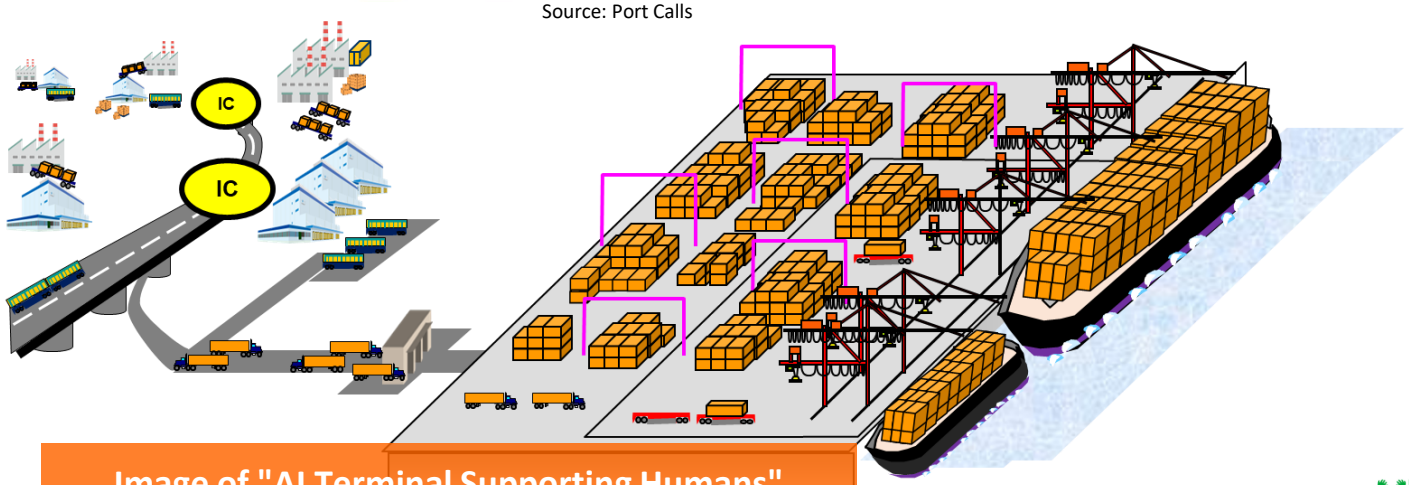


Image of "AI Terminal Supporting Humans"

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(1) Issues and Measures for Improving Logistics in Thailand

JTTRI-AIRO Opening Commemorative Symposium
ASEAN's Logistics amid Turbulent Times
～The Current State and Challenges of Logistics in the ASEAN Region with a Focus on Thailand ～(Part 1)

【Event Overview】

Date/Time : Wed, June 15, 2022 15:30～18:00 (Japan Time)
Venue : Online (Zoom Webinar)

【Program】

Opening Remark : SHUKURI Masafumi, Chairman, Japan Transport and Tourism Research Institute
Greeting from Guest of Honor :
Saksayam CHIDCHOB, Minister of Transport Thailand
NASHIDA Kazuya, Ambassador Extraordinary and Plenipotentiary of Japan to the Kingdom of Thailand
Special Lecture : Chayatan PHROMSORN, Permanent Secretary of Ministry of Transport Thailand
Lecture : SHIBASAKI Ryuichi, Associate Professor, Resilience Engineering Research Center, School of Engineering, the University of Tokyo
TOKONAMI Kiyoshi, Chairman of Transport Division, Japanese Chamber of Commerce, Bangkok
Panel Discussion
Moderator : Chackrit DUANGPHASTRA, Associate Professor of Commerce Department, Chulalongkorn Business School, Chulalongkorn University
Panelist :Punya CHUPANIT, Director General of OTP Ministry of Transport Thailand
Ruth BANOMYONG, Dean of Department of International Business, Logistics and Transport, Thammasat University
Udorn KONGKAKATE, Chairman, Logistics & Supply Chain Sub-Committee, the Federation of Thai Industries
SHIBASAKI Ryuichi, Associate Professor, Resilience Engineering Research Center, School of Engineering, the University of Tokyo
TOKONAMI Kiyoshi, Chairman of Transport Division, Japanese Chamber of Commerce, Bangkok
Closing Remarks : OKUDA Tetsuya, President, ASEAN-India Regional Office, Japan Transport and Tourism Research Institute

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(1) Issues and Measures for Improving Logistics in Thailand

