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1. Opinion
   * Provision of Standard Containers Urgently Needed for Efficient Multimodal Transport Between Jeju Island and Mainland
   * The Roles of the International Tribunal for the Law of the Sea and Cooperation of Korea
   * Korea should Actively Consider Joining the FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing
2. Ocean Policy
   * Strengthening Safety Management on Coastal Ferry
3. Research Projects
4. Research Findings
   * A Study on Measures to Enter the Chinese Cold Chain Market
   * The Computable General Equilibrium Model for Shipping and Port Policy Analysis
5. KMI News & Events



# Provision of Standard Containers Urgently Needed for Efficient Multimodal Transport Between Jeju Island and Mainland

## Introduction

OPINION



Many types of containers have been used for moving commodities from early times. Among representative containers, we can easily see handbags, sacks, hand- carriers, baggage, luggage, etc. and wooden boxes, pallets and containers are used for international and long haul transport. Various types of containers for storage and large scale military logistics were used during the First and Second World Wars. The United States developed a new method of multimodal transportation by utilizing containers according to the CONEX program during the Second World War and Korean War. With the widespread use of containers, ISO(International Organization for Standardization) in 1963 institutionalized international standards of containers of 8 feet in width, 8 feet in height and various lengths of 10, 20, 30 feet.

## Non-standard containers at domestic multimodal transport

Jeju in Korea is an island and in order to transport commodities with mainland consignors have to use some combination of trucking, air transportation, shipping and trains from the origin to the destination. A representative commodity, Jeju tangerine was transported by trucking and shipping, loading and discharging in wooden boxes contain- ing 10-20 kg before the usage of container transport. Such wooden boxes were easily breakable during loading and discharging and loss of contents occurred during transport. At the same time many port laborers were input for handling and port transport with delay in time and the transport processes were complex, thus adding up logistics costs to shippers.

Container logistics system between Jeju Island and mainland in Korea had been introduced voluntarily by shippers and carriers in order to reduce logistics costs. In the late 1970s some carriers tried multimodal transport using 4 feet steel containers but shippers responded meagerly and recovering containers became a bottleneck, thus leading to failure. In the 1980s, the container transport system was adopted widely as multimodal transport

between Jeju Island and mainland with car-ferries and freight carriers in shipping by using various types of container. Accordingly the package of Jeju tangerine was gradually changed from wooden box to hard board box. Traffic of tangerine grew from 160 thousand ton in 1980, to 310 thousand ton in 1985, 350 thousand ton in 1990, 430 thousand ton in 2000 and 390 thousand ton in 2010.

## Failure of adopting standard containers

General adoption of containers for multimodal transport between Jeju Island and mainland prompted brisk discussion on domestic use of standard containers. The government - the Ministry of Land and Transportation sponsored a research project on standard types of domestic containers to the Korea Maritime Institute. According to research findings, Korea Standardization Institute, an institute under the Ministry of Industry and Trade adopted container standards for domestic maritime and land transport. Despite the government efforts, carriers are still using the non-standardized traditional types of containers, as the incentives of using standard containers are less than expected and environments for transport such as packages and carrying vehicles are not easy to comply with new standard containers(see the table below).

<Table 1> Container Types for Domestic Multimodal Transport between Jeju Island and Mainland (unit: cm)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Type** | **Carrier containers** | **Size Location** | **Width** | **Length** | **Height** | **Remarks: entrance height** |
| 8F/T | Sechang 09-8F/T | Interior | 240 | 225 | 223 | 208 |
| Exterior | 250 | 243 | 245 |
| Sechang (Merged by Sebang) 8F/T | Interior | 234 | 224 | 221 | 210 |
| Exterior | 245 | 244 | 242 |
| Korea Express 8F/T | Interior | 232 | 225 | 230 | 220 |
| Exterior | 243 | 243 | 259 |
| Seju 8F/T | Interior | 235 | 225 | 221 | 209 |
| Exterior | 243 | 244 | 241 |
| 10F/T | Sechang 10F/T | Interior | 280 | 227 | 235 | 220 |
| Exterior | 299 | 244 | 254 |
| Seju 10F/T | Interior | 289 | 225 | 220 | 209 |
| Exterior | 298 | 243 | 243 |

Data: Author`s field survey (2012).

