

# A Study on Maritime Cooperation between Korea and Georgia

Yong–An PARK\* and Dong–Woo HA\*\*

## ABSTRACT

Georgia is located at the crossroads of the East-West and North-South transport corridors. Providing intermodal transport routes between the Caspian Sea and the Black Sea, the country is a critical part of the Euro-Asian Transport Linkage that joins Central Asia and the Caucasus. As the trade between Asia and Europe grows, there is a great opportunity for countries in Central Asia and the Caucasus, including Georgia and Azerbaijan, to transit some of this trade and to develop themselves as regional trade and logistics hubs. The Governments of Korea and Georgia concluded a bilateral maritime agreement in 2014 and an agreement on reciprocal recognition of certificates of seafarers in 2015. The present paper attempts to identify areas and projects for enhanced cooperation under the framework of the agreements. Through a series of interviews and an Analytic Hierarchy Process (AHP) questionnaire, the paper finds that Korean shipping and logistics service providers suggest ‘customs clearance and freight forwarding’ as the most preferred area for cooperation and investment, whereas the Georgian maritime agencies wish to induce investment in ‘construction and operation of port terminals’. The paper concludes that this preference gap can be narrowed through deeper common understanding on the issues, particularly from the long-term perspective and proposes such areas as ‘seafarers’ and ‘knowledge sharing’ for initial cooperation projects.

**Keywords:** Georgia, Black Sea, Maritime, Cooperation, Korea, AHP

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# 1. Introduction

With globalization of the world economy, international intermodal transport to support international trade becomes increasingly important for enhancing a country's competitiveness. Georgia and Azerbaijan that are located between the Black Sea and the Caspian Sea have attracted increased attention of logistics companies and global investors, as they connect Europe, Africa, the Middle East, and Central Asia. Furthermore, energy pipelines through the Black Sea and the Caspian Sea heighten the geopolitical potential of Georgia and Azerbaijan.

There are many sub-regional, regional and international organizations, and bilateral donors that are working on various technical cooperation and infrastructure development projects in Georgia and Azerbaijan, including EU, USAIDS, TRACECA, BSEC, ADB, World Bank, ESCAP, ECE, etc. (Ministry of Oceans and Fisheries of Korea, 2015). The Chinese government included transport networks of Georgia and Azerbaijan as a link in its strategy of One Belt One Road (OBOR). As part of their efforts to improve the efficiency of international intermodal transport, China and Georgia together with other related countries implemented a demonstration project of intermodal transport from Shihezi in China's Xingang Uygur Autonomous Region to Georgia through Aktau port in Kazakhstan and Alyat new port in Azerbaijan in 2015 (Global Trade, 2015).

Georgia is located at the east side of the Black Sea and plays a role of a gateway to Central Asia through the Caspian Sea. Though it is a small country with a population of 4.6 million in an area of 69 thousand km<sup>2</sup> and poor in mineral resources, Georgia has strength as a convenient junction in international transport and energy pipelines.

Korea and Georgia concluded diplomatic ties in 1992, however the two countries could not diversify the areas of economic cooperation until 2012. At a summit meeting in 2012, two countries agreed to enhance economic cooperation by sharing knowledge on development planning in Korea, including Korea's participation in Georgia's infrastructure development projects. Following the summit, Georgia was selected as a beneficiary of the Economic Development Cooperation Fund (EDCF) of Korea in 2012. The bilateral shipping agreement between Korea and Georgia was concluded in 2014 and an agreement on reciprocal recognition of certificates of seafarers in 2015 (Ministry of Oceans and Fisheries of Korea, 2015).

Figure 1. Map of Georgia



Source: UNESCAP, Trans Asian Railway Network, 2009.

Maritime cooperation between Korea and Georgia will enlarge geographical coverage of the Korean maritime sector and improve service quality of Korean shipping companies and logistics service providers. The present paper aims at reviewing the environment of maritime cooperation between the two countries, and suggesting priority areas for cooperation.

The paper is constructed as follows. Section 2 describes literature review and methodology. The paper adopts interviews with maritime transport experts and Analytic Hierarchy Process (AHP) questionnaire in Korea and Georgia in order to suggest cooperation areas. Section 3 compares the maritime power of the two countries and analyzes investment environment in Georgia. Section 4 explains the main results of interview and AHP questionnaire responses. Section 4 delves into the analysis on gap of opinions of experts in Korea and Georgia. Section 5 proposes areas and projects for initial cooperation. Section 6 concludes the paper.

## 2. Literature review and methodology

### 2.1 Literature review

The geopolitical importance of the region around the Caspian Sea has been reviewed by various studies and reports mainly on energy (Ziyadov, 2011; Jo et al., 2012; USAID, 2012a). Georgia among the regional countries provides an ideal location for trades and transits for different countries in other continents (USAID, 2012b).

Georgian Black Sea ports are connected through road, rail and rail-ferry networks with the logistics nodes in the Caspian Sea, such as Baku port and Alyat new port in Azerbaijan, and further connected by shipping networks to Turkmenbashi port of Turkmenistan, Aktau port of Kazakhstan, Russian ports, and Iranian ports in the other side of the Caspian Sea. As a part of its endeavours, the Georgian government is planning to build a deep sea port at Anaklia, to enhance the potential of its maritime industry in the regional multimodal transport connection.

In 2011 the Georgian government adopted the ‘Strategic 10-point Plan for Modernization and Employment 2011-2015’, which included three points related to transport: (i) make Georgia a regional logistics hub and business platform; (ii) upgrade multimodal infrastructure; and (iii) develop professional and higher education centers (Georgian government, 2011; Ministry of Oceans and Fisheries of Korea, 2015).