JTTRI-AIRO Logistics Symposium - Part 2 Aiming for Advanced Logistics in Thailand

【Event Overview】

Date/Time : Thu, June 15, 2023 13:00～18:00 (Local Time)
15:00～18:00 (Japan Time)
Venue : Bangkok, Thailand Okura Prestige Bangkok
Onsite + Online, JP-TH Simultaneous Interpretation

【Program】

Opening Remark : SHUKURI Masafumi, Chairman, Japan Transport and Tourism Research Institute
Greeting from Guest of Honor : Punya CHUPANIT, Director General of OTP Ministry of Transport Thailand
OBA Yuichi, Charge d'Affaires ad interim, Embassy of Japan in Thailand
Research Report : SAWADA Takaaki, Senior Research Fellow/ Executive Director, JTTRI-AIRO
SAKAI Keichi, Research Fellow, JTTRI-AIRO
Keynote Lecture : Siradol SIRIDHARA, Assitant Professor, CLARE Mahidol University
Somsiri SIEWWUTTANAGUL, Lecture, CLARE Mahidol University
MORI Takayuki, Professor Emeritus, University of Marketing and Distribution Sciences]
Panel Discussion
Moderator : Chackrit DUANGPRASTRA, Associate Professor, Department of Commerce, Chulalongkorn Business School, Chulalongkorn University
Panelists : Punya CHUPANIT, Director General of OTP, Ministry of Transport
Bhanumas SRISUKH, Advisor to Logistics and Supply Chain Committee, Board of Trade of Thailand
SHIBASAKI Ryuichi, Associate Professor, Resilience Engineering Research Center, University of Tokyo
WAKE Soichiro, Executive Officer, Japan Railway Freight Company
TOKONAMI Kiyoshi, Chairman of Transport Division, Japanese Chamber of Commerce, Bangkok
Closing Remarks: OKUDA Tetsuya, President, JTTRI-AIRO

3． Past Research and Application to Logistic Issues in the Philippines

(1) Issues and Measures for Improving Logistics in Thailand

Efficiency of Inland Transportation and Optimization of Connectivity among Transportation Modes

- Continuous infrastructure development, such as double-track railways, proper maintenance, installation and renewal of equipment in freight stations and ports.
- Reconfiguring freight forwarder system in collecting and distributing hub-to-hub cargo transport, especially by rail.
- Expanding the area and adding to the functions of the ICDs in Bangkok and EEC and development of ICDs in other regions.

Utilization of Information Technology in the Logistics Field

- Creating and expanding the information platform connecting multi-stakeholders at the logistics hubs.
- Utilizing accumulated Big-Data as statistical data in the logistics field.

Enhancement and Strengthening of Cooperation among Logistics Stakeholders

- Promoting mixed loading, consolidation, joint delivery and enlightening the cargo owners about their efficiency.
- Cooperation in human resources development among companies and logistics organizations, supported by the government.

The measures common to inland and island areas can also be applied to logistics issues in the Philippines and other ASEAN island regions.

3． Past Research and Application to Logistic Issues in the Philippines

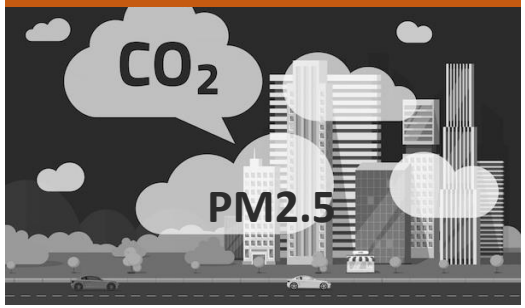
(1) Issues and Measures for Improving Logistics in Thailand

(a) Efficiency of Inland Transportation and Optimization of Connectivity among Transportation Modes

○Current Situation and Issues

Road Congestion

Environmental Problems



Island Transportation

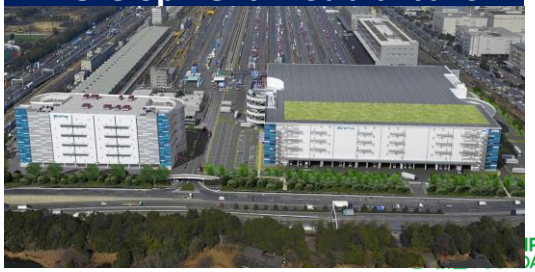
○Desirable Measures

- Establishing stable transport networks by RORO vessels to rural areas
- Restructuring cargo collection systems for efficient cargo transportation.
- Improving the mutual connectivity of maritime and land transportation through the development of ICDs (Inland Container Depots).