Use of non-standard containers results in inefficiency in processes of multimodal transport such as handling, transport, port transport, transshipment and may cause troubles in lashing, thus leading to safety risks to passengers and cargoes as in the case of Sewol Car-ferry. Container loading area of car-ferries Sewol and Ohamana imported from Japan are designed for standard 10 feet containers in Japan.

<Figure 1> Lashing points of containers of Ohamana Car-ferry(sister car-ferry of Sewol)

## Conclusion and Suggestion

The use of containers in multimodal transport between Jeju Island and mainland in Korea brought in a remarkable logistics revolution and cost reduction. However, different types of containers which carriers have been using according to their own types have worked as constraining factors for efficient multimodal transport and at the same time are causing serious risks for passengers and cargoes. In this context, the government authorities including Ministry of Land and Transportation, Ministry of Maritime Affairs and Fisheries, Jeju Special Self-governing Province and Ministry of Industry and Trade are necessary to provide various incentives and policy reforms with carriers and shippers so that they may use standard containers for efficient multimodal transport.

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Data: Container loading area of Ohamana Car-ferry(2014, 10, 28)

# The Roles of the International Tribunal for the Law of the Sea and Cooperation of Korea

1 October 2014, Vladimir Golitsyn (Russian Federation) was elected as the President of the International Tribunal for the Law of the Sea or ITLOS. He will preside all the meetings of the Tribunal on the disputes regarding maritime delimitation, marine resource development/ supervision/management, direct its work and supervise its administration for the next three years by 2017. Golitsyn and Bouguetait (Algeria) elected as the Vice-President in a secret voting of 21 judges have been the members of the Tribunal since 2008. The world is now paying attention to their moves and roles. Meanwhile, Judge Shunji Yanai failed to get reelected as the President.



As one of the two prominent windows to maritime disputes along with the International Court of Justice, ITLOS is an international judicial body established to adjudicate maritime disputes by the United Nations Convention on the

Laws of the Sea (UNCLOS) that took effect in 1996. 30 years has passed since the UNCLOS, also known as ‘the Laws of the Sea’, but the importance of the Tribunal is getting greater than any other times as a dispute settlement body for the Convention’s correct interpretation and application. The number of cases the Tribunal deals with is getting bigger and the matters disputed are getting diverse. To date, twenty-two cases have been submitted to the Tribunal. Most of them are about prompt release and provisional measures for fishing vessels. In a recent case of the seizure of a Greenpeace icebreaker, the Arctic Sunrise (the Kingdom of the Netherlands), the Tribunal ordered a provisional measure to Russia to release the Arctic Sunrise and its Greenpeace protestors against the opposition from the Russian Federation. As such, the Tribunal deals with the cases of a variety of types of vessels including not only traditional fishing vessels but also naval ships or ships of NGOs.

ITLOS shall review an advisory opinion. Recently, the Sub-Regional Fisheries Commission or SRFC asked the Tribunal for an advisory opinion on the flag state’s obligations and its extent for IUU (Illegal, Unreported and Unregulated) fishing activities. Therefore, the Tribunal is carrying out necessary procedures to render an advisory opinion. It is highly likely that its advisory jurisdiction will expand further. Its advisory function carries no legal binding force or sets no precedent but it will serve as a significantly useful mechanism in the drastically-changing global ocean circumstances. It is also evaluated to be an effective function to newly emerging issues such as piracy and armed robbery. The Seabed Dispute Chamber renders advisory opinions on the state’s obligations and responsibil- ities in supporting the seabed activity-related persons or enterprises. Recognized as a Tribunal within the Tribunal, it does carry no legal binding force but exercises a variety of effects or forces.



The Tribunal rendered its judgment in the dispute concerning delimitation of the maritime boundary between Bangladesh and Myanmar in the Bay of Bengal in March 2012. As the first case of the Tribunal relating to the delimitation of maritime boundaries, it is significant that the tribunal exercised its jurisdiction in respect of the delimitation of the continental shelf beyond 200 nautical miles. Moreover, ITLOS engages in maritime disputes settlement through arbitration. Recently, the Philippines requested the Tribunal for arbitration over the South China Sea against China and the case is pending at the Tribunal.

ITLOS’s activities of providing certainty to this fast- changing global ocean community and fair result over prompt trial process for conflict and dispute settlement have been positively received. ITLOS respects precedents set by other international courts, e.g., the International Court of Justice; it at the same time sets new precedents based on its professionalism while gaining the confidence of the global society by emphasizing development of the law of the sea and interests of the international community. In particular, the Tribunal secures its position as an international court that settles maritime-related disputes in many different areas including delimitation of maritime boundaries, navigation of ships, marine pollution and international seabed disputes. The Tribunal is expected to play various roles and functions as an international court specialized in maritime affairs and comprised of judges whose capacity have been recognized in the area of the law

of the sea.

