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# The Myanmar JOURNAL

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**A Study on the Cooperative Measures of Korea and  
Myanmar on the Biomass Energy Resource**

# **A Study on the Cooperative Measures of Korea and Myanmar on the Biomass Energy Resource**

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## **Abstract**

As the Kyoto Protocol has been made available to the public, the governments and private companies all over the world have been putting a lot of efforts in securing the alternative technology and resources in order to reduce the greenhouse gas. Meanwhile, the "biomass" resource is magnified as a realistic alternative to resolve the issues on energy and environment. The total amount of biomass being produced on the earth at present is comparable to the overall oil reserve capacity. In the case of Korea, if the power production using biomass increases, most of the raw materials should be imported from overseas as the wood biomass resources are not abundant. In Myanmar, more than 50% of the territory is composed of forests, and because of the warm weather and large precipitation, they seem to be advantageous in the development and production of the wood biomass resource. Thus, this research is aimed to seek cooperative measures regarding the development of biomass energy between Korea and Myanmar by taking into account the reserves and demand of the biomass energy resources of Myanmar and Korea, especially focusing on the wood biomass.

**Key Words:** Biomass, Kyoto Protocol, Renewable energy, Myanmar, Wood pellets

## **I. Introduction**

As the Kyoto Protocol has been made available to the public, the governments and private companies all over the world have been putting a lot of

efforts in securing the alternative technology and resources in order to reduce the greenhouse gas. Meanwhile, the “biomass” resource is magnified as a realistic alternative to resolve the issues on energy and environment.

The biomass resources can be categorized into various groups respect to their properties such as the amyloid group resource which includes the grains and potatoes, the cellulose group resource which includes the agricultural products like herbs, forest trees, rice straws, and chaffs, the sugar group resources which includes the sugar cane and sugar beets, and the animal protein group resources which includes the animal wastes, carcass and the microbial cell. Moreover, the organic wastes from a paper, food scraps and more are also included in a bioenergy resource.

The common rule of classification is dependent on its base material. The wood group biomass which can be obtained easily in the forest can be turned into heat, electricity, gas, bio-diesel, bio-ethanol, etc. through the direct combustion, gasification, liquefaction, and the ethanol fermentation process.

The total amount of biomass being produced on the earth at present is comparable to the overall oil reserve capacity. Unlike the oil that has limited reserves, the biomass has no concern about the exhaustion since it can be produced continuously.

In the case of Korea, if the power production using biomass increases, most of the raw materials should be imported from overseas as the wood biomass resources are not abundant. The North America forms the mainstream of the import line but the price is high and the price fluctuation occurs frequently that the development and provision of the biomass resource that is inexpensive and stable is acutely demanded from the overseas for economic and stable energy production.

In Myanmar, more than 50% of the territory is composed of forests, and because of the warm weather and large precipitation, they seem to be advantageous in the development and production of the wood biomass resource.

Thus, this research is aimed to seek cooperative measures regarding the development of biomass energy between Korea and Myanmar by taking into account the reserves and demand of the biomass energy

resources of Myanmar and Korea focusing on the wood biomass.

## **II. Domestic and Foreign Present Status of Wood Biomass**

### **1. Categories and Features of Biomass**

#### **1.1 Wood Biomass Categories**

The wood biomass refers to the herbaceous plants and trees with cellulose and includes the products stemmed from these or wastes of these, namely, timber, discarded timber, paper, etc. The wood biomass is categorized as a discarded timber which is the by-product of other activities or purposes different from cutting materials retained to be used as it is.

The discarded timber is the timber wastes from the forest destruction, the timber residue which occur in the process of industrial activity, or the timber discarded after it had been used in various purposes. It is categorized as a forest waste that produces in a condition not aimed for the reuse, and waste wood produced from the human activities that aim for the use of timber.

The cutting materials is produced in the maintenance or management process of the forest and it is further categorized as a thriving tree, thinning-out tree, and a regeneration of tree species according to its sources. Most cutting materials are produced in the process of thriving and thinning that these have almost no foreign substances and the properties are relatively uniform that these can be a good fuel when manufactured as a wood chip after drying.

#### **1.2 Features of the wood biomass fuel**

The wood biomass is composed of the three wood components of cellulose, hemicellulose, and lignin, similar to the extract of resin, and the ash. The wood biomass is a fixed-sized solid usually in a chip or pellet form and it can be used as a fuel for the local energy production.

The elements that affect the capacity of the biomass as a fuel are the water content percentage and caloric value and aside from these, the impurities like an ash also affects (Lee, Myeong-gu).

The wood chip is referred to a piece of wood finely cut using the wood chip crusher with the purpose to produce fuel and raw materials for the manufacture of wood products. The size ranges from a size of a cigarette to a match box (50~150mm), and the processing cost and the energy consumption upon processing are small yet the bulk facilities are needed. Moreover, because 12m<sup>3</sup> of wood chip is required in order to produce a calorie equivalent to a 1m<sup>3</sup> oil (based on the 25wt% water content percentage), using the wood chip has demerits that wider fuel storage is required and fuel transportation takes place frequently. The caloric value of a wood chip with 25wt% water content percentage is approximately 14MJ/kg.

The wood pellet is a small, round standardized wood fuel that is produced by compressing a dried wood residue (generally sawdust) produced in the wood processing procedure.

The wood briquette is a high quality fuel produced by compressing the loose biomass raw material in a constant density. The wood briquette can improve the efficiency than using the timber as it is and it is convenient to transport and store, and easy to handle mechanically. It is possible to manufacture wood briquette using by-products of all agriculture or forestry industry but because the biomass waste that has relatively lesser water (less than 15%) is favorable for the briquette production, its production cost is higher than the fuel timber that wood briquettes are not commonly used in the market.

The charcoal is referred to a solid product manufactured by gradually heating the raw material (timber) in an enclosed area where oxygen is insufficient to eliminate the water and volatile matter leaving the carbon only. The charcoal itself is more efficient than the unprocessed biomass but if the manufacture process of charcoal is taken into account, its efficiency is rather low.

## **2. Demands of Biomass in Korea and other Countries**

## 2.1 Korea

In Korea, as the energy generation using the wood biomass is increasing, its demand is rapidly increasing. Currently, East-West Power Co., Ltd. and GS EPS are operating 30MW in Donghae-si and 10MW in Dangjin respectively, and GS EPS invested 300 billion won in Boogok Industrial Complex, Dangjin-si, Chuncheongnam-do and is constructing the 100MW biomass power plant which is to be completed in July, 2015.

With the 100MW power plant that uses the palm fruit skins as its main fuel, GS EPS has the largest capacity in Asia and the 100MW power is the amount that can be used by approximately 110,000 populations. Aside from these, the power generation companies like Korea Western Power are actively considering utilizing the biomass as a power source, which complies with the RPS (Renewable Portfolio Standard) policy of the government, and the demand for biomass is expected to be increasing rapidly? *reviewing the power utilizing the biomass as a RPS policy of the government and its demand is expected to be increasing rapidly*3.

## 2.2 Major Overseas Countries

Although the demands for all fuel will increase, the share of the fossil fuel in the primary energy consumption of the entire world is predicted to be decreasing from 81% in 2010 to 75% in 2035. Only the natural gas will be the only fossil fuel with increasing share among the energy mix of the world until 2035. The nuclear power capacity is forecasted to be increasing but its rate of increase will be slowed down and the share will be reduced. In the field of electric power, the new regenerated energy (new renewable energy?) led by the water power and wind power generation technology will comprise half of the newly installed capacity to satisfy the increasing power demand (Korea Energy Management Corporation, 2012).

Table 1. Bio/waste and Energy Demand Forecast (Units: Mtoe)

Classification	1990	2010	2015	2020	2030	2035	2010-2035 CAAGR
Bio/waste	903	1,277	1,408	1,532	1,755	1,881	1.6%
Other Renewable Energies	36	112	200	299	554	710	7.7%

Despite of the global recession, the investment on the new regenerated energy except the large-scale waterpower generation had increased by 17% reaching all-time high 275 billion dollars in 2011. It is written in the UNEP report, Global Trends in Renewable Energy Investment that the investment amount increased by 6 times compared to 2004 and by 94% compared to 2007 before the global financial crisis (Korea Energy Management Corporation, 2012).

Table 2. Global Bio-energy Power Generation Capacity Long-term Forecasts (Unit: TWh)

Classification	1990	2010	2015	2020	2025	2030	2035	2035 %	2010- 2035 CAAGR
Bio- energy	131	331	474	696	926	1,179	1,487	4%	6.2

Source: Korea Energy Management Corporation, 2012

The reasons behind the increasing investment on the new regenerated energy are the climate change, energy security assurance, and the urgency to eradicate poverty by providing the energy to the rural areas or cities of the developing countries. The employment in the new regenerated energy industry is more than 500 million globally, and the

creation of new jobs has become a driving force of pursuing the new regenerated energy policy.

As the new regenerated energy technology develops into a maturity stage in the market, the amount of new renewable energy generated is forecasted to be increased by 40% compared to 2011. The part of the new regenerated energy technology enabled the expansion of new supplied as it enjoys the economies of scale, and the virtuous cycle namely, the global intensifying competition and cost reduction had started. It is expected that this increase in the amount of new renewable energy generated will be mostly driven by the non-OECD nations, of which will comprise of two-thirds of the new renewable energy generation by 2017.(Korea Energy Management Corporation, 2012).

Table 3. The new regenerated energy provision share by countries (Based on 2011)

Classification	Korea	Denmark	France	USA	Germany	Japan
Provision rate (%)	2.75	25.5	7.8	6.3	12.6	3.7

Source: Korea Energy Management Corporation (2012)

On the other hand, Finland is planning to cover 35~39% of the total power generation (7,860GWh) with biomass power until 2020 by utilizing the abundant forest resources that comprise 87% of the territory. Since 2007, the Forest Cluster Ltd, the strategy center in the field of forestry had installed and the research to deploy the forest resources to the energy business had been processed and in August 2012, the strategy center was expanded and reorganized as Finnish Bio economy Cluster.

The Finland UPM invested total of 150 million Euro in establishing the refinery for the production of the bio fuel base on timbers in 2012, and is planning to produce 120 million liters of bio fuel annually by producing and disposing 100,000 tons of biomass every year.

### III. The Reserve and Demand of Biomass Energy in Myanmar

#### 1. Reserves

Myanmar basically belongs to a tropical region, and the precipitation is abundant throughout the year and the soil is rich that it has large potential on the bioenergy since it is a global producer of main crops like rice, bean, and corn including the forest resources. The biomass can be obtained from various types of renewable resources and Myanmar has a lot of abundant renewable resources like grain, timber, agricultural waste, paper, cardboard, livestock manure, etc.