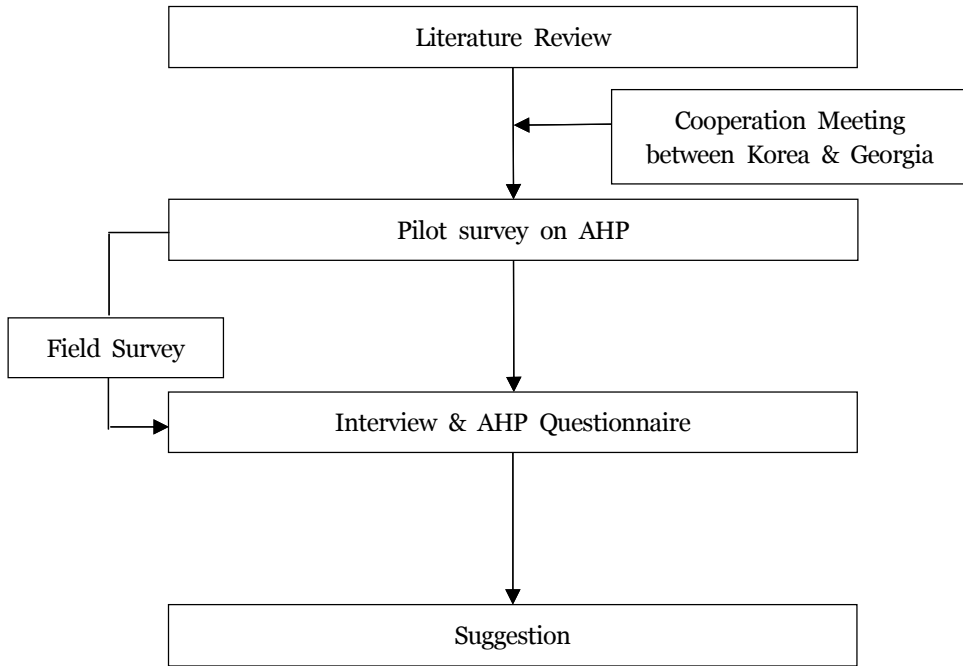
For Korea, Georgia’s strategic location creates opportunity to enlarge the trade with the countries in Central Asia and to diversify the investment in transport and energy infrastructure, and facilitate trade (Jo et al., 2012, 14-17; 63; Ministry of Oceans and Fisheries of Korea, 2015).

The present paper has the following contributions to the literature. First, the paper focuses on maritime cooperation between Korea and Georgia. Second, the paper attempts to use AHP questionnaire to identify areas for bilateral cooperation in maritime sectors between Korea and other countries. AHP questionnaire can clarify the difference in evaluation criteria and cooperation areas.

## 2.2 Methodology

In order to identify cooperation areas and business projects between Korea and Georgia, the present paper adopts the following process as in the Figure 2. First, the paper reviews overall environment for maritime cooperation between Korea and Georgia. Second, a series of interviews with maritime transport experts and questionnaire of the Analytic Hierarchy Process (AHP) were conducted to identify maritime cooperation projects between Korea and Georgia. The contents of the AHP questionnaire were prepared through a pilot AHP questionnaire with the aim of testing the responses and deciding business areas and evaluation criteria. AHP analysis was undertaken according to the normal process suggested by Korea Development Institute (KDI) in 2000. In addition, the analysis partially adopted the evaluation criteria of Public-Private Partnership projects in the reports of KDI. The normal process is composed of brainstorming, structuring, weighting, consistency test, and prioritization, except feedback. Third, the paper arranges the cooperation areas and projects in the order of priority, taking account of common interests of the two countries, and proposes the two cooperation areas: cooperation on seafarer and knowledge sharing.

Figure 2. Flow of the present study



### 3. Environment of Maritime Cooperation

#### 3.1 Comparison of maritime power

While understanding a blurred boundary between two concepts of maritime power and sea power (Mahan, 1987; Ju, 2015), the present paper narrows the concept of maritime power to the commercial maritime power. The present paper focuses mainly on the capacity of commercial fleets and container port of Korea and Georgia.

##### 3.1.1 Korea

Korea has successfully completed many infrastructure projects as part of its efforts towards the vision of a transport and logistics hub for North-East Asia. These projects include the development and operation of new deep sea ports, logistics centers, Inland Container Depots (ICDs) and the establishment of extensive maritime and inland transport infrastructure and service networks. During the course, Korea has gone through extensive reform processes to improve regulations and laws and other institutional bottlenecks that jeopardized the efficiency of transport infrastructure and logistics performance. Sharing such experience and knowledge as well as good practices of transport policy planning will help Georgia plan its transport and logistics development in a comprehensive and integrated manner.

**Table 1.** World Ranks of Merchant Fleets (2015)

Country(ranking)	No.	1000GT
Greece (1)	3,677	164,131
Japan (2)	4,069	157,356
China (3)	3,791	105,726
Germany (4)	3,128	82,153
US (5)	2,468	65,521
UK (6)	1,455	55,144
Korea (7)	1,409	46,522
Singapore (8)	1474	36,592
Norway (9)	2,110	36,496
Hong Kong (10)	1,004	33,706
Azerbaijan	151	633
Georgia	1	1
World Total	50,500	1,191,003

Source: IHS Fairplay, World Fleet Statistics 2015, 2016.

In the shipping sector, Korea's merchant fleet records fifth largest in the world, following Greece, Japan, China and Germany. In 2015, Korea controlled 1,409 ships of 46.5 million gross tonnage with its share of 3.9% of the world tonnage (Table 1). Korean fleets are mainly composed of dry bulk ships, tanker and container ships.

Main container ports in Korea include Busan, Gwangyang, and Incheon. The three major ports have totally 20 container terminals in length of 20.1 km as shown in Table 2. Busan port with 10 container terminals in length of 12.5 km as shown in Table 2 handles containers of about 19.4 million twenty-foot equivalent unit (TEU) in 2016: 9.6 million TEU of export and import, 9.8 million TEU of transshipment containers mainly from China and Japan and a few containers of domestic coastal trade (SPIDC, 2017).

**Table 2.** Container terminals and port facilities of major Korean ports

Item/Port	Busan	Gwangyang	Incheon	Total
No. of terminals	10	4	6	20
Length(m)	12,523	4,400	3,088.5	20,111.5
Depth(m)	-11 ~ -17	-15 ~ -17	-7.5 ~ -16	
No of Q/C	120	27	27	174

Source: Yeosu Gwangyang Port Authority, Cargo Distribution Trend and Analysis of Yeosu port and Gwangyang port, 2016. pp. 61-62.