Korea should be prepared to secure rights and interests in new issues such as delimitation of maritime boundaries with neighboring countries, entering the Arctic Ocean, development of seabed resources and for new regimes. KMI signed an MOU with ITLOS in 2012 and the two organizations have since maintained a cooperative relationship for the research on the law of the sea and providing support for the ITLOS’s internship programs for the developing countries. And the two strengthened its cooperation by co-hosting the Seminar on the Law of the Sea and Regional Workshops in Nairobi, Kenya last August. Recently KMI and ITLOS re-signed an MOU for sustainable and mutual cooperation in co-hosting of seminars on the law of the sea and in operating internship programs. Korea should contribute to sustainable growth and protection of marine environment as a major maritime country and strengthen cooperation and exchange with various regions and nations based on friendship and reciprocity. While enhancing mutual understanding based on cooperation with ITLOS, Korea should make continuous efforts for the development of the law of the sea and marine policies in the world.

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# Korea should Actively Consider Joining the FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing

### Possible Application of the FAO Agreement to Korea and Relationship with Korean National Laws and Regulations

Definition and Application (Article 1)

In the Article 1 (b) of The FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (the FAO Agreement, hereinafter) “fish” means all species of living marine resources, whether processed or not. Therefore, fish, shellfish, seaweed, crustacean, mollusks and other marine animals and plants can be all included and its literal interpretation indicates marine microbes (even plankton) and marine genetic resources could be included in the concept. It is considered that fish is defined in a broader meaning in the FAO Agreement.

Meanwhile, the Korean Deep Sea Fisheries Industry Development Act defines deep-sea fishery as the business of capturing and collecting “marine animals and plants in foreign waters by the citizens of the Republic of Korea. (Ocean Industry Development Act, Article 2)

Therefore, it is considered that the application of the FAO Agreement has difference in that of the Korean Deep Sea Fisheries Industry Development Act. The application of “fish” requires a clarification through the Article 31 Declarations and statement of the FAO Agreement in order to prevent interpretation confusion in case of Korea’s possible joining the Agreement.

Application (Article 3)

IMO’s Port State Control (PSC) is the inspection of foreign ships in national ports to verify that the condition of the ships and its equipment complies with the require- ments in order to prevent marine accidents and to protect marine environment. The inspection is applied on merchant ships including cargo ship, bulk carrier and reefer carrier, while the FAO Agreement is applied on fishing vessel of other nationalities that request for port entrance.

However, the exceptions in the FAO Agreement include the ships of neighboring countries that are engaging in traditional artisanal fishing business for living, the container vessels that are not carrying fish or, if carrying fish, only fish that have previously landed.

Therefore, local fishing vessel is not applied with the Agreement but is managed and regulated by its own country according to the flag state doctrine and sovereign power of each nation. In addition, local chartered vessel fishing in its own waters can be excluded from the application of the Agreement.

Korea’s Deep Sea Fisheries Industry Development Act Article 14 the Article of State Port Inspection already prepared a legal basis for state port inspection. What is noteworthy is that it has a legal basis of state port inspection not only for foreign vessels but also for local fishing vessels that request for port entrance.

Therefore, a broader scope of legal basis for state port inspection provided by Korea’s Deep Sea Fisheries Industry Development Act differentiates itself from the FAO Agreement.

## Review Process for Early Ratification of the FAO Agreement Needed

Preparation for the ratification of the FAO Agreement should start early on in an effort to demonstrate our determination in eradicating IUU fishing worldwide. The ratification would be to show Korea’s strong will to fight against IUU fishing, and it will give a huge positive influence to other global community.

Moreover, if Korea as one of the major fishing states ratifies the Agreement while about 10 countries are preparing for the ratification as of October 2014, the worldwide opinions on the future prospect of the Agreement will become positive and the global reputation of Korea as a responsible fishing nation will be elevated by contributing to prevention of IUU fishing.

## Additional Institutional Re-arrangement Required for Smooth Implementation of the Agreement in Korea



It seems that the Agreement does not have any explicit clash or conflicts with the current national laws in force except for part of the problems. In particular, the revised draft of Korean Deep Sea Fisheries Industry Development Act submitted to the National Assembly shows some progress including additional listing of port services that port states can reject.