Although there is no institution managing the new regenerated energy in Myanmar, the Energy and Renewable Energy Group under Myanmar Engineering Society (MES) and New and Renewable Energy Group under Myanmar Industrial Association (MIA) research on the bioenergy and renewable energy and they consult with foreign companies (Yang, Young-chul, 2011).

Table 4. Myanmar biomass resources

Category	Annual production
Rice Husks	4392×10 <sup>3</sup> ton/yr
Lumber Waste	1.5 mil ton/yr
Bagasse	2126×10 <sup>3</sup> ton/yr
Molasses	240×10 <sup>3</sup> ton/yr
Livestock Waste	34421×10 <sup>3</sup> ton/yr

Source: Myanmar Engineering Society

The use of the biomass energy of Myanmar started since 1999 and rice husks and wood chip that are cheap raw materials among the categories of grain are used to produce electricity by utilizing the gas emitted through the gasifiers (Yang, Yeoung-chul, 2011).

Regarding the Clean Development Mechanism Department (CDM), the Myanmar government sets the Ministry of Forestry in 2007 as competent,

and the Clean Development Mechanism Department within the National Commission for Environmental Affairs (NCEA) was installed there have been no particular activities that policies or supporting policies are almost nonexistent (Yang, Young-chul, 2011).

## 2. Demands

Myanmar is very rich in forest biomass resources and it is known that the regeneration rate is high. Currently, most of the forest biomass is usually used in a house as a cooking purpose. However, as the consumption of other energies increases, the consumption weight of biomass is decreasing.

On the other hand, the most of the biomass of Myanmar is reported to be coming from the forests that comprise 50% of the entire territory.

Table 5. Use of energy resources in Myanmar (KTOE)

Classification	For Transportation	For Industry	For Residence
Coal	0	84	0
Petroleum products	1157	181	10
Gas	1	193	1
Biomass	0	0	8,456
Electrical	0	159	176
Total	1158(11%)	617(6%)	8,643(83%)

Source: Aung Hlaing, 2011.

## IV. Korea biomass endowment and demand

### 1. Reserves

The bioenergy natural resources of Korea worth around 141,855,000 toe annually and among these, the consumable resources are 11,627,000 toe which is equivalent to 8.2% of the natural resources. Moreover, with the current technology, the consumable bioenergy resources worth

61,710,000 toe which is around 4.4% of the natural resources. And looking at the natural and soluble resources from the energy provision aspect, the resource with the highest availability in future would be the forest resources, followed by the city wastes and among the city wastes, the waste paper, discarded timber components for combustible materials, agricultural products and by-products, livestock manure, food wastes, and sewage sludge for by-products of anaerobic digestion use biogas.

Table 6. Total Potential of Biomass Energy(Unite: thousand toe)>

Classification	Potential reserves	Available potential	Technical potential
Biomass-energy	141,855	11,656	6,171

Source: Korea Energy Management Corporation (2012)

For the forest biomass, considering that the current cutting quantity of the forest tree is 1,730,000 tons annually, around 12.5% of the soluble potential are judged to be possible to develop technically, and if the annual maximum biomass of 6,600,000 m<sup>3</sup> is converted to energy including timber damaged due to flood, forest fire, disease and pests, and the by-products of the urban development, golf course construction and development, diseases and pests, forest fire and flood, the total of 2,450,000 Toe is available (Ministry of Knowledge Economy, 2001) (Bae, Jeong-hwan & Lee, Bo-ram, 2010).

## 2. Demand

The government announced 「The 3rd Master Plan for National Energy 」 in 2008 to promote the industrialization of the new regenerated energy for low carbon-green growth and ultimately suggested a plan to generate 11% of overall energy with new regenerated energy by 2030 (Korea Energy Management Corporation, 2012).

Table 7. The obligated percentage of new renewable energy generation by year

Year	12	13	14	15	16	17	18	19	20	21	22
Obligated Ratio (%)	2.0	2.5	3.0	3.5	4.0	5.0	6.0	7.0	8.0	9.0	10.0

Table 8. 2013 obligated energy generation amount by obligators (Unit MWh)

Classification		Total obligated generation amount
Group I	Korea Hydro & Nuclear Power Co., Ltd	2,462,729
Group I	Korea South-East Power Co., Ltd.	1,267,213
Group I	Korea Midland Power Co., Ltd.	1,055,337
Group I	Korea Western Power Co., Ltd.	1,140,889
Group I	Korea Southern Power Co., Ltd.	1,285,500
Group I	Korea East-West Power Co., Ltd.	1,156,946
Group II	Korea District Heating Corporation	164,354
Group II	Korea Water Resources Corporation	7,953
Group II	SK E&S	125,974
Group II	GS EPS	131,999
Group II	GS Power	91,364
Group II	POSCO Energy	260,850
Group II	MPC (Yulchon)	59,273
Total		9,210,381

Footnote) The solar is not included in the total obligated generation amount

Footnote) The obligated generation amount in 2013 is 1.051MW when converted.

In the 3rd master plan for the technology development and usage supply of new regenerated energy, the dissemination goal of new regenerated energy is suggested to reach 4.3% by 2015, 6.1% by 2020, and 11.0% by 2040 as the proportion of the new regenerated energy

compared to the 1st energy, and though the concentrated effort, it aims to achieve the grid parity with the same level of cost of the energy generation from fossil fuel of new regenerated energy before 2020.

Table 9. Biomass Demand Forecasting for Electric Power Generation in Korea

	Ton	MW
2014	190,470	40
2015	666,647	140
2016	1,619,001	340
2017	2,571,355	540
2018	3,523,708	740
2019	4,476,062	940
2020	5,428,416	1140

Note: In 2014, biomass demand is based on the currently running 40MW power. A planned operation is included in 2015. For 2016 to 2020, demand forecast has been made with an assumption that there will be a demand increase of 200MW every year.

On the other hand, the government is carrying out the Renewable Portfolio Standard(RPS) policy to increase the electricity generation using the new regenerated energy. It is that they have obliged to produce a fixed rate of power using the new regenerated energy of the generation companies. Moreover, the government made the electric power companies to produce energy using the biomass by including the power production using biomass to the new regenerated energy. The biomass among new regenerated energies is known to be securing the economic feasibility that draws many power generation companies' attention. If the competitive price and stable provision of biomass is assured, its demand is expected to increase rapidly.

#### **IV. Conclusions and Implications**

In order to be prepared for the climate change and the exhaustion of fuel resources, the Korean government presented agenda, "Low Carbon Green Growth", as a preparatory measure. In the 3rd master plan on new renewable energy, which includes action plans for the above agenda's implementation, the aims are set at 11% of substitution of the primary energy consumption with new renewable energy by 2030. Around 30% of the dissemination goal of 2030 new regeneration energy is expected to be charged with the bioenergy.

Moreover, the government is executing the Renewable Portfolio Standard (RPS) policy which obligated the power generation companies to provide specified amount of the gross generation with the new regenerated energy. The obligated provision amount of RPS is set as up to 2% out of the gross generation in 2012 and up to 10% by 2022. Thus, if the power generation companies fail to satisfy the obligated provision amount of the produced power with the new regenerated energy, they will be penalized with fines. Therefore, most of the power generation companies are considering power production using biomass for the RPS policy, and many companies are producing the power production through the biomass appeal.

Korea's demand for the biomass is forecasted to be increasing drastically when incorporating factors of policy factors and amount of biomass available. It is very important to provide cheaper and stable fuel provision in order to have competitive power utilizing the biomass.

On the other hand, Korea has difficulty in satisfying the domestic demand due to lack of biomass resources, and the wood pellet, biomass from North America is expensive that it lacks the cost competitiveness. Therefore, the supply and demand through the foreign development of biomass is urgently required.

At this point, the strategic cooperation between Korea and Myanmar can act as a critical success factor for both countries' energy resource development. Korea needs inexpensive and stable biomass supply while Myanmar needs efficient development of the abundant biomass. Thus, if the capital, technology, and experience of Korea are combined with the

abundant biomass resource of Myanmar, mutual complementary cooperation mechanism would be constructed for both countries' win-win in the long run.

Currently, there is no foreign bioenergy company in Myanmar and Myanmar has large potential on the bioenergy. In other words, it can be an advantage for Korean companies' entry into the Myanmar's bioenergy industry. With the abundant resources needed for the bioenergy production, Myanmar has a large potential for growth. However, they have been unsuccessful in developing and commercializing the biomass until now.

However, there are some issues to be resolved to promote Myanmar's biomass development. First, the interest level of the Myanmar itself and the related legal system are inadequate. Currently, Myanmar is very interested in the development of the new regeneration energy but it is usually limited to the waterpower generation.

Second is the poor social overhead capital. In order to produce, process, and transport the biomass resources, it requires social overhead capitals such as the facilities, road, and port. However, the lack of social overhead capital of Myanmar act as negative influence to the stable production and provision of biomass and there is a possibility to aggravate the competitiveness of the related industry.

Third is the lack of experience and capital regarding the biomass production and processing. In order to cultivate the biomass in a large-scale and process to produce a good quality pellet, the processing factory and related technology is required. Myanmar has not enough capacity to handle the long-term investment on the said field and due to the unprepared related technology, processing and providing the good quality pellet in a large quantity seems difficult.

In order for the biomass produced in Myanmar to have competitiveness in Korea, the following issues need to be resolved.

Firstly, the biomass should be supplied inexpensively. The biomass from Myanmar needs price competitiveness more than anything. It is because the biomass has strong property to substitute the most of the existing energy like charcoal. In other sense, the competitive power of the biomass from Myanmar in the power industry of Korea depends on

how stably the inexpensive large quantity of biomass is obtained. The biomass resource is not only produced in Myanmar but it is being produced in many countries, and many companies have entered into regions with abundant biomass raw materials like grains, crops, and forest, and the local production is processing.

Secondly, the biomass should be produced and provided stably. From the perspective of the consumer of the biomass, what is important is the continuous supply of the biomass. For power industry, a lot of capital is invested to install the production facilities as well as to change the production facility. In other sense, it has an inelastic structure that even if the price and supply of biomass changes, the demand for biomass cannot be reduced or increased drastically. Therefore, if the supply of biomass is judged to be unstable, they would not expand the power production facility that uses biomass as the fuel although there is a profit. Thus, in order to create long-term demand, the stable supply of biomass is necessary.

Thirdly, the good quality biomass should be produced and supplied. The caloric value is different depending on the quality of biomass and the power production through this is different as well. The biomass of good quality increases the caloric value per kg and the power production rate following it; it increases the profit of the power generation company which would increase the demand of Myanmar biomass.