### 3.1.2 Georgia

Georgia ranked 94th in the world shipping with 1 ship of 1 thousand gross tonnage in 2015, compared with Azerbaijan, its neighbouring country, which controlled 151 ships of 633 thousand gross tonnage. The main Georgian ports include Poti (with cargo throughput of 5.8 million tonnes), Batumi (5.1 million tonnes), Kulevi

(1.5 million tonnes), Supsa (3.8 million tonnes) in 2016 and Sukhumi (Maritime Transport Agency of Georgia, 2016). Container movement in Georgia ports grew from 330 thousand twenty-foot equivalent unit (TEU) in 2012 to 410 thousand TEU in 2014 and fell to 303 thousand TEU in 2016, as shown in Table 3. Poti port handled about 256 thousand TEU in 2016 and Batumi 47 thousand TEU in 2016.

**Table 3.** Container movement in Georgian ports

	2012	2013	2014	2015	2016
Poti	261,211	303,438	353,283	293,315	256,475
Batumi	68,373	68,660	57,011	49,615	46,728
Total	329,584	372,098	410,294	342,930	303,203

**Source:** Ministry of Economy and Sustainable Development of Georgia (2017).

**Table 4.** Container port facilities of Georgian ports

Item/Port	Poti	Batumi	Total
Berth	2	1	3
Length(m)	211, 253	280, including Rail ferry berth	-
Depth(m)	-8.2, -8.4	-11.7	-
No of Q/C	3	2	5

**Source:** Maritime Transport Agency of Georgia (2017).

Due to lower growth in container movement in Georgia, Georgia handles containers only in the two ports as shown in Table 4. Poti port uses two berths with three quay cranes for containers. Batumi port handles containers with 1 berth of 280m and 2 quay cranes. Compared to the container handling facilities of Korean ports as shown in Table 1, the size of container port facilities in Georgia is too small for Korean terminal operators to consider foreign investment.

Georgia is implementing an ambitious plan to develop a new deep sea port in Anaklia. When the first 3 phases are completed in 12 years, it will be capable of handling 40 million tons and accommodating large vessels, including container vessel of 6,500 TEUs (Ministry of Economy and Sustainable Development of Georgia, 2015a). The plan also includes the establishment of a free industrial zone.

Once developed, this new sea port is expected to be central part of TRACECA routes and contributes towards the realization of Georgia's vision of Euro-Asian transit transport and logistics hub. However, the operational capacity of the new sea port will be maximized when extensive maritime transport networks in the Caspian Sea and the Black Sea are also developed. It is also required to increase the capacity of inland transport along the east-west corridor, in particular the capacity of railway for transit transport.

### *3.2. Institutions of Maritime and Seafarers*

Korea and Georgia have a common interest in seafarer education and training: Korea as an employer and Georgia as a supplier. Korea has advanced academic education and professional training institutions on shipping, port and logistics development and operations. The main educational and training institutions include the Korea Maritime and Ocean University (KMOU), the Mokpo National Maritime University (MMU), the Korea Institute of Maritime and Fisheries Technology (KIMFT) and the Pukyong National University. In addition, Korea Maritime Institute is a representative Korean think-tank on maritime issues.

Nevertheless, Korea has experienced a shortage of supply of seafarers since the 1990s. The number of Korea's seafarers decreased from 106,000 in 1990 and 50,000 in 2000 to 37,000 in 2014 (Korean Seafarers Welfare and Employment Center, 2015; Park, 2016). According to the forecast of demand and supply of seafarer by Ministry of Oceans and Fisheries (MOF) of Korea, the shortage of seafarers will amount to 26,763 in 2020 and 34,860 in 2030 (Ministry of Oceans and Fisheries of Korea, 2013). This forecast includes seafarers of merchant marine in overseas and coastal transportation services, fishing, and foreign flag vessels (Park, 2016). In contrast, the number of foreign seafarers on board Korean-flag vessels increased remarkably from 2,653 in 1995 to 24,624 in 2015 (Korean Seafarers Welfare and Employment Center, 2016). The main supplier of foreign seafarers on Korean-flags was China in the 1990s, but now more seafarers are from Indonesia, Vietnam, Myanmar, and the Philippines (Korean Seafarers Welfare and Employment Center, 2016). Since China is changing its role from a main supplier of seafarers in the world shipping to a customer, the Korean shipping industry is increasingly relying on other countries and needs to find a new source of seafarer supply.

Georgia and Azerbaijan are well known for established maritime education and training systems that supply skilled and English-fluent seafarers and crew in the Black Sea and the Caspian Sea. Georgia has a long history of maritime education from early 1900s with the Maritime Industrial Technical Secondary School in Batumi, which has now been reorganized as a state-owned university, Batumi State Maritime Academy (BSMA). Currently BSMA offers bachelor and master programmes in maritime navigation and engineering as well as in shipping and port management and logistics. For students seeking a seaman's career, it also provides special on-board training on ocean-going merchant ships. Nevertheless, BSMA does not own and operate a training ship.

The Seafarers Training and Certification Centre at BSMA is equipped with modern simulators, machines and installations in accordance with IMO requirements and provides seafarer training and retraining programmes in accordance with STCW requirements. Currently a total of 1,480 students are enrolled in the various programmes of BSMA, and the student enrolment is expected to increase to 4,000, attracting 500 foreign students. Georgia faced challenges in the implementation and enforcement of the STCW Convention in the training and certification system after the European Maritime Safety Agency (EMSA) withdrew the recognition of Georgian Seafarers Certificate of Competency (COC) in 2010. Maritime Transport Agency was established



under the Ministry of Economy and Sustainable Development in April 2011 with a mandate to create a sustainable maritime system in Georgia, and from 2013, MTA started to issue a new Seafarers Certificate of Competency.

In 2015, the Ministry of Oceans and Fisheries of Korea and the Maritime Transport Agency signed an agreement on reciprocal recognition of certificates of seafarers pursuant to regulation of STCW.

### 3.3. Investment Environment of the Maritime Sector in Georgia

In recent years the government of Georgia undertook a number of projects for modernization and expansion of transport infrastructure including railways, roads, seaports and airports. Total investment of Georgia in transport infrastructure increased from 76.7 million Euros to 479.2 million Euros in 2011(see Table 5).

The investment was mostly spent in the inland transport infrastructure development, particularly in the road sector, which accounted for 59% (791.2 million Euros) of total investment in transport infrastructure made during the period from 2008 to 2011 as shown in Table 5. Upgrading international roads was on a high priority in line with the attempts of the government of Georgia to make their transport system an integral part of the TRACECA routes and a regional logistics hub. However, the port sector accounts only for a minor share of investment, decreasing from 29.7 million Euros in 2008 to 13.4 million Euros in 2011.