However, local laws and regulations on administrative procedures, various notifications, etc. should be improved for more stable implementation of the Agreement in Korea after its possible ratification. In particular, the Enforcement Regulations and the Notification for Port State Inspection on Vessels Loaded with Fishery Products should go through a significant improvement process. For example, according to the Article 7 of the Notification, fish species are not

restricted considering the current IUU Agreement with the Russian Federation but additional provisions are required on the matter.

In addition, punishment of the current laws and regulations for the violations of port state inspection should be re-arranged in its level through the comprehen- sive review of related regulations and precedents of the nations who ratifies the Agreement or overseas.

It is considered that a comprehensive review and research on the related issues should be urgently conducted to establish and implement the FAO Agreement early on in Korea through revision of local laws and institutions.

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OCEAN POLICY

# Strengthening Safety Management on Coastal Ferry

Since the sinking of the Sewol Ferry last April, the Ministry of Oceans and Fisheries has made multilateral efforts for prevention of similar accidents and effective responses to the accidents. Such efforts are recently made public in the “Innovative Measures for Coastal Ferry Safety Management” that overhauls the existing safety manage- ment measures in order to prevent recurrence of the accidents.

First, safety management guidance and supervision system will be fully overhauled. The Ministry of Oceans and Fisheries will completely separate safety operator who is in charge of safety of ship operation from the Korea Shipping Association as an independent entity and introduce the Marine Safety Supervisor Institution in order to establish a direct guidance and supervision system. It can address the issue that has been frequently pointed out that

making businesses manage safety could lead to poor safety management. Responsible administration for safety of ferry operation will be guaranteed as the function is integrated into the Ministry.

Second, regulations on safety management will be rationalized. Ferry age limitation will be strengthened to secure safety in the processes of purchasing of ship, renova- tion and inspection; renovation of ships that could lower ship stability will be banned; and the government inspection agency rights will open. Safety management regulations will be established to maintain operational safety at a global level and the inspection system will be revised in consider- ation of the ISM (International Safety Manage-ment) code. The electronic cargo ticketing system which is in a pilot operation will be in full operation in the near future.

In addition, crew members will be required to wear uniform in order to strengthen crew quality and responsi- bility; “dedicated ferry crew member” system will be introduced; and the qualifications for ferry captain will be upgraded and regular aptitude examination will be strengthened. In addition, measures to dispatch reserve forces on board (substitute military service) will be reviewed through discussions with the relevant ministries.



Third, fundamental paradigm shift will be made to secure safety and publicity in the coastal ferry businesses. Safety management issues caused by ferry companies’ poor management should be fundamentally addressed. Reforming coastal ferry management system will be in active imple- mentation as introduction of public management system for unprofitable routes and those to remote islands will be in consideration for mutual growth with the impoverished coastal ferry market. And the virtuous cycle in which coastal ferries are newly built and replaced every 20 years will be created along with the introduction of supporting system for stable ship modernization and the establishment of a coastal ferry modernization 5-year plan. The shipping profit rate regulations which have been an entry barrier to new businesses will be abolished through the reform of the license system and fare system in order to promote market

entrance of the businesses with outstanding performance. And private companies will be provided with a support for better management so that they can invest in safety.

Lastly, shipping companies will be encouraged to become safety-conscience through safety education programs for the CEOs of shipping companies and opening of shipping companies’ safety information in order to establish the safety-first culture in the shipping industry. Education and promotional activities on marine safety will be strengthened through implementation of passenger participating emergency response exercise, operation of “marine safety class” for students and designation of “Marine Safety Day” (first day of each month).

The government’s coastal ferry innovation measures aims to improve the framework for marine safety and it will be accompanied with more detailed action plans in each area that will make the measures more closely felt among the public.