There are also some issues to be resolved beforehand for the mutual improvement of Korea and Myanmar through the joint production of biomass.

Firstly, the government and power generation companies should liaise with each other and enter the biomass market of Myanmar. Myanmar has inadequate regulation related to the social overhead capital that it is judged to have large risk on investments. Therefore, instead of a company independently enter the biomass market and develop, the government should help in lowering the relevant risk through the ODA on Myanmar and in securing the competitiveness of the company. On the other hand, to secure the Myanmar biomass resource, a liaison with the Myanmar forest farm development is considered to be the most

realistic measure. Thus, support is needed for domestic power generation companies to actively participate in the Myanmar forest farm business, and inclusion of the biomass to the support target of the recent foreign resource development law is judged to be a very timely measure.

Secondly, we should be prepared for problems that might occur in the future. The international trade of biomass for the energy use is increasing rapidly. However, the sustainability of biomass and related major issues like a non-tariff barrier must be resolved. As the standards of the sustainability related to the biofuel, there are environmental standards and social standards. Firstly, for the environmental standards, there are carbon fixation saved in the basement indicator, biodiversity protection, use of sustainable water resources, air quality, and soil conservation whereas for the social standards, there are the land right, employment condition, domestic and international compliance with regulations, and food security. The reason why sustainability is important in the international trade of biofuel is that the production of biofuel can lead to negative effects in using the land like deforestation. The measures to solve this would be the production of biomass in fallow ground, scaling of a farm, using wastes and by-products, etc.

Thirdly, the tariff on the biomass imported from Myanmar should be lowered or exempted. The government is operating the tax reduction policy regarding the equipment for production or use of new and renewable energy based on the regulation on the tax reduction (Annex No. 3) of the article 118 of Tax Reduction and Exemption Control Act, to contribute to the vitalization of the domestic biomass industry and market formation by reducing the tax of products of imported equipment for biomass production and use. There are total of 40 items of 5 fields including solar heat, sunlight, wind power, hydrogen fuel cell, and bio. The items of the tax reduction should include the by-products of palm and forest, and bioenergy raw materials like palm oil, coconut oil, tapioca, etc. Especially, the part of the list is treated as a waste that it is difficult to import, so these materials are needed to be eliminated from the list.

Fourth, many developed countries on the other hand, try to satisfy the natural resource demand of their country by making use of aid on

the development of natural resources that developing countries have repulsion for. Therefore, Korea should search for a strategic method to expand the development cooperation on this field while evading this repulsion.

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## **A review on the improvement plans of the Korean elderly's employment in the aged society**

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### **Abstract**

There have been many structural problems increasingly raised regarding the need for the elderly's employment in the aging population. Those include mandatory retirement issues, labor market issues, income-security in old age, weakening of family traditional functions, aggravated burden of welfare finance, and the elderly's right to work. In this paper, the elderly's employment is reviewed in the following aspects: 1) the elderly's labor force participation rate being increased in the recent years, 2) the composition of employees 65 years and older by industry mainly shown in the field of farming, fishing and livestock industry but non in the technical or semi-professional categories, 3) the rate of non-wage workers among employees 65 years and older being at the highest rate, 4) the rate of employers and self-employed being at the highest rate of 55.1%, 5) most elderly involuntarily work due to the poor economic conditions in the old age.

**Key words:** Korea, the elderly's employment, the aged society.

### **1. Introduction**

Korea has recently undergone a social phenomenon called population aging caused by declining birth rate and increased average life expectancy. Population aging is one of the salient demographic changes which have appeared in the world since the mid-20th century. The 65 years-and-over population group has been showing noticeably higher increase than other age groups. Population aging in the demographic structure is a common global phenomenon which has appeared in the process of industrialization and economic growth in each country. It is noticeable that population aging has been very rapidly taken place in

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\* This paper were presented the 2nd YUE and KOMYRA International Joint Conference in 2014.

Korea, whereas it has been gradually occurred in other developed countries over decades. Korea entered an aging society in 2000, the year that when 65 years and over population exceeded 7% of the total population. It is expected that Korea will enter an aged society and the 'super aged society' by 2018, when the 65 years and over population is to account for 14.4% of the population, and by 2026, it will be 20.0%. This speed of population aging is not only a very fast one exceeding Japan which has already become a super aged society but also an unprecedented one never shown before around the world.

The advent of an aged society will become a setback to economic growth. In addition, it will bring about serious social problems such as poverty, diseases, isolation and role loss of the elderly. In particular, senior poverty and the elderly's employment have been emerged as important issues.

The income security policy for the elderly is largely divided into two types. One is the direct income security system representing various pension systems, the basic old-age pension, and basic livelihood security programs. The other is the policy to promote the improvement in the elderly's economic life through the expansion of employment opportunities for the elderly. The elderly employment programs through the provision of employment opportunities for the elderly aim to use the aged, social resources productively and improve their income levels by expanding employment opportunities for the elderly with work capabilities.

The two levels of income support systems shall be established at the same time to improve the elderly's poor economic conditions. However, priority shall be given to the activation of the elderly's employment for healthy the elderly with work capabilities in terms of the government policy directions such as the limitation of social welfare finance and the pursuit of productive welfare policies. The most realistic and practical approach for the elderly income security (individually or nationally) is to expand employment opportunities to the elderly.

## **II. Literature Review**

### **1. Need for the Elderly's Employment**

The elderly needs to keep working because of several reasons such as structural problems, income-security, the weakening of family traditional functions, the aggravated burden of welfare finance and the elderly's right to work.

#### **1.1 Structural Problems**

##### **(1) Increase in the Aging Population**

As the development of scientific and medical technologies and the improvement in living standards have increased the average human life span and reduced mortality, populations around the world have rapidly been aged. The advent of an aging society marks an increase in the non-productive population, consequently young people's burden of supporting the elderly becomes heavier.

##### **(2) Mandatory Retirement Issues**

Mandatory retirement is one type of labor contract concluded between an employer and an employee. When an employee reaches a certain age, the labor contract shall be terminated regardless of his/her participation. Most employees in Korea leave their employment in their fifties. This period corresponds to the times that they shall bear great economic burden due to their children's college entrance and marriages. The improvement in mandatory retirement shall not be left to the judgment of private companies which aim to make profits. It shall be handled as a national project in terms of a reduction in senior welfare spending.

##### **(3) Labor Market Issues**

It is highly desirable, but in reality not so easy to make use of the elderly workforce. Some of the reasons why Korean companies avoid hiring older workers are explained as follows. Firstly, there is the seniority-based wage system which pay levels and pay raise is

determined by the length of continuous service with the same employer, namely allows favorable wages to long-term employees. Secondly, it is considered that older workers are less productive and capable than younger ones from the perspective of the company which pursues new techniques, productivity and creation at the workplace. Thirdly, it is viewed that all employees can be demoralized because personnel congestion appears when the number of long-term employees keeps increasing significantly. Fourthly, companies tend to reduce personnel expenses through the early retirement program to prevent excessive severance payments. The labor force shall be excluded from the exchange relationship if there is nothing provided for the other party in today's labor market. In the same context, senior citizens shall be in a disadvantageous position because the quality of labor force is considered the most important requirement in the labor market. In addition, it is difficult for senior citizens to be employed in the labor market because the elderly's employment is only recommended in private companies.

## **1.2 Income-security in Old Age**

The maintenance of the minimum living in old age, furthermore economic affluence is the most basic element of a stable life in old age. In general, the major four difficulties which the elderly face are poverty, health deterioration, loneliness and isolation and loss of social roles. These difficulties are closely related. It is not too much to say that poverty is the most important issue for the quality of life in old age as a direct influence. Income discontinuity and retirement from work are very significant problems to most of the aged who have not fully prepared for retirement. The pension system related to income security in old age has hardly been applied to Korean senior citizens and the senior allowance system with the nature of general benefits has not yet been established in Korea. The aged who depend on their children's support or have no support at all are largely in a state of poverty.

The main reasons for the elderly's poverty are the loss of labor capabilities caused by aging, an increase in medical expenses resulting from health deterioration, loss of income caused by early retirement and

disconnected opportunities for re-employment, the inadequate Social Security system and others. Even though there are income security means in old age such as asset incomes, incomes from economic activities, severance pay and pensions to eradicate the elderly's poverty, the elderly's independent living seems to become increasingly difficult in an unstable society.

### **1.3 Weakening of Traditional Family Functions**

As the family has got smaller due to industrialization and rapid social changes, people tend to have a tendency toward self-centeredness, which has weakened children's duty to support their parents. As the population has centralized into cities due to industrialization and urbanization and family separation has increased because of overcrowded housing, children's obligation to support their aged parents has been weakened much more. Young married couples in the age of nuclear family do not generally consider their parents' life issues within their unit because they set a higher value on their career achievements and their own family stability.

### **1.4 Aggravated Burden of Welfare Finance**

The responsibility for supporting the elderly has been transferred from family to society due to urbanization and industrialization as well as population aging in Korea. As the subject responsible for supporting the elderly has been changed, the burden of the national welfare finance has gradually become heavier and heavier. The best way to solve this problem in Korea where the rate of welfare budget is the lowest among OECD member countries is that the aged shall find jobs for themselves to reduce the burden of the aged welfare finance and increase their financial profits.

### **1.5 Senior Citizens' Right to Work**

Labor rights and human dignity are declared in the Constitution and

Senior Citizens Welfare Act in Korea. Senior citizens' rights such as the right to social participation and employment rights are claimed in Declaration of the Rights of the Elderly adopted at the General Assembly Meeting of the United Nations in 1971. Therefore, The aged shall have the right to continue working as long as they have physical strength to work with resultant incomes. It is required to provide employment opportunities for the elderly as soon as possible because the demand side has not responded to senior citizens' high employment-oriented tendencies in Korea.

## **2. Status of the Elderly's Employment**

### **2.1 Labor Force Participation and Employment Rates**

The Korean government has prepared employment assistance programs for the elderly in many different ways. One of those programs is to provide the elderly with opportunities for making income and social participation by supplying personalized jobs to the elderly who want to work through senior job placement programs. The Ministry of Health and Welfare secured 221.2 billion won, the amount much more increased than 167.2 billion won in 2012, as the budget for senior job placement programs in 2013 to implement Senior Job Preparation Programs, one of general policies in an aged society. However, it is very difficult for the elderly to find jobs because the number of jobs are too insufficient to meet every one of the elderlies who want to work in reality.

