

A Study on the Measures of Seafarer Supply with Statistical Comparison of Maritime Graduates Career Path for the Republic of Korea and the Philippines

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한국과 필리핀 해양계 졸업생 진로의 통계적 비교를 통한 선원 공급 대책에 관한 연구

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Abstract : *The projection on the demand for seafarers is seen to continue to rise in consonance with the world's fleet increasing tonnage. It is also expected that recurring officer shortages is paramount when global markets bounce off from the economic downturn it experienced for the last few years. In BIMCO/ISF(The Baltic and International Maritime Conference/International Shipping Federation) report for 2010, a continuous effort to produce competent seafarers should be adapted and as much as possible, reduce the wastage in the industry to address the looming scenario. The Republic of Korea, an OECD member, is a powerhouse in shipbuilding industry and has also had continued to show also an expanding trend in its fleet. On the other hand, the Philippines is still acknowledged as the main source of manpower for ocean-trading vessels. In this paper, a statistical comparison of maritime graduates' career path between the two countries is presented. In conclusion, it is suggested that a mutual co-operation between the Republic of Korea and the Philippines can be established with focusing on international maritime education and training collaboration.*

Key Words : *Maritime graduates, Officer/Rating shortages, Career path, Statistical comparison, Seafarer supply*

요 약 : 전 세계적으로 선복량의 증가와 더불어 선원의 수요는 지속적인 증가세가 예상된다. 또한 지난 몇 년 동안 경험해 왔던 바와 같이 세계 경기가 회복세로 돌아설 때 해기사 부족 현상이 재발될 것이 우려된다. 발틱국제해사협회(BIMCO)와 국제해운연맹(ISF)의 2010년 보고에는 유능한 해기사를 양성해내기 위한 지속적인 노력을 경주하는 것이 불확실한 시나리오에 대비하여 산업계의 손실을 줄일 수 있을 것이라고 밝혔다. OECD회원국인 한국은 조선산업의 강국이며 또한 해운산업의 지속적인 확장세를 보여주고 있는 나라이다. 한편, 필리핀은 여전히 상선 인력의 주공급원으로 인식되어 있다. 이 논문에서는 두 나라 해양계 졸업생들의 진로에 관한 통계적 비교를 살펴보았다. 결론적으로, 국제 해사 교육 및 실습에 관한 교류협력에 초점을 맞춘 한국과 필리핀사이의 상호 협력 관계가 확립되어야 한다고 제안한다.

핵심용어 : 해양계 졸업생, 해기사/선원의 부족, 진로, 통계적 비교, 선원공급

1. Introduction

In a report submitted to the Organization for Economic Cooperation and Development(OECD) member countries' maritime transport committee, the recurrence of possible seafarer shortage scenario was presented. Specifically, the demand for ship's crew and the consequence of this

shortage for OECD member state on the management of national fleet was given utmost priority(PAL, 2003). This scenario is further corroborated by the Baltic and International Maritime Conference/International Shipping Federation(BIMCO/ISF) report for worldwide demand for and supply of seafarers. In their report, the supply figures for both officer and ratings to be 624,000 and 747,000 respectively and based on STCW certification. Further, the demand statistic is determined at 637,000 officers and 747,000 rating(BIMCO/ISF, 2010). These figures only indicated a

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slight variation on the supply and demand for seafaring officers category. However, BIMCO/ISF added a worse-case scenario which is dependent on the improvement of world economy. The Chairman's Report during Asian Shipowners Forum likewise pointed out to another possible root of seafarer shortage - the massive order book of newbuildings (ASF, 2011). As a consequence, it is predicted that the slight to severe officer shortage situation is likely to occur in the future.

Economic rise of the Republic of Korea has put itself as one of the global leaders in maritime industry. The shipbuilding industry has had continued to expand its major shipbuilding conglomerates tapping China, Vietnam, and Philippines to further boost its market competitiveness. On the other hand, an increase in its national fleet tonnage is now nearing the thirty(30) million gross tons. This figure represents a percentage share of roughly four percent(4%) of world fleet ownership in terms of deadweight(SAJ, 2010).