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RESEARCH PROJECTS

* + A study on maritime and fisheries future vision establish-

ment

* + A study on improvement and promotion of towage system
  + Comprehensive plan on marina port development in

Choongchungnamdo

* + Estimation of adequate investment in port infrastructure

and policy direction

* + Institutional improvements to vitalize marine leisure

activities

* + Domestic supplementary measures for fisheries FTAs
  + Coastal water in-depth investigation (basic research for

systematic management of coastal line)

* + Improvement measures for port modernization fund

operation system

* Impacts of Korea-Australia, Korea-Canada and Korea-

New Zealand FTAs

* Strategies and tasks for Ulju ocean industry development
* Basic design for marina port base: utilization of marina

port for marine tourism

* A validity study on North Sea Wall construction (Donghae

port 3 stage project)

* 3-1 stage project on shipping market network construction
* Functional relocation of Incheon port and employment of

dock workers

* Development of unified cargo handling equipment for

less time consumption of cargo vehicles

* + A validity study on 7 terminal development (74 berths) at

Gunsan port

* + Port redevelopment at dredged soil landfill at Myodo,

Gwangyang port

* + Case studies on city planning against coastal erosion and

maintenance direction

* + A study on maritime and fisheries ODA intl’ conference
  + A study on conservation of 2013 marine life under

protection

* + A study on 2nd costal development plan (revised)
  + Management plan per waters for environmental

management

* + Results of 2014 Wando International Seaweed Expo
  + 2013 increase and restoration of marine life under

protection

* + Eurasia knowledge network building-Russia Vladivostok
  + Negotiation plans for Busan North Port redevelopment

project

* + Tasks and direction for reciprocal fisheries relationship

between Korea and Japan

* + Systematic response to international convention on

marine organism (2nd)

* + Possible application of BaselⅢ and its impact on National Federation of Fisheries Cooperatives
  + A study on Busan Port Comprehensive Development Plan
  + Foundation for self-management fisheries cultivation and

support

* + Korea-China-Japan transportation and logistics cooperation

measures

* + Development of low carbon automation container

terminal technology

* + The basic plan on the operation of marine economic

special zone

* + A validity study on small fishing grounds for fishing

villages (Mayhyang 2)

A review on needs for shipping guarantee fund

* + Port redevelopment project for Incheon Yongjong Island

dredged oil dump area

* + Foundation technology for the U-based shipping and

logistics system-policies for container searcher use

* + Issue development for response to international

organizations in shipbuilding and ocean sector

* + A study on overseas port development cooperation
  + Introduction of total pollution load management system

on Busan special management waters

* + Abandoned wells for undersea tests of ocean drilling

equipment

* + A study on fisheries entrance into the Arctic Ocean
* Policy measures for modernization of offshore fishing

boats

* Korea's experience sharing with Saudi Arabia for its land

or coastal aquaculture

* Measures to use waterside of Incheon Port
* A study on fisheries distribution system improvement
* A review on Donghae-Mukho port project proposal and

its validity

* Development of coastal erosion response technology
* Analysis on Korea-Thailand, Korea-Malaysia FTA

(fisheries sector)

* A study on the basic planning of maritime territory

management

* Support for private-government-industry-academia

committee at Ulsan & Gwangyang coast

* Development of fisheries distribution and processing

technology

The 10th informal COP for the UN Fish stock Agreement

* Measures to enter the shipping and logistics market in the

Far East Siberia

* Strategies for negotiation on TPP fisheries subsidies
* Institutional improvement for active logistics service at

Northeast oil hubs

* R&D planning for integrated coastal management
* TPP study in depth: fisheries sector
* A study on domestic commercialization of CO2 ocean storage
* A study on policies for domestic commercialization of

CO2 ocean capture/storage

* Mid- and long-term plan on maritime safety future tech-

nology

* The 2nd fishing village and fishing port development plan
* An Analysis on ship reduction targets and reduction effects based on local coastal fishing investigation and management information
* 2013 entrusted operation of port demand prediction

center

* A study on better rate system and calculation of POSCO

special cargo handling

* A study on marine and fisheries 3.0 development model
* A study on basic statistics supplementation of shipping,

port and logistics industries

* Negotiations for Gohyun port redevelopment
* System improvement to eradicate illegal fishing in deep

ocean

* Sectoral advancement measures for mutual growth of

deep ocean industry

* + A study on tailored support for fisheries income and

welfare increase

* + A study on preparation of the 2nd ocean going industry

development plan

* + The seashore cadastral survey and management type

categorization

* + Operation of fishing boat trade system and introduction

of fishing boat lease

* + Shipping tax improvement to sharpen competitiveness of

the shipping industry

* + A study on locational validity of marine leisure facilities
  + 2013 Korea-Georgia Invitation Training (Black sea)
  + Global network to strengthen maritime territory including

continental shelf

* + Global networks to strengthen maritime territory,

including continental shelf

* + 2013 National Transportation Survey and Database
  + Cargo Preference and Restriction Applying to Specific