Formation of the RORO Network

Reconfiguring the Cargo Collection System

ICD Utilization & Its Development in Sub-urbans



(1) Issues and Measures for Improving Logistics in Thailand

(b) Utilization of Information Technology in the Logistics Field

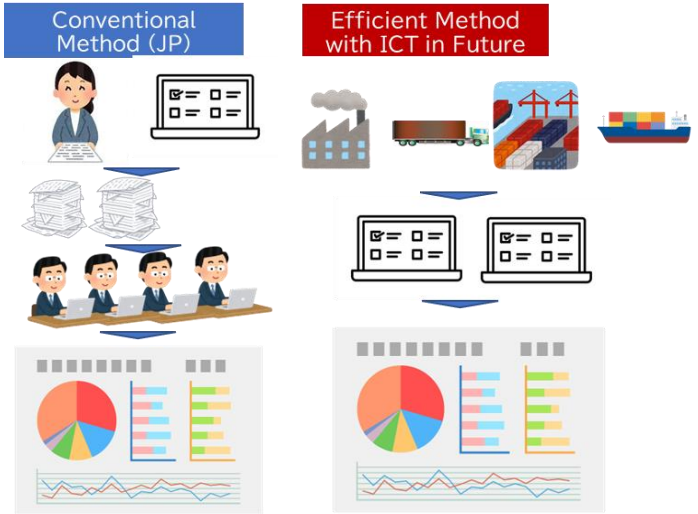
○Platform for improving connectivity

Truck Cargo Matching/Port Community System
Reducing one-way transportation and matching shippers with ground carriers

○ Maintenance and management of infrastructure using ICT

Establishing a maintenance management system using ICT to respond to the deterioration of existing port facilities

○ Statistical development using ICT and big data



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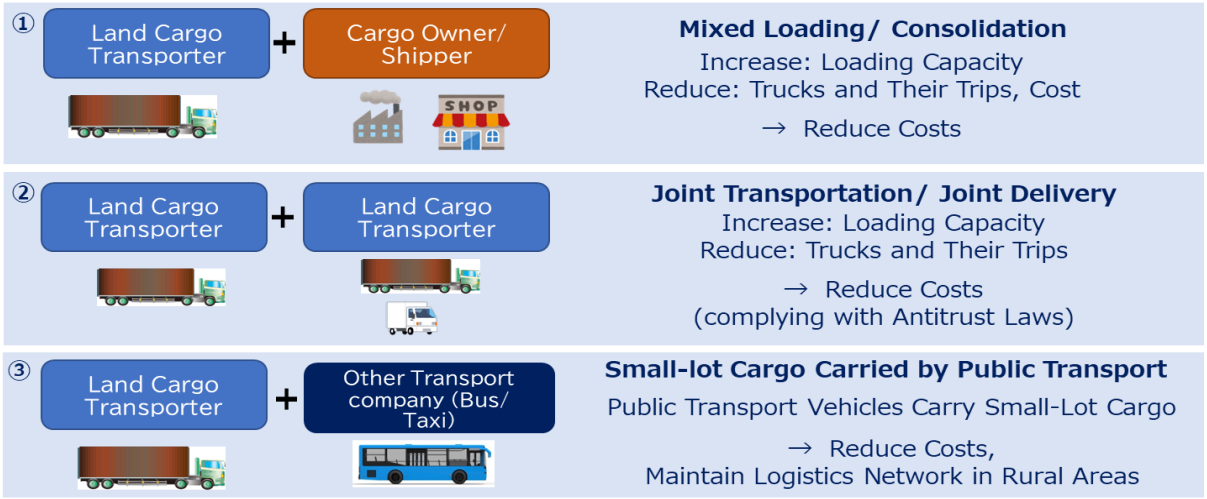
(1) Issues and Measures for Improving Logistics in Thailand

(c) Enhancement and Strengthening of Cooperation among Logistics Stakeholders

○Strengthening collaboration for cargo consolidation and joint delivery



○Cooperation in human resource development among logistics stakeholders

Self-Help by Single Company/Organization

Daily staff education/ maintenance of equipment to keep it safe, preventing accidents

Mutual Help by Logistics Organization

Provide staff training programs and financial assistance menus for member companies

Public Help from National Government

Financial Support to Logistics Organizations

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(2) Promotion of Cold Chain Logistics