The elderly's labor force participation rates since 2000 are shown in <Table 1>. The rate had continuously increased since it indicated the lowest rate, 28.7% in 2003, until 2008, then it had declined until 2011. However, it has increased again in the recent years. The rate in 2012 was 30.7%, 1.2% higher than the previous year (29.5%). Considering the rate by sex, the male rate was 41.6%, 18.6% higher than the female one (23.0%).

Table 1. An employment rate and labor force participation rate of the elderly

(Unit: %)

year	total		male		female	
	labor force participation rate	employment rate	labor force participation rate	employment rate	labor force participation rate	employment rate
2000	29.6	29.4	40.7	40.3	22.8	22.7
2003	28.7	28.6	39.8	39.6	21.5	21.5
2005	30.0	29.8	41.2	40.8	22.4	22.4
2007	31.3	31.1	42.8	42.5	23.3	23.3
2008	30.6	30.3	41.8	41.4	22.9	22.8
2009	30.1	29.7	41.5	40.8	22.2	22.1
2010	29.4	28.7	40.6	39.5	21.7	21.2
2011	29.5	28.9	40.6	39.6	21.8	21.4
<b>2012</b>	<b>30.7</b>	<b>30.1</b>	<b>41.6</b>	<b>40.7</b>	<b>23.0</b>	<b>22.6</b>

Source: Statistics Korea(2013). Economically active population statistics annual report 2013

## 2.2 Employment Status by Industry

The composition of employees 65 years and older by industry is shown in <Table 2>. People engaged in the field of the farming, fishing and livestock industry formed 52.92%, the highest rate. However, there were neither technician nor semi-professional jobs of which the elderly group was employed as. By taking a closer look, manual laborers' rate was 26.1%, followed by service and sales workers (11.7%) and craftsmen /skilled workers (3.2%).

Table 2. The industrial occupational category of the aged(people aged 65 and over)

(Unit: %)

The industrial occupational category of the aged					
	1994	1998	2004	2008	2011
Total	100	100	100	100	100
agriculture & fishery & livestock industry	56.6	60.4	53.9	51.2	52.9
simple labor	21.1	21.5	27.8	26.2	26.1

service & sales	12.3	8.8	8.8	11.4	11.7
machinery, machinery manipulation and assembly	0.7	0.4	2.7	3.1	2.8
technician	2.7	2.7	1.9	2.8	3.2
executives & manager	-	2	1.8	2.7	1
expert	2.9	1.9	1.3	1.7	2
engineer & semi-expert	0.4	1.1	1.1	0	0
office work	3.3	1.2	0.7	0.9	0.3

Source: Statistics Korea(2013). Economically active population statistics annual report 2013

### 2.3 The Elderly Employees by Position

As shown in <Table 3>, the rate of non-wage workers among employees 65 years and older was 69.1% in 2006. The rate of employers and self-employed was 55.1%. The rate of wage workers was 30.9%. The rate of day worker and temporary workers were respectively 41% and 42.3%. Consequently, one of permanent workers was just 16.9%. When the positions of employees 65 years and older in 2006 are compared with 10 years ago, the rate of wage workers had increased from 21.6% in 1993 to 25.9%, showing a 4.3% increase. It had been very low even though it had increased little by little compared with 30.9% in 2009. The rate of non-wage workers had increased from 33.8% in 1993 to 43.7% in 2003, showing about 10% increase. It had again increased up to 69.1% in 2006.

Table 3. Work status of people aged 65 and over

(Unite: %)

Work status	self-employed	unpaid family business work	wage earner			
			total	regular employee	temporary employee	daily employee
2006	26.5	6.3	67.2	52.8	33.1	14.2
people aged 65 and over	55.1	14.0	30.9	16.9	42.3	41.0

Source: Statistics Korea(2013). Economically active population statistics annual

report 2013

## 2.4 Employment Intention and Reasons

As shown in <Table 4>, the rate of senior citizens between 55 and 79 years old who wanted to work in the future had increased from 59.0% in 2012 to 59.9% in 2013, showing a 0.9% increase. The main reason for employment was to make up for the insufficient living expenses (54.8%), followed by pleasure to work (36.9%). The rate of old men who sought to work was 73.9%, much higher than that of old women (47.4%). 58.8% of old women who sought to work wanted to work due to economic necessity such as 'support for living expenses'. This shows that most of the elderly involuntarily wanted to work due to their worsened economic conditions in the old age. The cases that senior citizens want to work due to social needs, health maintenance or the presence of their capabilities are rare.

Table 4. Employment intention and employment reason(age : 55~79)

(Unite: %)

	work needs in the future	joy of work	living cost supplem ent	social needs	heath mainten ance	tedious ness	etc
2009	57.6	33.6	56.6	1.9	2.6	5.0	0.2
2010	60.1	33.5	56.8	2.4	2.2	4.9	0.3
2011	58.5	35.5	54.9	2.4	2.2	4.8	0.3
2012	59.0	36.5	54.4	2.0	2.1	4.8	0.2
<b>2013</b>	<b>59.9</b>	<b>36.9</b>	<b>54.8</b>	<b>1.9</b>	<b>1.7</b>	<b>4.5</b>	<b>0.2</b>
male	73.9	40.5	<b>51.9</b>	2.6	1.7	3.3	0.1
female	47.7	32.0	<b>58.8</b>	1.0	1.8	6.1	0.3

Source: Statistics Korea(2013). Economically active population statistics annual report 2013

## 2.5 Job Selection Criteria

As shown in <Table 5>, job selection criteria for the elderly between

55 and 79 years in 2013 were identified in the order of 'the amount of work and working time (26.0%)', 'wage levels (24.8%)' and 'possibility of continued employment (18.8%)'. When job selection criteria are viewed by sex, old women mainly chose 'the amount of work and working time (34.8%)' and 'wage levels (23.1%)', while old men largely selected 'wage levels (26.1%)' and 'possibility of continued employment (21.5%)'.

Table 5. Job selection criteria (age : 55~79)

(Unite: %)

	wage level	amount and time zone of labor	details of business affairs	convenient factor (ex :commuting distance)	possibility of continuous employment	relevance of job in the past	etc
2009	38.6	17.3	8.0	3.5	21.7	8.8	2.0
2010	32.8	20.0	9.2	3.7	22.7	9.2	2.4
2011	27.2	21.4	11.6	4.5	22.3	10.5	2.4
2012	29.3	21.8	10.5	4.8	21.8	9.8	1.9
<b>2013</b>	<b>24.8</b>	<b>26.0</b>	<b>12.6</b>	<b>5.3</b>	<b>18.8</b>	<b>11.0</b>	<b>1.6</b>
male	26.1	19.6	13.5	4.0	21.5	13.3	2.0
female	23.1	34.8	11.2	6.9	15.2	7.7	1.0

Source: Statistics Korea(2013). Economically active population statistics annual report 2013

## 2.6 Monthly Wages Levels

When the total average monthly wage of wage workers is considered 100.0 as shown in <Table 6>, the monthly wage level of employees 60 years and older in 2012 is 77.7. When viewed by sex, average monthly wage of old men was 86.4, much higher than that of old women, 53.1. The wage level of employees 60 years and older, which was even higher than the total average monthly wage of wage workers in 1993, had been declining below 100.0 since 1994. In particular, the level of old men's average wage had been declining below 100.0 since 1997\* and stayed around at 80% since 2002.

\* 101.6 in 1996 → 98.8 in 1997

This result shows that the elderly's overall economic condition is poor. It is viewed that the elderly's employment shall be strengthened through an income security plan to earn a living.

Table 6. Monthly wage level of sex distinction (aged 60 and over)  
(average monthly wage level of wage earner = 100)

	1993	1994	1997	2002	2005	2007	2008	2009	2010	2011	2012
aged 60 and over	101.6	<b>98.7</b>	90.4	79.4	78.2	82.4	82.7	80.2	79.1	75.6	<b>77.7</b>
male	113.3	109.2	<b>98.8</b>	85.2	83.5	87.4	88.7	86.4	84.9	82.3	<b>86.4</b>
female	57.5	57.0	56.9	54.7	54.7	58.5	57.9	56.2	56.1	54.0	<b>53.1</b>

Source: Ministry of Employment and Labor(2013),<sup>1</sup>work condition survey of employment status(The former wage system basic statistic survey),<sup>2</sup> annually

1. more than 5 worker company.
2. monthly wage standard

### 3. Problems Related to the Use of the Aged Workforce

#### 3.1 Mandatory Retirement

Even though it is regulated that an effort shall be made to have the mandatory retirement age raised to 60 years or older in the elderly Employment Promotion Act, the actual average retirement age tends to be very low as 57.4 years (Korea Labor Institute, 2012). The mandatory retirement age had already been abolished in the USA and has been forcibly regulated as 65 years in Japan.

#### 3.2 Inadequate Use of the Aged Workforce

The government established 'The Aged Employment Promotion Act' in 1992 and has enforced it until now. However, it has not produced any remarkable results because there is no compulsory enforcement. In addition, even though they know that the elderly work slowly, companies tend to go through with dismissal policies and procedures, not allowing them to continue working by placing them in the appropriate position

again. In other words, there is lack of willingness to make the use of the aged workforce. The aged workforce has been used at a very low level because of the current inadequate systems.

### **3.3 Problems in the Delivery System**

The problems in the delivery system for the elderly's employment are as follows: the fact that central government departments in charge of the elderly's employment are decentralized can act as a factor structurally inhibiting the relevance of the aged employment-related works.

### **3.4 Lack of Social Awareness about the Aged Employment**

Many people think that young people are energetic, have good performance capabilities and show retraining effects even though they are not trustable and have little experience. On the contrary, there is a prevailing perception that the elderly lack performance capabilities, show less re-training effects and have difficulties in learning new techniques even though they are very responsible and have rich knowledge. Above all, the main reason to avoid the aged is that they are inflexible and outdated. The social prejudice to judge that the function or role which the aged can contribute to society being limited shall be corrected for the development of a healthy society.

## **4. Employment Measures and Improvement Plans for the Aged in Korea**

### **4.1 Plans to extend the mandatory retirement age**

The extension of the mandatory retirement age and re-employment for the elderly with motivation and capabilities to work are inevitable plans to reduce the payment of pensions and social security's expenses considering increasing number of senior retirees. Considering the discharge of young workforce into the labor market and the reality of

companies, the mandatory retirement period shall gradually be extended at regular intervals.

#### **4.2 Reorganization of relevant Laws and Systems**

The legal and administrative system shall be strengthened at the same time to promote the employment of the aged workforce. The elderly's employment policy shall be activated according to the active measures of the government because it cannot be applied only to market principles. Most laws and regulations related to senior employment have not really been helpful because they are largely recommended provisions. Therefore, it is necessary to establish compulsory provision like Disabled Persons Employment Promotion Act.