Trades

* + Consigned operation of 2013 Shipping, Port, Logistics

Information Center homepage

* + A study on the 2nd maritime tourism promotion basic plan
  + A study on strategic cooperation measures among Arctic

coastal states

* + The 2nd master plan on ocean waste management
  + An analysis on investment candidate cities such as joint

investment into West Africa

* + A study on offshore plan professional development
  + Strategies for active export of Korean halibut
  + A study on better fishing ground management and

institutional improvement measures

* + A study on management of designated waters for fisheries

resource and fishing ground purification

* + Measures for ocean accident statistics advancement
  + Measures for better maritime accident statistics
  + A study on foreign markets for aqua-pet
  + Operation of the International Logistics Investment

Analysis Center (2013)

* + Development of biz models according to FTZ
  + An analysis on the mudflat fisheries damaged by oil spill
  + A study on the establishment of national seaborne

highway networks

* + Technology development to deal with jelly fish
  + HS-code matching and implications with regards to

Korea-China Fisheries FTA negotiations

* + A review on the 1st national port security plan
  + Information on overseas market for offshore plant and

service industry

* A study on economic validity of pilot sea ranching projects

in Taean, Uljin and Jeju

* A white paper on pilot sea ranching projects
* Local model development for profit sharing and approach

for biological resources

* A study on Bukhang rent system improvement and

normalized operation

* A study on WTO/SPA shipping service negotiation
* A study on response to WTO/SPA negotiations
* A study on inland public water management system
* A validity study on building type aquaculture project
* Ulneungdo and Dokdo maritime and fisheries long-term

development plan

* A study on FTA direct damage relief system improvement
* Responsive measures to Korea-China FTA (coastal fishing)
* Responses to the UN Fisheries Resolution
* Strategies to implement Ulsan Green Port
* Strategies to enter Chinese southern logistics market

through China-Southeast Asia cooperation

* Establishment of master plan on maritime safety culture
* Climate change impact analysis model-fisheries sector

(1st year)

* A study on fisheries seed production forecast

A policy analysis on polar Arctic/Antarctic policies of major nations and international organizations

A validity study on Hanlim port development (2nd stage)

* Land based pollution management and total pollution loads

management in Masan Bay special -management waters

* Establishment of Dokdo Digital Archive (DDA)
* Core technology development for national marine

ecosystem comprehensive management

* A study on national essential fleet system improvement
* A study on improvement of national essential fleet system
* A study on improvement of port and fisheries damage

compensation

* A study on special act enactment for national cruise

development

* A study on enactment of national cruise development act
* A study on equipment advancement for better security

system development

* A guide book for human resources in maritime affairs

and fisheries

* Development of eco-friendly aquaculture of river puffer
* A study to facilitate marine tourism and leisure activities Measures to prepare revised version of the 68th UN Fisheries Resolution
* Establishment of maritime environment standards and

improvement (6th)

# A Study on Measures to Enter the Chinese Cold Chain Market

## Purpose

* + Along with detailed measures, this study suggests Korean logistics companies advance into the high value-added cold chain market of China, the market which is not monopolized by Chinese or global logistics companies yet.
    - It proposes that Korean logistics companies should expand into high value-added logistics market by successfully entering the Chinese cold chain logistics market of their choice. It also suggests measures to strengthen foundation for added value creation.

## Methodologies and Feature

### 1) Methodologies

* The study examined the actual Chinese cold chain market and its characteristics by analyzing throughput trends and agricultural/fisheries food export and import. It also looked for attributes of Chinese cold chain companies and analyzed trends of foreign companies entering this Chinese market to draw possibilities for Korean companies.
* The study also reviewed relevant policies, laws and institutions, such as Chinese policies for cold chain logistics market, laws and institutions regarding advancing into the Chinese market.