In 2010 alone, the Philippines deployed around 340,000 seafarers and this comprises the total number for officers, ratings and the non-marine category(POEA, 2010). This figure accounts to almost thirty percent(30%) of world's seafaring manpower in terms of nationality. Such is the popularity of the maritime profession in Philippines as it can be reflected with more than hundred maritime institutions scattered in the archipelago. The country produces around eight thousand(8,000) graduates for its Bachelor of Science in Marine Transportation and Bachelor of Science in Marine Engineering program(Devanadera, 2008).

This paper looks into the career path of maritime graduates for both countries mentioned above. A review of each country's maritime education and training is presented. It is projected that statistical knowledge and comparison of data will yield approaches tackling issues besetting the maritime industry.

2. Background of statistical comparison

The Republic of Korea and the Philippines shares a common denominator besetting the global maritime community - the probable shortage of seafarers. Outlook for OECD countries, of which Korea is a member state, has predicted a continued decline in seafarers supply. Latest report has shown a decline of about 3.6% in the total number of Korean seafarers serving both on ocean-going Korean flag and foreign flag vessels. This can be mainly attributed to the annual shrinkage pattern in the number of

Korean ratings. For the officer category, a constant growth has been recorded for the past years although the data of last year's has indicated a decline(Yoon, 2011). The Philippines, on the other hand, displays an indicative surplus in its non-officer seafarers. However, this is not the case for the officer category. In 2008, the Filipino officers only account to thirteen percent(13%) for the total deployed seafarers. Further, for the 2009 data of the more than 60,000 certificated navigational officers, management level officers only account twenty five percent while the rest of that was in the operational level.

Fig. 1 and 2 denote the trend on supply of officers and ratings by region. In Fig. 1, the continual drop on the supply of officers from the OECD region is very evident while their Far Eastern officer counterpart remains practically stable. On Fig. 2, the rating numbers follow the same trend as that of their OECD officer equivalent.

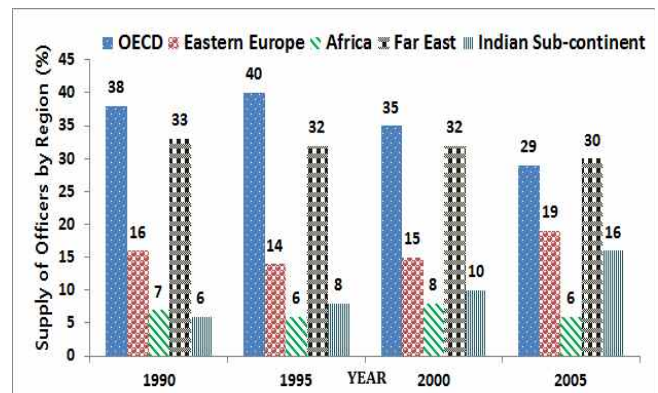


Fig. 1. The supply of officers by region(Waagtmann and Poulsen, 2009).

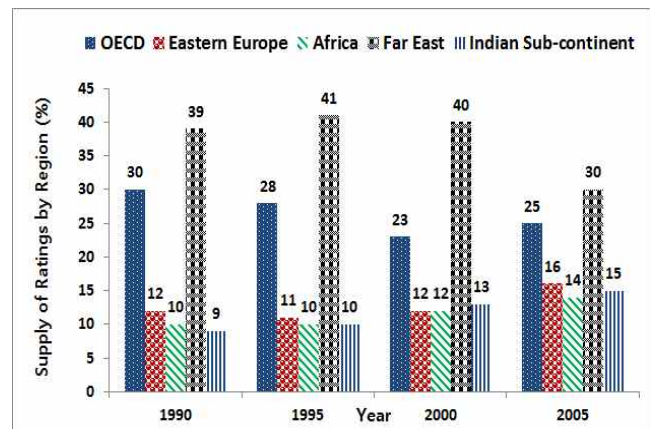


Fig. 2. The supply of ratings by region(Waagtmann and Poulsen, 2009).