#### **4.3 Improvement in the Wage System**

Workers' long-term services under the seniority-based wage system bring about the burden of personnel expenses in the relevant company. Therefore, the company tends to have their employees retire early before full retirement age or avoid the extension of the retirement age. The preservation for wage reductions required for senior employees' long-term services may be considered through the plan supported at the national level.

#### **4.4 Extended work and re-employment promotion**

The re-employment system is a way that employees who reach full retirement age are first retired and hired again as part-time employees after they are reviewed and screened according to their health conditions, motivation to work and the needs of the relevant company. The extended work system is one that extends the retirement time of those who reach full retirement age for a certain period of time.

#### **4.5 Strengthening of vocational training and programs**

If proper instructions and opportunities are provided so that the elderly with motivation to work can learn new things based on their experience, they can get make incomes and feel a sense of accomplishment. Even though it is regulated that employment training for the aged shall be carried out at senior job placement centers in Korea, employment education or training has not been implemented due to several reasons such as budget issues. Therefore, the functions of the elderly job placement centers shall be strengthened to develop a variety of systematic education programs suitable for the aged jobs and carry out vocational training which can be helpful for the elderly's re-employment. A thorough post-management shall also be conducted, using many different case techniques to maintain the continuous employment status. Moreover, it is required to establish additional educational institutions to carry out the systematic and substantial employment education.

#### **4.6 Efficiency of the Delivery System**

The delivery system shall be changed into the professional operating system to build a systematic delivery system for its efficiency. Job placements for the aged has recently been carried out by the aged job placement institutions of the Ministry of Labor, Ministry of Health and Welfare and local governments. However, it has not efficiently been operated due to low interrelations and a lot of overlapped functions.

### **III. Conclusion**

The 65 years and over population in Korea in 2013 was 11.8% of the total population (Statistics Korea, 2013). It is expected that the rate of 65 years and over population to the total population will reach the world's highest level in 2015. Korea has unprecedentedly been showing the fastest aging speed in the world.

The environmental factors surrounding senior citizens have recently been very poor. Political and administrative alternatives needed to solve or overcome these have fallen short of expectations. In other words,

Government policies or the roles of private institutions for the elderly are very insignificant. Moreover, it is not clear that senior citizens do not make an effort to improve their situations.

The elderly's employment is a means of ensuring old-age income security and of solving many problems such as values of life, health maintenance and leisure time.

Everyone shall grow old to be a senior citizen. The aged issues shall not thoughtlessly be neglected, considering that they are not their own problems, but 'ours' in the near or distant future. The aged employment and re-employment policies shall be necessary alternatives to replace the negative image that the aged are incompetent with a positive image. The government and society shall actively develop and improve policies to create an atmosphere that the aged can work.

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**A Review on the Trends of Korean dramas from  
Korean original comics**

## **A Review on the Trends of Korean dramas from Korean original comics**

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### **Abstract**

Unlike other countries, Korea has its own genre of comics called 'webtoon', which has been gaining popularity over the conventional published comics. Webtoon is Korea's unique form of comics. Korean young people are so enthusiastic about webtoon, which was widely spread founded on the advanced IT infrastructure. Webtoon's strongpoint is not only its exciting story but also its colorful pictures that produced by computer graphics and they are easily available through internet or any other mobile devices. So many Korean people love webtoon that other media like TV dramas, movies, plays, musicals, etc. have been making adaptations of webtoons. Webtoon is a great boom in Korea. Among them, TV drama and movie adaptations can be interpreted as good proofs that the webtoon is a verified 'product'. There is a tendency that materials for movie and TV drama is decreasing though in Japan and United States, making TV drama and movie from comics is increasing. The situation is not so different in Korea, adaption of funny comics into TV drama and movie is not uncommon. Hanryu (Korean wave) is spreading its influence drastically these days and Korean TV drama does big part of it. In this study, possibilities of revive of TV drama industry through Hanryu TV dramas based on comics that is popular in East Asia are reviewed.

**Key Words:** Korean Drama, Webtoon, Hanryu, Comics,

### **I. Introduction**

Published comics industry in Korea is in big frustration. There are many reasons: disesteem on comics in Korean culture, illegal distribution of computer-scanned comics, great number of comic book rental shops, and so on. Most of all, emergence of mouse-scrolling webtoon, has been the biggest impact in the industry which are available for free from the major search portal sites in Korea.

It has been a great joy for young people in Korea nowadays. Including

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\* This paper were presented the 2nd YUE and KOMYRA International Joint Conference in 2014.

the armature, there are hundreds of artists up-loading their webtoons everyday.

Of course, popular ones are very few but once it becomes a hit, there is a big possibility of its adaptation into other media. The reason is good story line and attractive characters that only comics can express. So TV drama and movie makers are keeping eyes on popular comics. In the drought of original materials, comics are relieving rain for the TV drama and movie industry.

In practice, Japan and United States have developed comics industry and making TV drama and movie based on comics have been very common.

Hollywood is always seeking for a new original source and planning on making many super heroes movies.

<Marvel> and <DC> comic based movies have many fans and more series will be made. And they are expanding their business from publication to the screen industry by establishing their own movie companies.

Japan has been globally known for their comics industry and they have been using comics in various industries.

Japanese comics have a big influence to the United States and Europe. Making animation from comics is considered as a matter of course in Japan. Of course it is common in Japan, making not only animation movie but also TV drama and movie from animation.

Korea and Japan in Asian culture area shares similar emotion. There are many cases that Japanese comics based TV drama becomes a big hit in Korea. Korean comics industry has been behind Japan and United States, but since 1990s, comics based TV dramas has become very popular in Korea. So Korea is always seeking for original comics to make adaptations for TV dramas. Hanryu in East Asia these days is spreading through TV dramas.

Hanryu in Japan seemed passed its peek but in China and Southeast Asia, Korean TV drama is still very popular. It will be a good strategy making TV drama based on Korean comics to satisfy the future demand on Korean drama.

## II. Detours

In Korea it was a common practice to convert comics into other media targeting children. But in 2004 the success of Fullhouse (by Won Suyeon) comics based TV drama changed their target to adults.

So why do they use comics as original material? That is, 'interesting' comics can do a role as storyboard so they can sketch TV drama production. And most comics readers have interest and they are potential fans of the recreated TV series.

By Hanryu, TV drama export is increased but new scenario production gets slower. In this situation if we make TV dramas from comics that has many existing fans, the possibility of success will grow.

China is the biggest market for Korea and they want to import more Korean TV dramas and the original material dries fast. Then comics can be the key item for TV drama production. (Mainly China) Advantages of comics based Korean TV Dramas in overseas markets are as follows.

- Stories can be reproduced in various media?
- Persuasive story for people in Asian culture area.
- The familiarity effect by foreign service starting of Korea webtoon.
- Popularity of Korean TV drama that has lasted since the 1990s.
- Hanryu images widespread in the entire Asia.
- Development of high popular Korean historical dramas.
- Loyalty to TV dramas starring Hanryu stars.
- PPLs in TV drama lead to increase of Korean products export.
- Influence of Chinese culture to East Asian countries.
- Vitalization of terrestrial and cable broadcast TV dramas.
- Scouting of Korean writers in China.
- Increasing number of tourists due to raised interests in Korean culture.

Table 1. TV dramas based on comics since 2000s.

Year	Comics	Artist	Drama	Movie
2000	Bicheonmu	Kim hyerin		0
	Secret	Park huijeong		0
2003	2003 Korean female detective Damo	Bang hakgi	0 (MBC)	
	Memories of creeper	Kang cheolsu	0 (KBS2)	
2004	Fighter of the Wind	Bang hakgi		0
	Fullhouse	Won suyeon	0 (KBS2)	
2005	Bad Wife Diary	Kang huiwoo	0 (SBS)	
2006	Goong (Palace)	Park Sohee	0 (MBC)	
	Multicellular girl	B-dalgung		0
	Apartment	Gang pul		0
	Tajja	Heo youngman		0
2007	War of Money	Park ingwon	0(SBS)	
	Double cast	Sin youngwoo		0
	There are two men	Ganggyeongok		0
	Sikkek (Scrounger)	Heo youngman		0
2008	Bicheonmu	Kim hyerin	0(SBS)	
	I love you	Heo youngman	0(SBS)	
	Sikkek (Scrounger)	Heo youngman	0(SBS)	
	Tajja	Heo youngman	0(SBS)	
	The Kingdom of the Winds	Kim Jin	0(KBS2)	
	War of Money	Park ingwon	0(tvN)	
	10, 20 and 30	Gang morim		0
Babo(Stupid)	Gang pul		0	
2009	Iljima	Go wooyoung	0(MBC)	
	Fear of strangers nine	Lee hyeonse	0(MBC)	
	Hot Blood	Park ingwon	0(KBS)	
	Tamnanundoda	Jung hyena	0(MBC)	
2010	Man called god	Park bongseong	0(MBC)	
	Blades of Blood	Park heungyong		0
	Sikkek 2(Scrounger) : Kimchi War	Heo youngman		0
	Moss	Yoon tae ho		0
	Daemul	Park ingwon	0(SBS)	

	Mary Stayed Out All Night	Won suyeon	0(KBS2)	
2011	Love you	Gang pul		0
	Yanoe Baek dongsu	Hong giwoo	0(SBS)	
	Birdie buddy	Lee hyeonse	0(tvN)	
2012	Love you	Gang pul	0(SBS plus)	
	Gaksital	Heo youngman	0(KBS2)	
	Neighbor	Gang pul		0
	26 years	Gang pul		0

### III. Conclusions

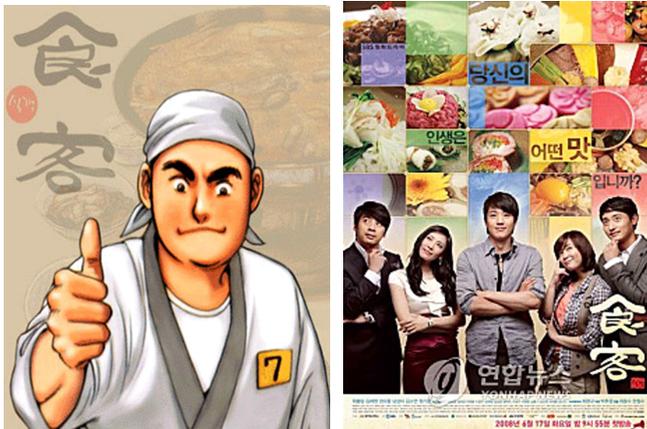
Korea is focusing on so-called OSMU. (One Source Multi Use) It is claimed that comics is very effective content as the original source.