## Results

### Summary

* In contrast to rising demand for cold chain logistics

<Table 2> Characteristics of each methodology

|  |  |  |  |
| --- | --- | --- | --- |
| **Feature** | **Details** | **Data collection** | **Reasons to choose** |
| Basic analysis | * Investigation on actual Chinese refrigerated/ frozen logistics market * Analysis on major feature of Chinese refrigerated/frozen logistics market | * Relevant literature * Expert advice | - There are needs to introduce the topic because few domestic studies are done on it. |
| Field investigation | * Analyses on trends of foreign companies entering Chinese market * Difficulties faced by these companies | * Interviews with companies * Written counseling by experts in the field * Field visit to China | - The study tried to analyze trends of companies and their worries which entered the Chinese market. |
| Expert advice and joint research | * Relevant laws and institutions regarding entrance into Chinese market * Analyses on major areas and markets for advancement into China | * Expert counseling and opinion * Visit and discussion | - The study resolved limitations of literature studies. |

### Feature



* The scope of subjects are Chinese refrigerated/frozen logistics market, Chinese agricultural/fisheries food exports and imports, Chinese refrigerated/frozen logistics companies, relevant policies, laws and institutions and strategies to enter cold chain logistics market.

market within China, relevant infrastructure, such as refrigerated/frozen warehouses and transportation facilities, are insufficient.

* Difficulties include: it is hard to secure supply despite high interest; demands are concentrated on specific season and large investments are required.
* However, when it comes to standardization, packaging

technology and added value service, Korean companies have an edge over Chinese companies.



* + The routes for cold chain cargoes between Korea and China are focused on Shanghai, Quindao, Yuhai and Tianjin. Cargoes are transported from Quindao and other ports in Shandong province to consumption areas such as Beijing and Shanghai.
  + Korean logistics companies should have specific areas, strategic products and specialization strategies if they want to enter the high value-added cold chain market of China which is not mature yet.
    - According to attributes of each Korean logistics company, it is necessary to secure local competitiveness through large initial investment or to absorb local networks as part of localization strategies.
    - In case of securing logistics infrastructure through large initial investment, it is advised for Korean logistics companies to build cooperative system with public companies, logistics companies, cargo owners or distribution companies, rather than entering the Chinese market by itself.
    - For its part, Korean government needs to resolve initial financing risks of the project through larger payment guarantee by using the Trade Insurance Corporation or trade credit insurance companies. It is also necessary to tap into various cooperative channels between governments to deal with ‘China risks.’
  + For maximum utilization of facilities, local networks can be secured in franchise or joint brand types after in-depth analyses.
    - The above requires cooperative systems between Korean cargo owners, logistics companies and local distribution companies.
    - Other difficulties generated from implementing these strategies, such as customs clearance risks and problems on routes, can be addressed or improved through inter-governmental cooperation.
    - In order to address other business matters, such as lead time, problems of imbalance, understanding of cargo characteristics and imbalanced information, Korean logistics companies need to develop information sharing systems.
* In this regard, governmental support should include the

following;

* In finance, government should prepare supportive policies, such as governmental guarantee and enlisting of public companies. These are for the 1st stage advancement into the market and will help to secure the local joint logistics center at low costs.
* Government should prepare measures to improve capability of Korean logistics companies from the perspective of information and education.
* For cooperation among Korean companies, government needs to prepare cooperative platform for their joint entrance into the Chinese market. On top of it, obstacles in the way of entering the market can be cleared or addressed through governmental cooperation, particularly Korea-China-Japan Ministerial Conference on Transportation and Logistics.
* Lastly, for smooth entrance into the Chinese cold chain logistics market, Korean logistics companies themselves need to improve their technologies and analyzed the local market in detail, minimizing possible risks and securing competitiveness by differentiating themselves from local competitors.

### Policy contribution

* The study presents direction for Korean logistics companies entering the Chinese cold chain logistics market.

### Expected benefits

* The study helps Korean companies to increase the logistics market share in China by entering the Chinese cold chain market.
* It contributes to creating national wealth by improving competitiveness of Korean cold chain products in Chinese market.
* It helps ‘Korea’s creative economy’ go global by creating convergence businesses between Korean cargo companies and logistics companies.

# The Computable General Equilibrium Model for Shipping and Port Policy Analysis

## Purpose

* + The study aims to build a Social Accounting Matrix (SAM) and a Computable General Equilibrium (CGE) Model focused on the shipping and port sector in Korea and to analyze spillover effects of shipping and port policies.
    - The study referred to the Korean Input-Output table (I/O table) of the latest year (2010) and integrated national income accounts, household survey data and transportation statistics to build a SAM focused on shipping and port sector.
    - Based on the SAM, it decided the specification of consumption functions and production functions to develop the CGE model.
    - It analyzed spillover effects according to shipping and port policy scenarios such as investment volume change, higher technology efficiency and indirect tax cut.
    - The results can be used as significant information which proves validity of each shipping and port policy as well as prioritizes them.