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However, worth-noting here is the officer - rating ratio. In BIMCO/ISF Manpower 2005 Update summary, OECD countries supplied seafarers have a 43% officer and 57% rating proportion. This can be indicative that the region is experiencing a seafarer shortage for both manpower categories. Meanwhile, the Far Eastern officer - rating proportion stands at 36% - 64%. Considering the total number of seafarer in the region, this figure will signify practically a short supply of officers and a surplus on the rating group.

Fig. 3 represents the features influencing the national supply of seafarers in a study conducted by Waagtmann and Poulsen(2009). This illustration overviews the concept of this paper and will be utilized to assess the career path for maritime graduates of the Republic of Korea and the Philippines.

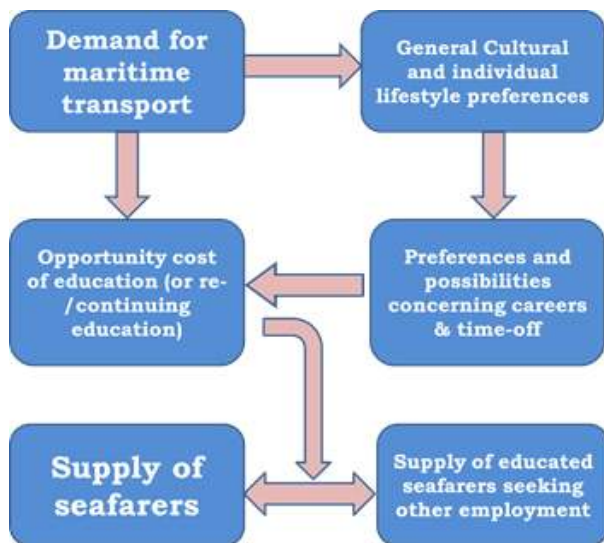


Fig. 3. Features for the supply of seafarers(Waagtmann and Poulsen, 2009).

3. Career path for maritime graduates of Korea

3.1 Maritime education and training

The Korean maritime education and training is continually evaluated for compliance to international standards. Embedded in its curricula is a two-pronged approach enabling its graduates to perform sea-based duties and shore-based management. This education and training methodology is carried-out by injecting an array of electives in its curriculum hence, providing sufficient educational background to its students on both occupational field(Dimailig et. al., 2010).

Maritime education and training in Philippines adheres to

state and international enacted regulations and policies. Government bureaus, headed by the Commission on Higher Education(CHED) and the Maritime Training Council(MTC), are directly involved in the implementation of maritime programs according to international standards of STCW '78 Codes and Conventions as amended. As of present, there are about hundred maritime institutions in the archipelago offering bachelor degrees for marine transportation and marine engineering. Further, the country adapts two systems in its maritime education, the "2-1-1 curriculum" and the "3-1 curriculum" in the offering of its maritime degrees. For the former, two maritime institutions embrace this system for their undergraduate program. This system works wherein an initial academic program is covered in two years, a year-long shipboard training and finally another year for academics leading to bachelor degree. For the "3-1" system, three years are dedicated to academics covering the whole program followed by a year of shipboard experience. In addition, an associate degree is earned upon completion of the three year academics while the bachelor degree will be earned upon completion of the shipboard training.

The popularity of maritime profession in the Philippines attracts an average of more than 70,000 students per year. However, the graduate to enrollee ratio is the point of interest. In Fig. 4, roughly only 15 percent of the enrollees are able to graduate and earns the bachelor degree. As such, this data suggests a very huge wastage rate or drop-out rate in the maritime education. In a study conducted, this consequence can be attributed to inefficiencies not only of maritime schools but also of the whole tertiary education system, high cost of MET, and failure to obtain placements for cadetship or shipboard training(Amante, 2003).