**Table 5.** Investment in transport infrastructure in Georgia

(Million Euros)

	2004	2005	2006	2007	2008	2009	2010	2011
Rail	11.1	14.2	61.9	212.0	48.2	80.3	77.5	249.2
Road	40.0	62.5	90.9	122.2	124.3	218.8	232.4	215.7
Sea Port	-	-	-	-	29.7	23.6	24.0	13.4
Airport	-	-	-	27.4	0.1	0.1	0.2	0.9
Total	51.1	76.7	152.8	361.6	202.3	322.8	334.1	479.2

Source: OECD and ITF (2013)

Being benefitted from the improved road infrastructure, a majority of the growth of the inland freight transport in Georgia occurred in the road sector while railway traffic showed an overall decreasing trend (Table 6).

**Table 6.** Inland Freight transport in Georgia

(Million ton)

Mode/Year	2012	2013	2014	2015	2016
Road	26.2	26.5	26.8	27.1	27.4
Rail	18.5	16.7	15.1	13.0	10.9
Total	0.02	0.02	0.02	0.01	0.03

Source: Ministry of Economy and Sustainable Development of Georgia (2017).

Container trade between Korea and Georgia jumped from 3,126 TEU in 2010 to 9,473 TEU in 2015 as shown in Table 7, but it is still not enough for Korean shipping companies to consider their participation in the shipping market in the Black Sea. Furthermore, severe competition is expected from Bandar Abbas port of Iran, a hub in the Middle East, which is eager to catch transshipment cargo from Central Asia.

**Table 7.** Container movements between Korea and Countries in the Black Sea and the Caspian Sea

(Unit: TEU)

Country/Year		2010	2013	2014	2015
Georgia	export	2,591	9,417	14,471	9,094
	import	535	922	593	379
	total	3,126	10,339	15,064	9,473
Azerbaijani	export	2	-		
	import	-	-		
	total	2	-		
Kazakhstan	export	-	-		
	import	2	-		
	total	2			
Iran	export	160,116	49,601	7,879	38,879
	import	92,112	34,788	6,035	13,163
	total	252,228	84,389	13,914	52,042
Turkey	export	62,122	80,266	103,391	128,711
	import	19,949	30,574	39,719	40,945
	total	82,071	111,02	143,110	169,656
Total		337,429	205,748	172,088	231,171

**Source:** Korea Customs Service, Export and Import Distribution Yearbook, each year.

The Georgian government emphasizes its potential role as a regional logistics hub. Realizing that the development and promotion of investment in transport infrastructure is critical to facilitating the roles, the Georgian government has adopted various investment laws: Law on the Investment Activity Promotion and Guarantee (1996), Law on the Georgian National Investment Agency (2002), Law on State Promotion of Investment (2006) and Law on State Support for Investment (2006).

## 4. Main Results of Interviews and AHP Questionnaire

### 4.1. Interviews

During the field visit to Georgian ports in June 2015, Poti port and Batumi port, interviews with maritime and intermodal transport experts in Georgia were conducted (Appendix 1). In October 2015 at a consultation meeting between Korea

and Georgia in Tbilisi, Georgian experts in Batumi State Maritime Academy (BSMA) and Maritime Transport Agency (MTA) of Georgia were interviewed. The interviews with Korean experts in Korea and Georgia were done earlier in March, May and June 2014. The interviews aimed at obtaining expert opinions on interested areas and proposals for maritime cooperation between Korea and Georgia.

The Korean experts have the opinion that the level of cargo throughput at Georgian ports is not high enough for Korean service providers to consider entering into the maritime industries in Georgia. However, the experts pointed out the necessity of expansion of service network by Korean service providers. A few experts suggested a possibility of cooperation for employment of Georgian seafarers on Korean-flagged ships.

The BSMA and MTA expressed their interests in developing cooperation projects to increase the employment of Georgian seafarers by Korean shipping companies. Particularly, BSMA hopes its students may have a chance of on-board training for the student's in Korean-flagged ships. Georgian seafarers are composed of 3,730 officers with the capacity of STCW and 5,201 ratings, lower level seafarers, as numbered in Table 8. 3,730 officers include 1,942 officers in management level and 1,788 officers of operational level.

**Table 8.** Georgian seafarers (2015)

(TEU)			
management level	operational level	support level	Total
1,942	1,788	5,201	8,931

Source: Maritime Transport Agency of Georgia (2015).

Officials in MTA and Ministry of Economy and Sustainable Development of Georgia hope to induce foreign direct investment (FDI) by Korean maritime and logistics providers in the construction and operation of container terminals and logistics facilities such as container yards. Georgian government promotes foreign investors to invest in logistics and port facilities in Georgia (Ministry of Economy and Sustainable Development of Georgia, 2015b).

## 4.2. AHP Questionnaire

### 4.2.1 General description

The AHP questionnaire covered two parts as shown in Appendix 2: (1) a selection criteria which includes profitability, cost, entry easiness, urgency, future prospect and demand, and (2) business entry and cooperation areas including construction/operation of port terminal, operation of on-port/inland logistics warehousing, customs clearance agency, international logistics service, freight forwarder, trucking business, logistics service of crude oil and natural resources, and education and training of professional manpower. Business entry and business areas of the AHP questionnaire were formulated based on the provisions of bilateral agreements in the maritime

sector through which the governments of Korea and Georgia agreed to cooperate on shipping, port services, seafarer, and other maritime related areas.

The AHP questionnaire was distributed to both Korean and Georgian experts, and responses were collected from April to June in 2015. Recognizing the recommendation on participant number of AHP questionnaire by the Korea Development Institute (2013): usually 8 persons, the present paper collects totally 11 respondents; four from Georgia and seven from Korea as shown in Appendix 1. The responses were divided into 4 groups of experts, including Korean logistics service providers, Korea Shipowners' Association (KSA), Korea International Freight Forwarders Association (KIFFA), MTA and BSMA. Since Georgia locates at remote area and the container volume between Korea and Georgia is about 10 thousand TEU in 2015, a few Korean logistics service providers handle the cargoes to/from Georgia. We narrowed interviewees and respondents of Korean logistics service providers to the staffs of the providers, which had offices or branches in the Black Sea and the Caspian Sea in 2015. The three respondents of KSA and KIFFA were selected. They were executive directors in charge of international cooperation.