Until now, only Japanese comic-manga has been showing popular reputation worldwide. However, by the development of various media contents using Korean comics, we can expect more possibilities. We have to innovate comics as a distinct industry representing culture through convergence of multimedia.

After Hanryu, Korea's contents export growth rate is 18.5% year average. It is clear that comics will perform critical roles for TV dramas and movies.

Figure 1. TV Dramas based on comic





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**A study on the Myanmar Golf Industry Trends and  
Cooperation Plans with Korea**

## **A study on the Myanmar Golf Industry Trends and Cooperation Plans with Korea**

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### **Abstract**

Along with economic growth, Myanmar's golf industry of deep history also trying to stretch out. For development of Myanmar's golf industry and cooperation with Korea to find out are purpose of this study. Myanmar golf history, golf environment such as weather conditions, the current situation of the golf course, Myanmar golf's future prospects, and problems, and how to develop and cooperation with Korea to find out are main story. The majority of the golf club in Myanmar are old and bad condition. The club house is old and cart load is destroyed. Fairway and green condition are bad condition too. It is need that repair or reconstruction. Overall golf course management consulting and technology transfer is required. The Korea companies can participate in construction of golf courses directly or indirectly. It is also possible that such as South Korea Golf Association management has an explanatory meeting on golf course management, and to participate in the direct management. Education programs and educational facilities for the professional caddy training is also necessary. Korea caddy education-related companies can to participate directly or indirectly. This is a problem that construction and maintenance of the access road to the golf course is also urgently needed. You must also consider the operation of shuttle bus for access golf course. Operation of night golf, get a lot of response. For the installation of lighting equipment, cooperation with lighting affiliate of Korea experienced would help. Development of golf goods in cooperation with tourist a unique program of Myanmar also would be nice. Golf course makeover in the style of the family center also worth recommended. Installation tennis court for family gatherings in the golf course, and swimming pool would be nice. Construction of educational training center for professional golfers and golf beginner is also necessary.

**Key words: Myanmar, Golf, Cooperation**

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\* This paper were presented the 2nd YUE and KOMYRA International Joint Conference in 2014.

## **I. Introduction**

Myanmar was closed countries typical. But after renovation management of the president Thein Sein, bring explosive increase of tourist industry comparison with former times. The foreign tourists visit to Myanmar are increased and they have interesting to Myanmar hotel accommodation industry too. Tourism revenue of Myanmar was 196 million dollars in 2009 prior to the open. However, it became a 254 million U.S. dollars up 36% in 2010 of the first year open. And was up 26 % in 2011 of the second year. The number of tourists to Myanmar is the largest number of Chinese, Korean is a fourth. The number of Korean tourists were 12400 people in 2008. And that was increased to 22500 people in 2011. It tends to increase explosively more from 2012, Air direct flights Incheon between Yangon has occurred.

Along with economic growth, Myanmar's golf industry of deep history also trying to stretch out. For the development of the golf industry in Myanmar, to examine the cooperation scheme with South Korea is an object of the present study. Myanmar golf history, golf environment such as weather conditions, the current situation of the golf course, Myanmar golf's future prospects, and problems, and how to develop and cooperation with Korea to find out are main story.

## **II. Result**

### **1. History of Myanmar Golf**

Myanmar was governed by the United Kingdom during 1885- 1948. Therefore, golf course traditional British that happened at that time are still many. Especially there are many golf course around Yangon.

### **2. The weather condition in Myanmar golf**

Myanmar is the tropical monsoon zone, temperature is 27.4°C, rainfall

is 2,812mm by year average. There are three seasons in Myanmar, summer(the middle ten days in February - the middle ten days in May), the rains(June - August)) and a drier(the middle ten days in October - the middle ten days in February). In summer, no rain and very hot weather upper 30°C is continued. In a drier, refreshing temperature, blue sky and dry wind is continued. That is best condition in golf and gold season. In May and September, cloudy and not hot weather, but some humidity and a squall is seen. The golf play is possible except the rains season.

### **3. The present of Myanmar golf course**

The golf courses of Myanmar have antique and mystic atmosphere. They have good access because are located most near city. Now, about 80 golf course exist in Myanmar. Golfer is increasing with new collars creation by growth of economy. Golf fee is chipper than Korea, and using cart is free option. However, except for the golf course was built anew as Pun Hlaing , club house is almost old, state also not good. The rental golf club also old and no good condition. Closed on Monday almost. Golf course in Myanmar, is as follows now.

#### **3.1 Pun Hlaing Golf Club**

It is designed by golf player Gary. An institution is good. But caddy level is low. Only shower room in club house. No need booking in Weekday. Only 9hole and 1-5person rounding is possible too. For booking, 3-4 person are needed in weekend. It located 16km from city.

#### **3.2 Yangon Golf Club**

It is best olded course in Myanmar, 100 years old(constructed in 1907, governed by the United Kingdom). It hosted many international golf game, and have high level caddy(handy 3-10). However, loss accident occurs occasionally. It located near Yangon airport, cost 40min(25km) from city. Golf lange, swimming pool also be equipped.

### **3.3 City Golf Resort(YCDC)**

It is constructed by YCDC(Yangon City Development Committee) in 1994. 36hole. Be managed by Yangon city. It has silver, pundy course each 6.5 km, 18hole. All Pundy course has lake, water hazard is very difficult. The silver course is longer than pundy and has fast green. If have YCDC card, rounding fee is declined to 50%. For booking, 3-4 person are needed in weekend. It is very high quality course with auto cart. It hosted many Asia golf tour with Yangon Golf Club. It located near Yangon airport, 18km from city.

### **3.4 Myanmar Golf Club**

It is nearest course from city, cost 20min. and have many inclination. And lost property accident some open. Only 9 hole and 1-5person rounding is possible too. For booking, 3-4 person are needed in weekend. It located near Yangon airport, 16km from city.

### **3.5 Hanthawaddy Golf Club**

It is located near Bago, and 65km, 2hour from Yangon city. From the city to enjoy a quiet golf is good. The road to view the countryside. It is famous for good caddy service. Two caddy for one play system is operated. .Even if fall ball in the lake, they just pick up and clean the ball. Hanthawaddy, words that one does not lose the ball to come out.

Full rounding distance is 6.1km. It has many hazard, but generally short and comfortable course. The rounding is possible without booking in weekend too. But caddy level is low and one should be careful in the lost-and-found.

### **3.6 Tallin golf club**

It is operated by Myanmar national oil company. The course(green, fairway, club house etc.) is generally poor condition by poor management.

It located 16km from city. Any time rounding is possible without booking. However, loss accident occurs occasionally.

### **3.7 Yemon golf club**

It has very nice view with lake. The golf fee and accommodation(bungalow) are low. It located 1hour, 55km far from city. Any time, anyone rounding is possible without booking weekend also. However, loss accident occurs occasionally.

### **3.8 Ogolla golf club**

The approximation is good because located in 10km from city. An institution is commonness. Any time, anyone rounding is possible without booking during weekday. However, loss accident occurs occasionally. 3-4 person are needed for booking in weekend.

### **3.9 City Farm & Golf Resort**

It is a golf course as the second project by YCDC, was developed in 2000. Clean water and fresh view is trade mark. Many water hazard like island make difficulty and interesting in rounding. It locate, 90km from city. Full 18hole course, distance is 6.1km.

## **4. The future of Myanmar golf**

Recently, golf industry of Myanmar is watched by relief of punishment by U.S.A., E.U., Australia etc. Myanmar golf has 100years history, but rounding fee is cheaper than other country. Therefore, It is respected that increasing foreign investment and tourist. The super sport of DS TV, digital satellite TV of the Republic of South Africa report that Myanmar golf culture is watched after opening policy(2012.4.24). Also, respected that foreign investment will be increase for luxury golf resort construction. Kilahan who is national athlete of Myanmar in 1980 worldcup, said that Myanmar golf is very attractive to foreigner and

golf industry has possibility of multipotential expansion. Jomoe who is another Myanmar golfer in Japanese tour, said that Development possibility of Myanmar golf industry is bigger than China and the other country around it, and has many talented young player.

Also, I believed that foreign companies if interested in golf of Myanmar, Myanmar government also embark on actively supported. Golf related companies in Korea are also turning to foray into Myanmar to keep pace. Travel agency cites the heat in the development of golf-related tourism products that are based on cheap green fees. The golf goods company, Volbic is hastening expansion to Myanmar market.

Gyung-an Moon, chairman of Volbic and Killa Han, chairman of Asian tour concluded sealing Asian tour title in July.16.2012. It is possible too that Korea organization construct the golf course directly in Myanmar as Cambodia and Laos. Kyoungan in Cambodia and Booyoung and Korao group in Laos are constructing or managing the golf course. Hanjin tour opened 1th a customer inviting golf tour in Myanmar Pun Hlaing Golf Club in Feb. 22. 2013. The AFP dispatch and New Asia.com said that if Myanmar open the door to foreign countries, golf will be best expected part. America golf.com said that Myanmar is rising sun of golf market in Asia and dark horse of Brazil Olympic golf in 2016.

## **5. Problems in Myanmar golf**

- 1) The majority of the golf club in Myanmar are old and bad condition except Pun Hlaing etc. some new golf club. The club house is old and cart load is destroyed. The fitting room is seems to like a boarding house in school and be equipped only a shower room.
- 2) Fairway and green are bad condition. A person spread the water to course with hose because the majority of the golf club in Myanmar are not prepared a sprinkler.
- 3) The rental club is old and not good condition.

- 4) Most caddy level is low and loss accident occurs occasionally.
- 5) The golf course entrance sign is scant. Guide plate of the road has become a local language almost, and because it is not accurate, it is inconvenient to attend foreigners driving themselves.
- 6) Be a power outage in most cities, including Yangon is frequent.
- 7) The road situation to Myanmar golf course is not so good. The golf cart road and ramp also be same situation.

### **III. Discussion**

The majority of the golf club in Myanmar are old and bad condition except Pun Hlaing etc. some new golf club. The club house is old and cart load is destroyed. The fitting room is seems to like a boarding house in school and be equipped only a shower room. Fairway and green are bad condition too. A person spread the water to course with hose because the majority of the golf club in Myanmar are not prepared a sprinkler. It is need that repair or reconstruction. Overall golf course management consulting and technology transfer is required. The Korea companies can participate in construction of golf courses directly or indirectly.(Dong-il Kim, 1997).

The rental club is old and not good condition. Rental Club also must be replaced by available goods. It is also possible that such as South Korea Golf Association management has an explanatory meeting on golf course management, and to participate in the direct management(Yong-han Seok, 2009).