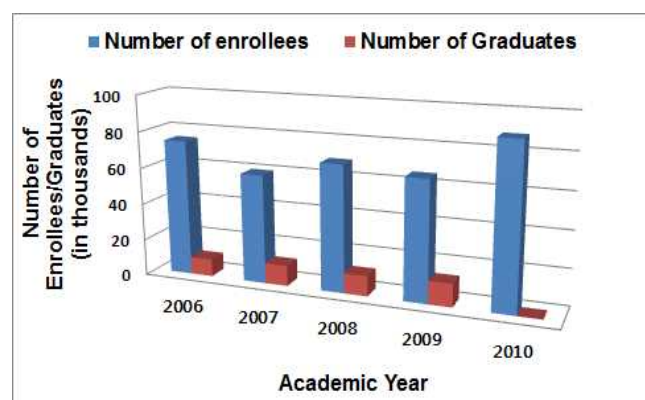


Fig. 4. Philippines' maritime enrollee to graduate ratio(CHED, 2010).

3.2 Labour Market

Seaborne trade accounts to more than ninety percent of the total world trade volume transport. Although the world economy suffered a slump, indicators have shown a rebound in the trade growth. Fig. 5 and 6 illustrates the present condition for world seaborne trade volume and fleet expansion. The sustained growth of the world seaborne trade experienced a tumble but quick to recover posting a growth of almost 7% from 2009 to 2010. Annual mean growth from 2000 to 2010 is around 3%.

Similarly, the world fleet evolution has shown an increasing trend with a little less than 6% annually for the period of 2009 to 2011. The growth posted in reference to world trade volume and fleet expansion dictates the global demand and supply concern for sea-based manpower. One interesting fact for this data is the increase in tonnage for every individual cargo sector. In 2011 report, the world's cargo carrying fleet surpasses the 1,480 million deadweight mark. Of this, China and South Korea accounts to 72.4 percent of world ship capacity in 2010.

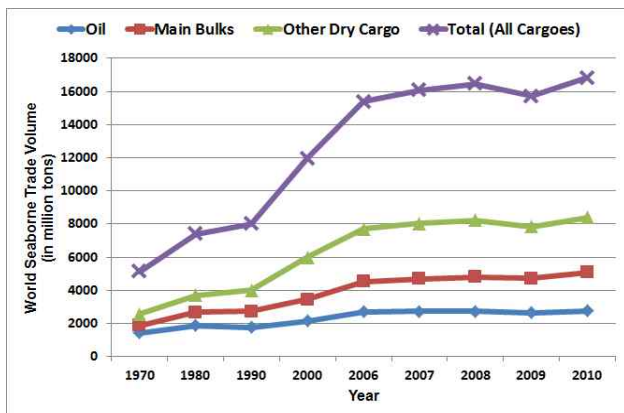


Fig. 5. Annual trend for world trade volume(Maritime Knowledge Centre, 2012).

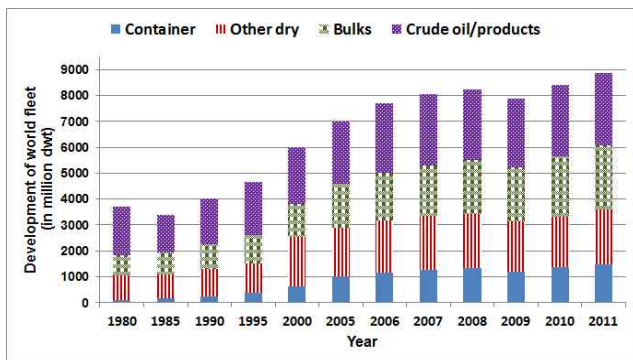


Fig. 6. Annual trend for world fleet expansion(Maritime Knowledge Centre, 2012).

In BIMCO/ISF estimates for the global demand of seafarers in relation to fleet growth, a scenario was presented affecting the supply and demand of sea-based manpower. Stating, an annual increase of 2.3% in the global fleet with the same rate of seafarer supply will result to “hot scenario” or severe seafarer shortage. Considering the data from Fig.5 and 6, it is indicative that severe seafarer shortage is indeed imminent.

Fig. 7 compares the merchant fleet registration for Korea and the Philippines. According to an up-to-date report, the Korean ocean going vessel total tonnage has nearly doubled from 2008 and is now nearing the 30 million gross tons despite global economic downturn in 2008.