The respondents revealed a common opinion on selection criteria for cooperation areas; all groups put 'profitability' as the first priority in selecting business entry areas and cooperation agenda as shown in the Table 9. The second priority is 'entry easiness'. The inconsistency ratio of responses is 0.06 compared with the critical value of 0.2 (KDI, 2000, 51)

The responses on cooperation areas show differences between Korean and Georgian sides as shown in Table 10. The most preferred area by Korean experts is 'customs clearance and freight forwarding', followed by 'operation of warehousing'. Korean experts seem to consider Georgia as a country of transit to the Central Asia and therefore, choose the areas with low risk in profitability. On the other hand, Georgian respondents tend to emphasize on 'operation of port terminal', 'trucking business', 'education and training of professional manpower'. The inconsistency ratio of responses is 0.06.

**Table 9.** Responses on selection criteria of cooperation areas

Item	Total	Korean Logistics Service Providers	KSA	MTA of Georgia	BSMA
Profitability	0.41	0.40	0.28	0.36	0.56
Cost	0.13	0.18	0.17	0.05	0.09
Entry easiness	0.16	0.12	0.24	0.21	0.10
Urgency or Necessity	0.08	0.16	0.12	0.06	0.03
Future prospect	0.14	0.07	0.14	0.21	0.14
Demand situation	0.07	0.07	0.05	0.11	0.08
Inconsistency Ratio	0.06	0.23	0.25	0.06	0.11

Overall, the respondents put 'customs clearance and freight forwarding' as the priority area for cooperation, as listed in Table 11. The business of customs clearance and freight forwarding gets the highest scores in 'profitability', 'cost and entry easiness' and the second highest scores in 'necessity', 'future prospect', and 'demand situation

of the partner country'. The next priority areas as a whole include in the order of priority, 'operation of on-port terminal,' 'inland logistics warehousing', and 'education and training of professional manpower'.

**Table 10.** Responses on cooperation areas

Item	Total	Korean Logistics Service Providers	KSA	MTA of Georgia	BSMA
Operation of port terminal	0.21	0.16	0.12	0.24	0.35
Operation of logistics warehousing	0.18	0.22	0.18	0.1	0.125
Customs clearance and freight forwarder	0.30	0.33	0.46	0.12	0.11
Trucking business	0.13	0.15	0.12	0.23	0.06
Logistics service of crude oil and natural resources	0.08	0.09	0.08	0.07	0.10
Education and training of professional manpower	0.10	0.06	0.04	0.22	0.26
Inconsistency Ratio	0.06	0.23	0.25	0.06	0.11

**Table 11.** Responses on cooperation areas by selection criteria

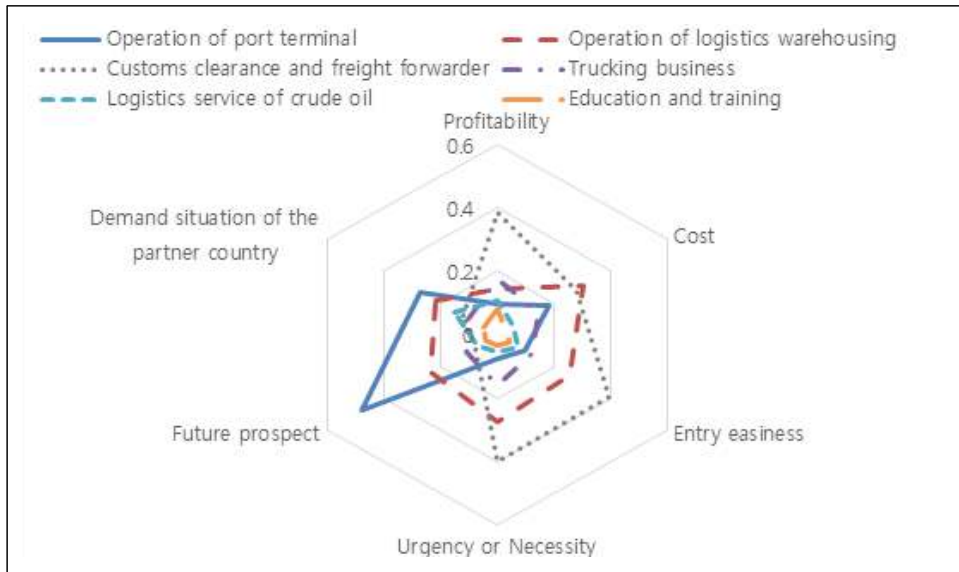
Item	Profit-ability	Cost	Entry easiness	Urgency or Necessity	Future prospect	Demand situation of the partner country	Total
Operation of port terminal	0.15	0.22	0.21	0.15	0.40	0.35	0.21
Operation of logistics warehousing	0.19	0.19	0.14	0.19	0.16	0.16	0.18
Customs clearance and freight forwarder	0.31	0.33	0.36	0.16	0.17	0.20	0.30
Trucking business	0.13	0.14	0.11	0.12	0.12	0.14	0.13
Logistics service of crude oil	0.08	0.07	0.11	0.05	0.06	0.08	0.08
Education and training	0.15	0.05	0.07	0.06	0.09	0.06	0.10
Inconsistency Ratio	0.08	0.08	0.07	0.03	0.05	0.08	0.06