Most caddy level in Myanmar is low. Education programs and educational facilities for the professional caddy training is also necessary. Loss accident occurs occasionally in the golf club too. The caddie cultural education should be clearly revealed. Korea caddy education-related companies can to participate directly or

indirectly.(Geun-mo Lee, 2001).

This is a problem that construction and maintenance of the access road to the golf course is also urgently needed(Jong-pill Choi, 2010). It must also consider the operation of shuttle bus for good access golf course.

Myanmar is relatively hot. Operation of night golf, get a lot of response(Dong-hyun Kim, 2008). However, in the power shortage, power failure occurs frequently in most cities, including Yangon. For the installation of lighting equipment, cooperation with lighting affiliate of Korea experienced would help.

Development of golf goods in cooperation with tourist a unique program of Myanmar also would be nice. Journey of a simple search of the center of the famous tourist attractions in the past was mainly, in recent years, travel products of various themes in the limelight. In particular, such as the journey to find me and meditation has attracted interest. (Jun-soo Shin, 2011). For example, products that were joining the Golf is a mental sport and meditation is sufficient to receive the attention of modern people. And the like forms and should schedule a normal golf in the morning, of having the time of mental training, such as meditation in the afternoon. It will be able to obtain the health of the body in golf, to see the effect of the best of both worlds to get a mental health through meditation.

It is worth, not the individual center, consider also makeover golf course in the center of the family.(Heung- taе Lim,(2007) . Golf course makeover in the style of the family center also worth recommended. Installation tennis court for family gatherings in the golf course, and swimming pool would be nice.

Construction of educational training center for professional golfers and golf beginner is also necessary(Ki-sung Shin, 2011). For example, it is such as construction golf school, golf academy, the training center of the golf-related.

## **IV, Conclusion**

The majority of the golf club in Myanmar are old and bad condition. Fairway and green condition are bad condition too. It is need that repair or reconstruction. Overall golf course management consulting and technology transfer is required. The Korea companies can participate in construction of golf courses directly or indirectly.

Most caddy level in Myanmar is low. Education programs and educational facilities for the professional caddy training is also necessary. Korea caddy education-related companies can to participate directly or indirectly. It must also consider the operation of shuttle bus for good access golf course. Operation of night golf, get a lot of response. For the installation of lighting equipment, cooperation with lighting affiliate of Korea experienced would help. Development of golf goods in cooperation with tourist a unique program of Myanmar also would be nice, such as the journey to find me and meditation has attracted interest. It is worth, not the individual center, consider also makeover golf course in the center of the family. Construction of educational training center for professional golfers and golf beginner is also necessary.

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**Work and Social Status of Women in Korea: Comparison  
between the Traditional and the Modern Society**

## **Work and Social Status of Women in Korea: Comparison between the Traditional and the Modern Society**

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### **Abstract**

The women in traditional society could not have participated in social work and they had been confined in home. But they had not occupied lower status than men in actual everyday life despite lots of constraints. On the other hand, the women in modern society have gained the equal status in labor market as well as men. But some empirical evidences showed that women are still experiencing discrimination. These dual aspects of disparity and equity of historical review reveal that gender discrimination has been diminished but gender difference has not been considered in labor market. This finding shows that the gender difference as well as gender discrimination should be regarded for the gender equality. In this paper, the work and social status of women in traditional and modern society is compared to provide an insight for the gender equality.

**Key words: women's work, gender equity, gender disparity, discrimination**

### **I . Introduction**

Traditionally women worked in the sphere separated from men according to the practice of Naeyoe derived from Confucianism and the patriarchy. The Confucianism regulated women to follow the practice differentiating them with men. It distinguished the role of men and women, so women's work was constrained around home. The patriarchy allowed men to dominate women, and women could not participate freely in the outdoor activities.

In this perspective, most modern researchers suppose that women in traditional patriarchy society had not played the productive role as they

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\* This paper were presented the 2nd YUE and KOMYRA International Joint Conference in 2014.

were in home and that they could not participate in outdoor labor. Most research on the status of traditional women has revealed that they had poor status.

But according to some historical records on traditional society, men and women worked complementary indoors and outdoors. Women were respected by children and people of village. Their husbands did not despise them, they were rather afraid of women. It is inferred from these evidences that they must have had some economic contribution overlook by modern researchers contrary to the general belief.

On the other hand, women in modern society have obtained lots of opportunities to work outdoors up to the same level as men since the industrialization. The constraints for women in outdoor activities have disappeared. The law ensuring the equal opportunities, rights and responsibilities of women in workplace was enacted in 1987. It seems that the status of women in workplace has got to be equivalent to that of men.

However, some empirical evidences show that women are experiencing discrimination even in the modern society which put emphasis on efficiency not gender differentiation. The feminist critiques have pointed out the unequal status of women in workplace. Marchand and Runyon (2000) argued that the patriarchal relations were reinforced in the globalization, although it might empower women.

From these dual aspects of disparity and equality, this article compares the work and social status of women from the past to the present era. Especially it focuses on the equal status in the traditional patriarchal society and the disparity in the modern industrial society. This historical research gives an insight for the assessment to the extent which women had achieved equal status, so the results will provide useful information for developing gender equality policies to the developing countries with patriarchal tradition.

## **II. Research Method and Resources**

To investigate the Korean women's work and status, literature investigation is carried out by using all kinds of records. The economic

contribution of traditional Korean women will be illustrated using literatures written from the eighteenth to nineteenth centuries. In addition to the review, the explanations are supplemented by Korean genre paintings drawn by Hongdo Kim or Yunbok Sin during eighteenth century.

The work and social status of contemporary women will be examined by the statistical data collected by Statistics Korea from 1995 to 2012. The extent of equality and disparity remaining in the labor market between 1995 and 2012 will be assessed by analyzing the given data.

### **III. Work and social status of women in traditional Society**

#### **1. Disparity in traditional Society**

People in traditional society had to follow the practice of Naeyoe based on Confucian differentiating between men and women as ideal spousal relationship (Lee, 1990; Ewha Women's University, 1984; The Korean History Research Association, 1997). Women mostly resided inner rooms separated from the outer residence of men and did indoor household work such as caring for children, preparing meals, sewing or weaving, while men usually carried on outdoor household work or public works. Education was allowed only to the men of high class who were anticipated to work in the public sector (National Museum of Korea, 2006; Lee, 2000). Most women learned the necessary skills or knowledge for life from their mother or female family members.

Women could not contact with men freely for the sake of chastity and they had to hide their face with veils out of doors (National Museum of Korea, 2006; Lee, 2000). This custom was enforced especially to the women of the high class called Yangban. Contrary to constraints on women, men could work outdoors as officers, farmers, craftsmen and salesmen without bridle to outdoor activities, although the kind of work was determined by the social class. Most women had little opportunities to work in public sphere.

The women of the low status could have access to social labor. The slaves called Noby whose status was determined from birth could go

outdoors without any constraints (National Museum of Korea, 2006; Lee, 2000). The slaves called Gungnye worked in palaces and the female Goan-Noby owned by officials worked in offices. There were also some slaves called Kisaeng, who were professional entertainers treating officers or foreign envoys. Samans called Mudang worked in the religious field. There were also some women participating in commercial activities (Kim, 2004). As a whole, most women had few opportunities to work in the public sector except for low class women. The population of low class women occupied almost thirty percents of all at the beginning of Yi dynasty but it had decreased to ten percents at the end of the ear. From this review, it can be drawn that the gender disparity in traditional society existed obviously in public work because women could not participate freely to the productive works in the public sector except some women in lower class.

## **2. Equality in Traditional Society**

Contrary to contemporary women, the traditional women did productive work in private sphere not in public sphere. So traditional women have not recognized as the laborer contributing to social economy(Kim, 2002). In traditional society, the most productive work performed by women was weaving (The Korean Women Research Association, 2000; Kim, 2001). Weaving was the work of all women regardless of class. While men cultivated the farm around house, they could not do weaving. The paintings of Hongdo Kim show the weaving woman and the cultivating men (National Museum of Korea, 2006; Lee, 2000). Women strictly prohibited men from intruding into their territories of weaving as men excluded women in public work. Weaving was the unique work of women carried out without the cooperation with men.

The products of weaving were consumed by family and they were used to support the household economy. They played an important role as currency in the market and it was bartered for the necessary things (Lee, 1997; Youn, 1990). Above all things, they were used to pay for taxes (The Korean Women Research Association, 2000; Kim, 2001). The cloth collected for taxes was used as wages of the public servants. They

contributed to the national economy as the resources for international trade (Maeng, 2000; Youn, 1990).

The value of women's economic productivity was estimated to be three times of men's by Yaak Yong Jung who was a 19th century scholar (Kim, 1972). With this economic contribution women were respected by family especially by children and people in village. Their husbands were even afraid of them according to the record of Geo Jung Seo, because there were quite a few household depended on the works of wives (Kim, 2001).

These findings reveal that women's contribution in traditional society to the household and national economy was substantial. Although they worked indoors unlike the modern women, they did productive work as much the contemporary working women. The labor force of women was not evaluated lower than that of men. The status of women in reality was not so low. Men could not despise women regardless of patriarchal practice because of the labor force.

Although women in traditional society were not educated, they had their own productive work and received respect as much as men in patriarchal society. The Naeyoe practice differentiating men's work from women's made women to protect their territory in the labor market. It kept women's own workplace separating from that of men and ensured the equality from the patriarchal domination of men.

#### **IV. Work and social status of women in modern society**

##### **1 Equality in modern society**

The weaving began to be industrialized around 19th century. Since the productive work possessing the exchangeable value disappeared in home, women's work reduced to the house work such as preparing meals, doing laundry, raising children. House work has been despised as worthless, although it has the characteristics of house hold production. As the productive work of women disappeared in home, women who want to recover their economic role had to find work in the labor market occupied by men earlier. Women could take part in the labor

market outdoors as well as men,

Figure 1 gives an overview of female and male economic activity rates from 1995 to 2012 in Korea. During this period there was a slight increase in female economic activity rates from 48.4 percent to 49.7 percent while the rates for men declined slightly from 75.7 to 74.6<Table 1>. Women's economic activity has increased, although men still have higher rates of participation.

The law ensuring the equal opportunities, rights and responsibilities of women in workplace was enacted in 1987. Obtaining the equal status legally in workplace, women have been apt to enter into the territories preoccupied by men without any obstruction. In the period of 1995-2012, Figure 1 shows the proportion of women as wage earner increased more than that of men. The wage earner percentage of female was 74.0, and that of male was 70.2. The total working hours of women have got similar to those of men in working place. Women worked 175.7 hours for one month, while men worked 185.8 hours in 2012.