The increase in fleet tonnage will be proportionate to other marine related businesses and management. As such, the labor market for Korean maritime graduate offers wide prospect and a seafaring career will become merely a choice to some of the few. In addition, this figure denotes the dormant state of Philippine fleet registration. This setting is reflected by the dependency of Filipino seafarers to foreign shipowners/management for job opportunities.

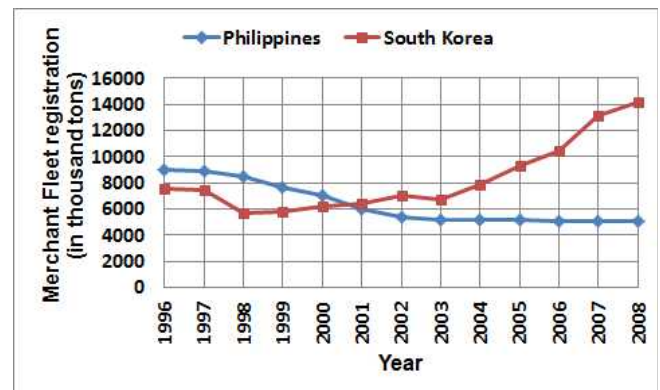


Fig. 7. Merchant fleet expansion(SAJ, 2010).

3.3 Labor force

Fig. 8 and 9 represents the employment trend of Korean seafarers both for state and foreign flag ocean-going vessels. As predicted for OECD member state, the decline in the number of seafarers is evident.

Based on the gathered data, an annual decline in the number of seafarers can be approximated to be at 3.5% and 5.1% for Korean flag and foreign flag vessels respectively. Another significant fact is the number of reserved seafarers on officers and rating category.

Correlating the numbers in this category, the active (onboard) and reserve ratio is seen to be at 15:1 and 11:1

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for the officers and ratings class as shown in Fig. 10. This scenario and the expansion of Korean tonnage will further boost the probability of the shortage in the manpower to man its fleet. In Fig. 11, the population of foreign seafarers on board Korean vessels implies a sustained growth specifically on the ocean going fleet. The Philippines continues its role as the major sea-based manpower provider.

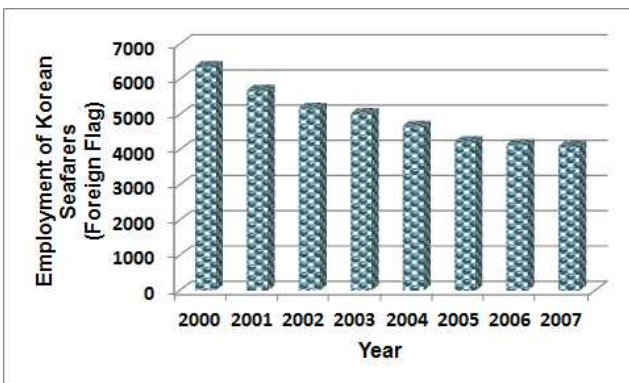


Fig. 8. Deployment of Korean seafarers on foreign flag (MLTM, 2008).

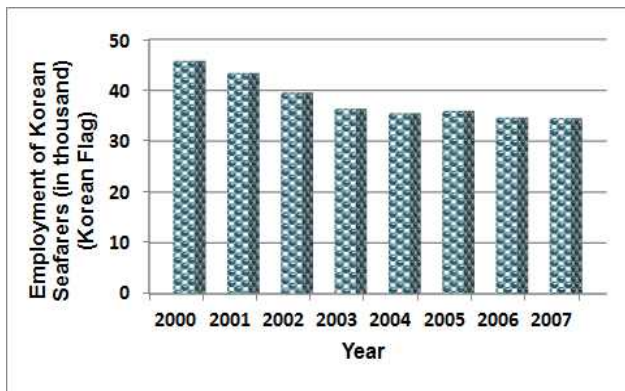


Fig. 9. Deployment of Korean seafarers on State flag (MLTM, 2008).