#### 4.2.2 Different opinions between Korea and Georgia

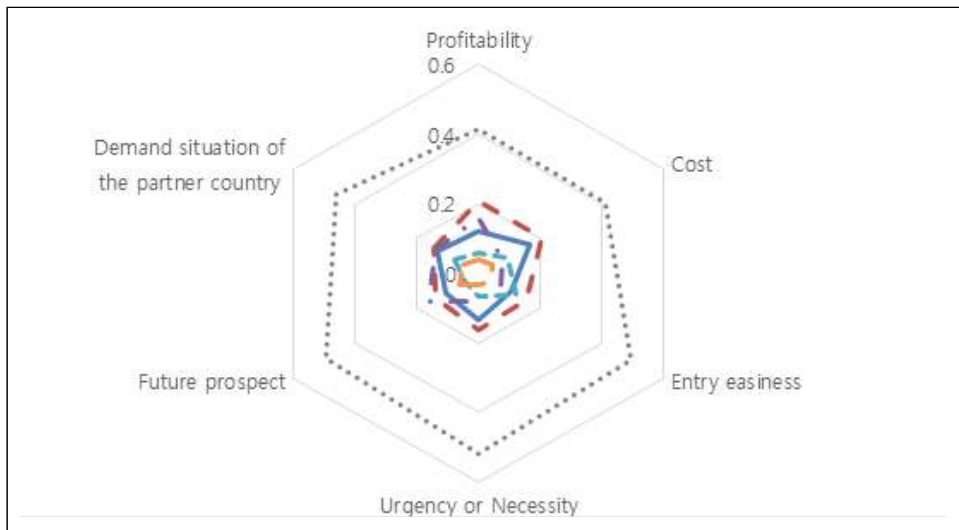
Figure 3, 4, 5 and 6 illustrate, for each of 4 respondent groups, the scores of selection criteria, based on which the areas for cooperation were evaluated. The area of 'customs clearance and freight forwarding' that Korea logistics service providers and KSA indicated as a top priority, received second highest scores from the viewpoint of 'urgency or necessity' by MTA and from the viewpoint of 'cost' by BSMA respectively. For the area of 'construction/operation of port terminals' that is most preferred by the Georgian experts, the Korean logistics service providers gave the highest score

from the viewpoint of ‘future prospects’ and ‘demand situation of the partner country’. This implies that while the AHP questionnaire responses from Korean and Georgian experts revealed some differences in preferred areas for cooperation, such gaps can be closed if the two countries have deeper common understanding on the issues, particularly from the long-term perspective.

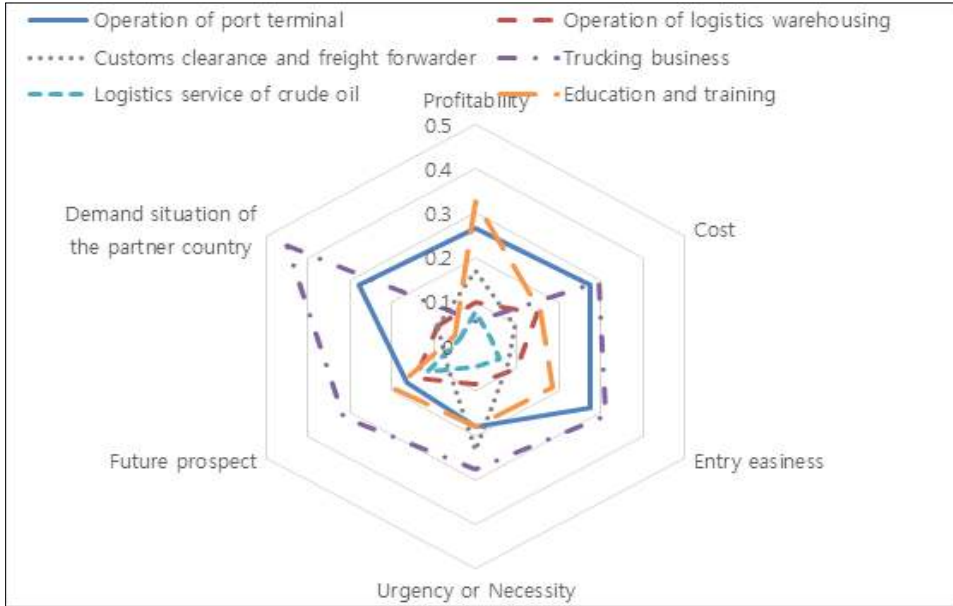
**Figure 3.** Responses of Korea Logistics Service Providers on cooperation areas



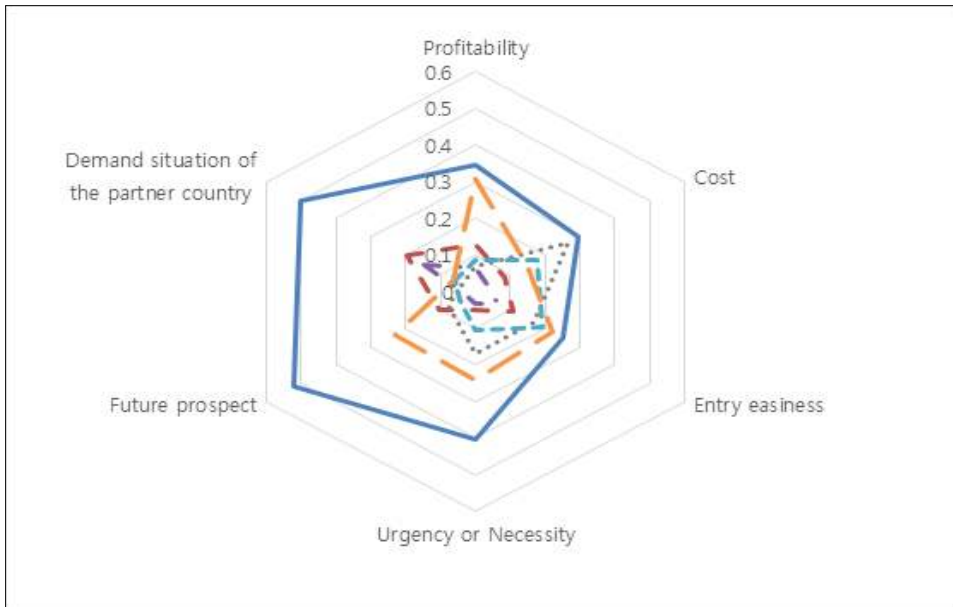
**Figure 4.** Responses of Shipowners' Association on cooperation areas



**Figure 5.** Responses of Georgia Ministry on cooperation areas



**Figure 6.** Responses of BSMA on cooperation areas



## 5. Proposed Areas for Maritime Cooperation

AHP questionnaire responses show that Korea and Georgia have different preference with regard to the area for cooperation. The Korean side considers 'freight forwarding and customs clearance agency' as the top priority area for cooperation, and 'operation of logistics warehousing' as the second priority. The Korean side seems to have selected these areas because these businesses may involve low financial risks. The Georgian side put its top priority on 'operation of port terminal' and second priority on 'education and training of professional manpower'. Korean shipping companies and logistics providers indicate that the current level of container and cargo throughputs in the Georgian ports is not enough for them to consider the investment in port construction and terminal operation.