## Methodologies and Feature

### Methodologies

* + A comprehensive review on international and domestic studies regarding impacts of the shipping and port policies and CGM models
  + To investigate the current shipping and port policies

promoted by Korean government

* + To quantitatively explore spillover effects of each policy

scenario with the SAM and the CGE model analyses

### Feature

* + The study suggested a CGE model which considered interdependence of economic players, while many policy analysis models had failed to reflect characteristics of

shipping and port sector. Such CGE model can become an effective tool in evaluating validity of government policies and policy priority.

* The study opened raw data of the SAM for the public and explained the CGE model development in detail, which will facilitate studies on SAM and CGE model.

## Results

### 1) Summary

* The study used the Korean Input-Output Table (2010) in combination with household survey data and built a SAM according to ten labor classes.
* It re-categorized the whole industry into 12 sub- industries with focus on shipping and port industry.
* It estimated government consumption expenditures out of the consolidated budget balance.
* The classification of workers in shipping and port industry according to labor class showed that those in equipment/machinery control or assembly accounted for the highest share (44.4%), followed by office workers (21.5%) and laborers (9.7%).
* With an SAM analysis, the study estimated spillover effects of investment into each shipping and port sector such as coastal transportation, ocean transportation, port construction, port operation and shipping port support.
* The SAM multiplier analysis was focused on comprehensive transactions between all economic players.
* Investment into port construction and port operation turned out to have greater production inducement effects, household income inducement effects and government tax revenue inducement effects than other investments.
* The study referred to results of the CGE model analysis to estimate spillover effects of each shipping and policy scenario.



* KRW 1 trillion investments into costal transportation

pull up GDP by 0.021%.

* 10% increase in technology efficiency of shipping and port support sector increases GDP by 0.031%.

**3) Expected benefits**

* The study will activate application of the CGE model as a

model to analyze shipping and port policies.

**2) Policy contribution**

– It presented possible application of new methods

against the Input-Output model.

* The results can be used as significant information to

analyze spillover effects of shipping and port policies. • The study will facilitate discussion on the CGE model for

shipping and port sector.

* The CGE model can replace the Input-Output model

for estimation on spillover effects of shipping and port – It established a SAM specialized in shipping and port development projects. sector and presented raw data, which would give a

boost to relevant studies.

* The models can become effective tools which help to choose policy measures in accordance with governmental policy goals.

KMI NEWS & EVENTS



Major Activities conducted in October, 2014

1. Myanmar-East Timor Borderless Fish Farm

Invitational Training Program

* Time & Place: October 6 – 12, KMI
* Department in Charge: Fisheries Policy Research Division

a ground where CEO’s of Korean shipping companies

review the conditions of the shipping market and its current issues and opinions are shared among the industry, research and government.

2. The 8th Invited CEO’s Seminar on Shipping Market

Conditions: Forecast for Shipping Market and Energy Issues

* Time & Place: October 7, 07:00~09:30 Seoul Palace

Hotel Grand Ballroom

* Participants: KMI, Ministry of Maritime Affairs and

Fisheries, CEOs of national shipping companies

* Event Overview: The annual breakfast meeting provides



## 3. 2015 International Seminar on Global Shipping Outlook

* Task: Operation of Shipping Business Outlook Center
* Time & Place: November 25, 09:30 - / Korea Federation

of Banks

* Topic: The Era of Uncertainty, New Opportunity and

Strategy

## 3. KMI Seminar on Regional Logistics in China

* Time & Place: October 20, 13:30 ~ 17:30, Zhengzhou,

Henan

* Major Contents: China’s New Silk Road Initiative and Ways for Korean Entrepreneurs to Venture into the China’s Domestic Logistics Market (e-Commerce)

# Major Activities planned in November, 2014

## Co-hosting the 2nd Academic Symposium for the Asia-Pacific Ocean Cultural Network

* Time & Place: November 27–28/ Ocean Suites Hotel,

Jeju

* Topic: “Ocean Soft Power”in the Asia-Pacific & Marine

City Strategy

## The 2014 2nd Shanghai CEO Logistics Forum

### Overview

* Time & Place: November 19/ Renaissance Hotel
* Topic: Current Status of e-Commerce in China and

Market Entry Strategies for Logistics Companies

* + **Attendee:** KMI and 40 CEOs of the shipping and logistics companies based in Shanghai

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