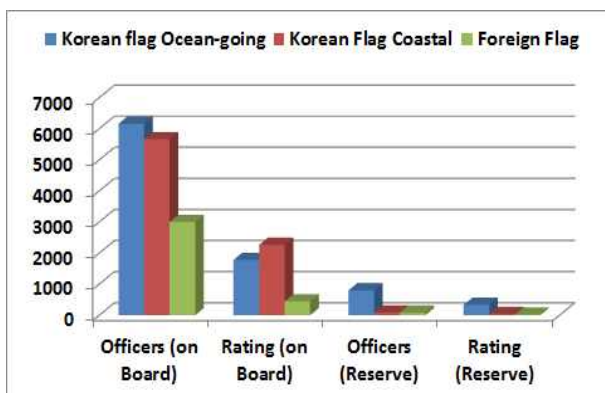


Fig. 10. The ratio on active and reserved Korean seafarers(MLTM, 2008).

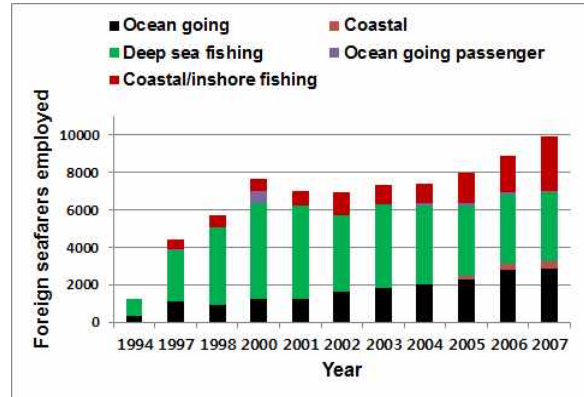


Fig. 11. Trend of foreign seafarers deployed in Korean fleet(MLTM, 2008).

In 2010 data, the country has deployed more than 347,000 seafarers as can be seen in Fig. 12. The number of Filipino seafarers also suffered a drop during the global recession period but has climbed steadily then after. Further, newly registered seafarers figure posted an increase in the past few years helping easing the global demand for seafarers.

Fig. 13 illustrates the occupational category of deployed Filipino seafarers.

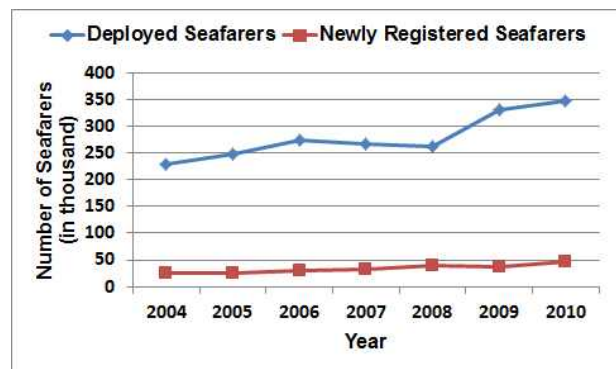


Fig. 12. Philippines annual deployment and newly registered seafarers(POEA, 2010).

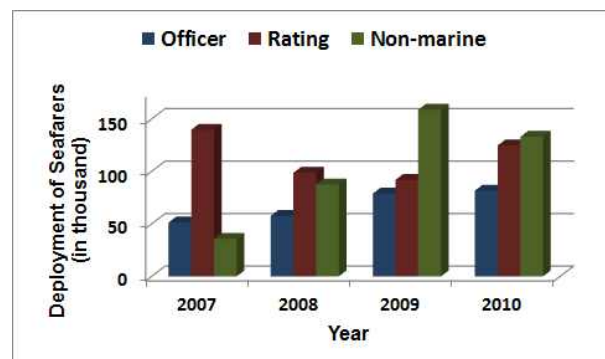


Fig. 13. Seafarer deployment by occupational category (POEA, 2010).