The present paper also found that different preferences of Korea and Georgia on the cooperation areas can be narrowed by deeper and common understanding of the two countries on the issues, particularly from the long-term perspective. In order to follow up the bilateral maritime agreements and to bridge the gap of preferred cooperation areas between Korea and Georgia, the present paper proposes the following two areas for initial maritime cooperation projects between Korea and Georgia.

### 5.1. Cooperation on seafarers

The first demonstrative cooperation may focus mainly on on-board training of Georgian students of BSMA on training ships of Korea Maritime and Ocean University (KMOU) and Korea Institute of Maritime and Fishery Technology (KIMFT). In October 2015 in Tbilisi Georgia, BSMA and KIMFT already started to discuss the cooperation programme on training of Georgian students on Korean training ships. Furthermore, Korea and Georgia concluded an agreement on reciprocal recognition of certificates of seafarers in 2015

BSMA can be a stable source of seafarers for the Korean shipping industry that has been experiencing a shortage of seafarer supply. To achieve this end, it is necessary to develop jointly special seafarer education and training programmes customized to meet the specific requirements of the Korean shipping industry. Student and faculty exchange programmes can also be offered on the subjects of shipping, port and logistics management as well as off-shore structure operation and dynamic positioning.

### 5.2. Knowledge sharing

The transport and logistics system in Korea is well developed. The government has long pushed forwards the country's vision of a transport and logistics hub for North-East Asia, and made a significant achievement particularly in the area of maritime shipping and ports as well as international logistics. Furthermore, under the recent Eurasia Initiative, the geographical coverage of the vision is now extended to cover



the whole Asia and Europe and in this regard Azerbaijan and Georgia may offer a great opportunity for Korea in realizing the vision. Korea has a lot of expertise and knowledge accumulated during the past decades in developing transport infrastructure and services.

A good approach to bilateral cooperation is sharing of knowledge and expertise. Korea has become a leading maritime country, being ranked high in terms of the provision of maritime shipping and port services and international logistics. Since 1990s, Korea has successfully implemented many projects of transport infrastructures as part of its efforts towards the vision of a transport and logistics hub for North-East Asia. This includes the development and operation of new deep sea ports, logistics centers, ICDs and the establishment of extensive maritime and inland transport infrastructure and service networks. The Korean government has led in building new deep sea ports in Busan and Incheon, logistics centers near Busan port, Gwangyang port, Incheon ports and other ports. Nevertheless, a long-term depression of world maritime industry and Hanjin Shipping bankrupt reduced the spatial coverage of shipping service networks of Korean liners.

During this course, Korea experienced extensive reform processes to improve regulations and laws and other institutional bottlenecks that jeopardized the efficiency of transport infrastructure and logistics performance. Sharing such experience and knowledge as well as good practices of transport policy planning will help Korea and Georgia have common understanding on the transport and logistics development issues and thereby lead to enhanced maritime cooperation between the two countries.

## 6. Conclusions

The region around the Black Sea and the Caspian Sea has attracted attention of logistics companies and global investors. Georgia is located at the east side of the Black Sea and serves as a gateway for European countries to Central Asia through the Caspian Sea. The bilateral shipping agreement between Korea and Georgia in 2014 propelled the discussion on cooperation in shipping, port service sectors, seafarers, and other related areas.

Although maritime cooperation between Korea and Georgia will enlarge geographical coverage of the Korean maritime sector, the present paper finds different opinions on the areas for cooperation between Korean and Georgian experts from both interviews and AHP questionnaire. While Korean experts indicate their preference on 'freight forwarding and customs clearance agency', and 'operation of logistics warehousing', Georgian experts put their highest priority on 'operation of port terminal'. Furthermore, Korean shipping companies consider the current level of container and cargo throughputs in Georgian ports is not high enough for them to invest in port and logistics facilities in Georgia.

The present paper proposes that maritime education and training is an area for initial cooperation, and that such cooperation projects include employment of Georgian seafarers by Korean shipping companies, on-board training of Georgian

students on Korean training ships, and the development of visiting and exchange programmes for maritime students and cadets. The paper also proposes as another area for cooperation the sharing of experience and knowledge as well as good practices of transport infrastructure planning, which will help expand the coverage of maritime cooperation between the two countries.

The policy implications of the present paper have a few aspects. First, maritime cooperation efforts of Korea may face different opinions of partner countries. Countries may have different importance on selection criteria such as profitability, necessity, and entry easiness. Second, bilateral maritime agreements may indicate major cooperation areas, however countries may have different priorities that need to be narrowed to enhance maritime cooperation. Third, knowledge and experience sharing with partner countries may increase common understanding on the cooperation issues and lead to expanded areas for cooperation in the long term.

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**APPENDIX 1.** Interviewees and Respondents of AHP Questionnaire

Item	No. of interviewees	Major interviewee	No. of AHP response
BSMA	5	President, Mr Irakli Sharabidze Head of Legal Dept. Mrs. Rusudan Kipani	2
MTA of Georgia	4	Deputy Director Mr. Vakhtang Mikelaishvili	1
Ministry of Economy and Sustainable Development of Georgia	2	Deputy Head of the Transport Policy Mr. Davis Javakhadze	1
Logistics service providers of Korea	10	Unicologx, President Park	4
Related Association of Korea	5	KSA, Executive Director Hwang	3
Total	26		11

**APPENDIX 2.** Questionnaire on Shipping and Logistics Cooperation with Georgia and Azerbaijan, Business Entry and Policy Findings

◆*Purpose of Survey*◆

Korean government is preparing policy directions in a way to support Korean companies to do business with partners in shipping and logistics market of Georgia, Azerbaijan and other central Asian Countries. This survey is focused on business entry and international cooperation with your countries.

KMI (Korea Maritime Institute) is a government funded research institute, specialized in comprehensive ocean policy development including shipping, port and logistics industries and conducts this questionnaire survey to help the Korean government shape policy development.