Seminar for Promotion of Cold Chain Logistics Standards in Malaysia

【Event Overview】

Date/Time : Mon, Feb 7, 2022　15:00～18:00 (Japan Time)

Venue : Online (Zoom Webinar)

【Program】

Opening Remark : SHUKURI Masafumi, Chairman, Japan Transport and Tourism Research Institute
TERADA Yoshimichi,　Deputy Minister for Public Transport and Logistics Policy, Ministry of Land, Infrastructure, Transport and Tourism
Keynote Speech : Mori Takayuki,　Professor, Emeritus, University of Marketing and Distribution Sciences
Lecture : Freddie Lim CEO/Nee Phing Tan CBDO, TASCO Yusen Gold Cold Sdn Bhd
Iwahara KoichiCEO, NL Cold Chain Network (M) Sdn. Bhd.
Ohtsubo Hirotoshi, Counsellor for International Logistics, Ministry of Land, Infrastructure, Transport and Tourism, Japan
Hirata Junichi, General manager, Innovation and Sustainability Center, Transportation and Logistics Department, Class NK
Azwana Binti Mohamad,　Principal Assistant Secretary, Strategic Planning and International Division, MOT, Malaysia
Panel Discussion
Moderator : Mori Takayuki,　Professor, Emeritus, University of Marketing and Distribution Sciences
Panelist : Freddie LimCEO, TASCO Yusen Gold Cold Sdn Bhd (TYGC)
Iwahara Koichi, CEO, NL Cold Chain Network (M) Sdn. Bhd. (NLCCN)
Ohtsubo Hirotoshi, Counsellor for International Logistics, Ministry of Land, Infrastructure,　Transport and Tourism, Japan
Hirata Junichi, General manager, Innovation and Sustainability Center, Transportation and Logistics Department, Class NK
Azwana Binti Mohamad, Principal Assistant Secretary, Strategic Planning and International Division, MOT, Malaysia
Sawada Takaaki, Executive Director and Senior Research Fellow, Japan Transport and Tourism Research Institute, ASEAN-India Regional Office (JTTRI-AIRO)
Closing Remarks : Anis Mardiana Binti Abdullah,　Deputy Under Secretary, Strategic Planning and International Division, MOT, Malaysia

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(2) Promotion of Cold Chain Logistics

【Background】

・JTTRI organized a committee in 2020 to stipulate "JSA-S1004 Certification Examination Guidelines" and published it in March 2021. It was also approved at the Japan-ASEAN Transport Ministers' Meeting in November 2021.

【Main Discussions at the Seminar】

- 90% of food loss occurs at the distribution stage, and it is necessary to develop a cold chain at the transportation and storage stages.
- The significance of the cold chain is threefold: maintaining quality, bridging the distance between production and consumption, and stabilizing prices and supply.
- While demand for cold chains is expanding in ASEAN, quality varies. To improve the cold chain, it is necessary to create a system from both hardware and software aspects, such as inspection of transportation systems, support for infrastructure development, and enlightenment of related parties. In addition, the challenges of maintaining the cold chain are temperature quality and delivery efficiency, and it is necessary to build a stable system for this purpose. Cooperation at the government level will also continue.
- By creating and certifying cold chain standards, it is possible to improve the level of the food supply chain and to judge the service level of logistics operators.

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1. Logistics Situation in the Philippines and Its Challenges

2. Strengthening Infrastructure to Improve Logistics in the Philippines

3. Past Research and Application to Logistic Issues in the Philippines

4. Issues and Measures to Improve Logistics in the Philippines

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4. Issues and Measures to Improve Logistics in the Philippines

In order to improve logistics in the Philippines, JTTRI-AIRO proposes strengthening infrastructure, especially ports and introduces past researches that can contribute to improving logistics in the Philippines.

1. Strengthening infrastructure to improve logistics in the Philippines
   - Integrating and enhancing the functions of metropolitan ports
   - Mitigation of chronic traffic congestion in metropolitan area

2. Past researches and application to the Philippines
   (1) Measures for Improving Logistics in Thailand
   - Establishment of stable RORO network
   - Development of logistics hubs
   - Establishment of stable logistic network outside metropolitan area

   (2) Promotion of Cold Chain Logistics
   - Establishment of cold chain logistics

Regarding these and other issues for improving logistics in the Philippines, JTTRI-AIRO will continue to hold discussions with Philippines.

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