Deployment of Filipino merchant marine officers has continually increased for the past few years. For the rating group, although the deployment figure is unstable, the numbers outweigh that of the officers. Non-marine category points to personnel working onboard vessels as chefs, waiters, and the likes. Fig. 14 shows the top occupational position of Filipino seafarers deployed.

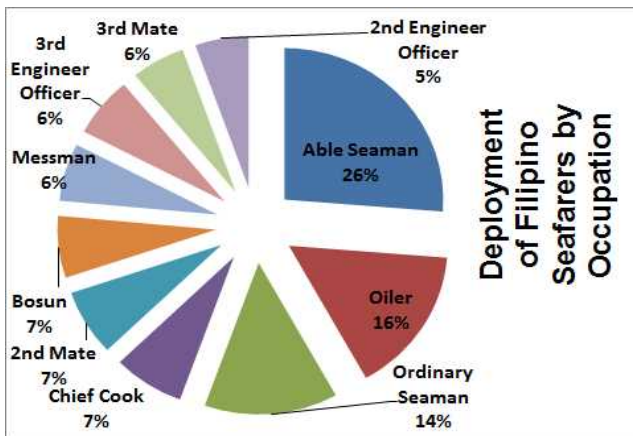


Fig. 14. Deployed Philippine seafarer according to occupational position(POEA, 2010).

4. Conclusion

Maritime graduates' career path dictates a country's constant supply for sea-based manpower either on its own state flag or foreign flag. Shore-based management and shipping related business also offers job opportunities to the maritime graduates. The Republic of Korea and the Philippines are two countries whose economic backbone points to the maritime industry. The total supply of Korean seafarers has been on the decline for both its officers and rating group in recent years. The Philippines, on the other hand, has an indicative surplus in the rating category and a minor shortage for the officer category. However, with the looming scenario on global shortage of seafarer, this paper looked into some influences affecting the supply of seafarer for both countries. The following are seen to assuage, if not completely, this standing circumstance.

1. A mutual co-operation between the Republic of Korea and the Philippines can be established. The Republic of Korea, to sustain the needed manpower for its expanding fleet, may further expand their shipmanning activity through engagement with the sea-based labor force of the Philippines. The Philippines, on the other hand, can

benefit too in this co-operation with the increasing labor market and wider range of employment opportunity to its seafarers.

2. In the IMO program "go to sea", it was revealed that recruitment is the focal point in attracting new entrants to maritime profession. For a maritime country like South Korea, enticing more entrants to "life at sea", a propaganda can be established focusing on awareness of the maritime profession and the attractions of the career at sea. Advertisement showcasing the benefits and the beauty of sea-life can be adopted as an approach for this propaganda. Some literatures have also suggested the recognition of sea service in lieu of military service or/and even tax exemptions can be adopted to attract more entrants.

3. Focusing on international maritime education and training collaboration. This involves tying-up with maritime institution abroad wherein the main objective is to produce qualified and competent seafarers. Specific standards on education and training for both parties can be incorporated in the curricula. As such, the pool of seafarers will not be limited on local graduates but also from the product of this mutual cooperation. On the other end, this will enhance the employment opportunity of maritime students benefiting from this collaboration.

4. The maritime student enrollees to graduate ratio for Philippines represents a high wastage rate. One of the factors seen here is the failure of the students to obtain placement for their shipboard training. As such, government institutions involved in maritime education and training might consider looking into the capability of maritime schools in the country to board their students. This can be adopted as one procedural aspect for the accreditation of the institutions' maritime program.

ACRONYMS

- BIMCO - Baltic and International Maritime Conference
- CHED - Commission on Higher Education
- DOLE - Department of Labor and Employment
- IMO - International Maritime Organization
- ISF - International Shipping Federation
- MLTM - Minister of Land, Transport and Maritime Affairs
- MTC - Maritime Training Council

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OECD - Organization for Economic Cooperation and Development
PAL - Precious Associates Limited
POEA - Philippine Overseas Employment Administration
SAJ - The Shipbuilders' Association of Japan
STCW - Standards of Training, Certification and Watchkeeping
UNCTAD - United Nations Conference on Trade and Development

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