We want to receive your highly esteemed opinion. -May 2015  
Yong An PARK, Ph.D. Research Fellow, KMI  
yapark@kmi.re.kr, Tel : 82-51-797-4612, Fax : 82-51-797-4609

□ General Introduction of Georgia and Azerbaijan(2013)

	Popula tion (000)	GDP (US\$ billion)	Per capita GDP (US\$)	Int'n trade (US\$ billion)	Major trading countries	Main Items
Georgia	4,580	27.3	6,100	Export: 2.6 Import: 7.1	Export: Azerbaijan, Ukraine, Turkey, Russia, Armenia Import: Turkey, Ukraine, China, Azerbaijan, Russia	Steel, electronics products, Mining, lumber, wine
Azerbaijan	9,686	102.7	10,800	Export: 34.5 Import: 10.7	Export: Italy, Indonesia, Thailand, Germany, Israel, France, India, Russia, USA Import: Russia, Turkey, UK, Germany, Ukraine, China, France	Crude oil, oil products, LNG, exporation equipment, iron ore, cement, textiles



Selection criteria of business entry and cooperation

Priority selection criteria are consisted of Six major items and Six specific sub-items.

Evaluation item	Specific items
Profitability	Operability of own assets of logistics company, sales, profits, etc.
Cost	Various expenses for business entry
Entry easiness	Business environment such as regulations, competition and business practices
Urgency or Necessity	Advantages of entry at present
Future prospect	Future prospect and market growth potential
Demand situation of the partner country	Situation and necessity of the partner country, example) Korea or Japan

Business entry areas and cooperation

The following is business entry areas and cooperation agenda.

Evaluation item	Specific items
Operation of port terminal	Construction/operation of port terminal
Operation of logistics warehousing	Operation of on-port/inland logistics warehousing
Customs clearance and freight forwarder	Customs clearance agency, international logistics service, freight forwarder
Trucking business	Trucking transport
Logistics service of crude oil and natural resources	International logistics services for crude oil and natural resources
Education and training of professional manpower	Education and training of shipping, port and logistics professional manpower(international cooperation and government support)

Example of relative importance of evaluation criteria

■ When entering into shipping and logistics market, please, check the priority business area of the relative importance as in the following.

Example	For example, if you consider that shipping is more important than trucking business, please, check as in the following.										
	Evaluation item	Absolute	Very important	Important	Little Important	Equal	Little Important	Important	Very Important	absolute	Evaluation item
	Shipping	5	4	√3	2	1	2	3	4	5	Trucking business

## <Questionnaire>

### I. Evaluation criteria

1. Among the three expert groups of 1) Shipping and port industries, 2) Logistics company and freight forwarder, and 3) Academic/business association/professional groups, what is your opinion of the relative importance?

Evaluation item	Absolute	Very Important	Important	Little Important	Equal	Little Important	Important	Very Important	Absolute	Evaluation item
Shipping and port industries	5	4	3	2	1	2	3	4	5	Logistics company and freight forwarder
Shipping and port industries	5	4	3	2	1	2	3	4	5	Academic/business association/professional
Logistics company and freight forwarder	5	4	3	2	1	2	3	4	5	Academic/business association/professional

2. Second evaluation criteria: profitability, cost, urgency, entry easiness, demand situation of the partner country, what is your opinion of the relative importance?

Evaluation item	Absolute	Very Important	Important	Little Important	Equal	Little Important	Important	Very Important	Absolute	Evaluation item
Profitability	5	4	3	2	1	2	3	4	5	Cost
Profitability	5	4	3	2	1	2	3	4	5	Entry easiness
Profitability	5	4	3	2	1	2	3	4	5	Urgency
Profitability	5	4	3	2	1	2	3	4	5	Future prospect
Profitability	5	4	3	2	1	2	3	4	5	Demand situation of the partner country
Cost	5	4	3	2	1	2	3	4	5	Entry easiness
Cost	5	4	3	2	1	2	3	4	5	Urgency
Cost	5	4	3	2	1	2	3	4	5	Future prospect
Cost	5	4	3	2	1	2	3	4	5	Demand situation of the partner country
Entry easiness	5	4	3	2	1	2	3	4	5	Urgency
Entry easiness	5	4	3	2	1	2	3	4	5	Future prospect
Entry easiness	5	4	3	2	1	2	3	4	5	Demand situation of the partner country
Urgency	5	4	3	2	1	2	3	4	5	Future prospect
Urgency	5	4	3	2	1	2	3	4	5	Demand situation of the partner country
Future prospect	5	4	3	2	1	2	3	4	5	Demand situation of the partner country

## II. Survey of the relative importance of entry areas and policy agenda

### 1. From the profitability point of view, what is your opinion of the relative importance?

Entry areas and policy agenda	Absolute	Very Important	Important	Little Important	Equal	Little Important	Important	Very Important	Absolute	Entry areas and policy agenda
Operation of port terminal	5	4	3	2	1	2	3	4	5	Operation of logistics warehousing
Operation of port terminal	5	4	3	2	1	2	3	4	5	Customs clearance and freight forwarder
Operation of port terminal	5	4	3	2	1	2	3	4	5	Trucking business
Operation of port terminal	5	4	3	2	1	2	3	4	5	Logistics service of crude oil and natural resources
Operation of port terminal	5	4	3	2	1	2	3	4	5	Education and training of professional manpower
Operation of logistics warehousing	5	4	3	2	1	2	3	4	5	Customs clearance and freight forwarder
Operation of logistics warehousing	5	4	3	2	1	2	3	4	5	Trucking business
Operation of logistics warehousing	5	4	3	2	1	2	3	4	5	Logistics service of crude oil and natural resources
Operation of logistics warehousing	5	4	3	2	1	2	3	4	5	Education and training of professional manpower
Customs clearance and freight forwarder	5	4	3	2	1	2	3	4	5	Trucking business
Customs clearance and freight forwarder	5	4	3	2	1	2	3	4	5	Logistics service of crude oil and natural resources
Customs clearance and freight forwarder	5	4	3	2	1	2	3	4	5	Education and training of professional manpower
Trucking business	5	4	3	2	1	2	3	4	5	Logistics service of crude oil and natural resources
Trucking business	5	4	3	2	1	2	3	4	5	Education and training of professional manpower
Logistics service of crude oil and natural resources	5	4	3	2	1	2	3	4	5	Education and training of professional manpower



(Other contents are skipped for shortening.)

2. Please, check the following items.

2-1. Company

- |                         |   |
|-------------------------|---|
| 1) Shipping company     | 2) Port operator                            |
| 3) Freight forwarder    | 4) Logistics company                        |
| 5) Business association | 6) Academic/research Institute/professional |
| 7) Government           |   |
| 8) Others               |   |

Years in service :            years

We would like to express our warm thanks for your kind response.