Generally education is thought to be a critical factor affecting the quality of labor force (Kim, 2006). The quality of labor of women has been also similar to that of men. Women equally were educated nowadays all the more so the women's educational attainment is higher than men's. The ratios of female educational attainment for university per men's as 100.0 went from 92.9 in 2000 to 108.3 in 2012 <Figure 2>.

## **2. Disparity in modern society**

Although women's labor force participation has increased, the ratio of female wages per man's as 100.0 have changed from 59.8 in 1995 to 68.0 in 2012. The gaps in wages have decreased, but the wages of women are still around two-thirds of men's wages. Even women educated in university earned only 87.9 percent of the average wages of male in 2012 <Figure 3>.

Recently, the proportion of women as wage earner increased more than that of men. The wage earner percentage of female was 74.0, and that of male was 70.2 in 2012<Table 2>. But the regular jobs percentage 38.7 of female was lower than that of male 49.4 in 2012. The proportion

of women with temporary job status was 28.3 percent while that of men was 14.4 percent. The proportion of women in daily employment status was 7.0 percent, while that of men was 6.3 percent. The proportion of women in regular jobs was lower than men but a disproportionately large number of women workers were employed in temporary or daily jobs in 2012. These data show that women have more vulnerable employment status (Statistics Korea, 2012).

In the case of the high wage job over 4th grade of public services, the percentage of women was only 7.3 in 2011. This evidence indicates that regular higher-paid job positions are not offered to women as much as that are offered to men, despite the law to secure gender equality in labor participation. The fact that the employment status of women in labor market is lower than men means there is disparity between women and men.

## **V. Comparison of women's work in the traditional and the modern society**

The work and social status of women have been altered according to the change from traditional farming society to modern industrial society<Table 3>. In the traditional society, women worked in the inner workplace separated by gender. But they played the complementary role in economy. Although they had some constraints by class in entering the public services or outdoor activities and education, they received respectful acknowledgement on their labor value. They were held in respect by the family and the community.

On the other hand, women in modern society could participate in the labor market without any restriction. But they have had to compete with men in the labor market. So they have received lower wage than men and occupied the jobs of lower status. They are educated as the same level as men, but the value of labor has been estimated lower than that of men.

## VI. Conclusions

This article explored the work and social status of women in traditional and modern society. Generally it is said that the women in traditional society had possessed the lower status because they had not participated in productive work. On the other hand, the women in modern society have been regarded to gain the equal status because they participated in the public works as well as men.

But the exploration of the traditional women's work and social status revealed that women had been discriminated in the public territory and outer activities but they had achieved equal acknowledgement on the value of their work with weaving and had been respected by the family. The research on the women in modern labor market showed that they acquired the legal status ensuring equal opportunities and rights in labor market but they have received unequal wage lagged behind men's and occupied lower status jobs. Women are more likely to find employment in less regulated, less well-remunerated jobs than men in masculine labor market.

From these dual aspects of disparity and equality, this research suggests that the factors such as patriarchy, Confucianism, or other culture which are irrelevant to the efficiency and rationality of work still exist in modern economy system. As the women in traditional society had tried to get the exclusive territory of work separated by gender, women in modern society have to search the method to get the equal status if they want to improve the unequal status.

Even if the gender equality law protects women against disparity, gender equality might not be easily realized. Women have to compete with men in the labor market. The married women are not apt to accomplish the dual burdens of rearing children or housework and jobs. It is seldom easy for women to get equal status in the labor market.

This historical review on Korean women provides insight to how women could collaborate with men for equality. The lesson obtained from the comparison is that gender discrimination should be diminished but gender difference in labor has to be considered. If the gender differences could be more acknowledged, then the competition of gender

will be lessened. Adjustment of the ratio of wage or offering secure and permanent job positions for women with sufficient competencies can be some solutions to move forward to the next step of gender equality. The findings from this study will provide a guideline for gender policy to the nations experiencing the gender conflicts in the process of industrialization.

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## Tables and Figures

Table 1. Female and male economic activity rates 1995-2012

	female	male
1995	48.4	75.7
1996	47.9	76.3
1998	47.1	76.4
2000	48.8	76.2
2002	49.8	76.1
2004	49.9	75.1
2006	50.3	74.4
2008	50	74.2
2010	49.4	74.8
2012	49.7	74.6

Data source: Statistics Korea

Table 2. The status of employment of female and male in 2012

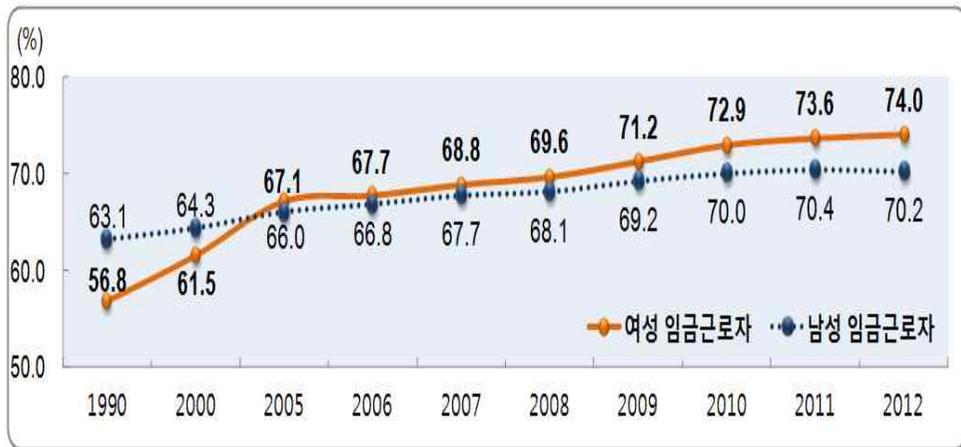
	regular	temporary	daily	Wage earner
Female	38.7	28.3	7.0	74.0
Male	49.4	14.4	6.3	70.2

Data Source: Statistics Korea

Table 3. Comparison of women’s work in the traditional and the modern society

	Traditional society	Modern society
Labor market	Separated by gender	Not separated
Territory of work	Weaving and housework, inner home	Housework and wage labor Inner and outer home
Relationship of women and men	Complementary	Competent
Constraints	Outdoor activities, Public services	High waged jobs Wage gap
Status	Equity in labor value Disparity in law and education	Equity in law and education Disparity in wage

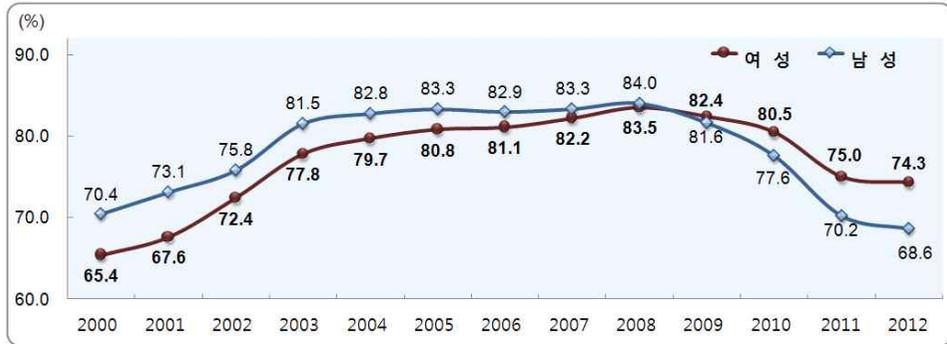
Figure 1. The percentages of wage earner : 1990- 2012



Note: Yellow line: female wage earner, Blue line: male wage earner

Figure source: Statistics Korea

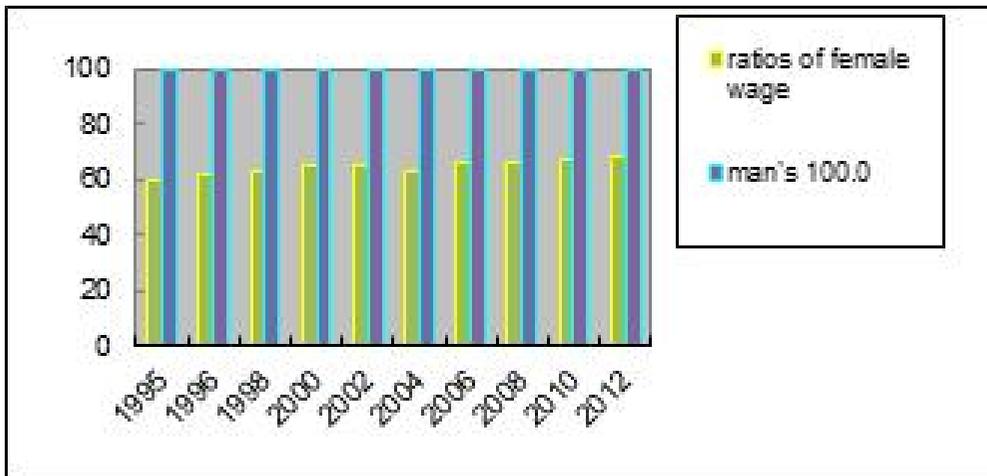
Figure 2. Gender difference of educational attainment for university



Note: Red line: female, Blue line: male

Figure source: Statistics Korea

Figure 3. The ratios of female wages per male's as 100



Date source: Statistics Korea

# **A Study on Treasury Bond Market in Myanmar**

## **A Study on Treasury Bond Market in Myanmar**

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### **Abstract**

These days, Myanmar government's budget expense has increased enormously and the government is raising the fund by issuing the bond. And more finances are needed to be secured to keep supporting the economic development. But the tax revenue, the government's main finance resources is only 4% of GDP, which is not enough to support the development, compared with surrounding countries like Vietnam whose tax revenue is 25% of GDP. This research is going to overview Myanmar bond market and draw some implications to boost the collaboration between Korea and Myanmar. The economic importance of bond, the current state of the bond market, the government's effort of supporting the bond market are to be studied. And the measures to help the relation between two countries are going to be suggested.

**Key words:** Treasury Bond, Myanmar Capital Market, Economic Impacts, Crowding-in Effects, Interest Rate

### **I. Introduction**

Myanmar's economy has been growing fast. The current Myanmar growth rate is around 6-7% and it is expected to be go up to 7-8%. This fast economic growth has been boosted by the Myanmar government's active economic innovation and budget investment by the government.

These days, Myanmar government's budget expense has increased enormously and the government is raising the fund by issuing the bond. And more finances are needed to be secured to keep supporting the economic development. But the tax revenue, the government's main finance resources is only 4% of GDP, which is not sufficient to support the development, compared with surrounding countries like Vietnam whose tax revenue is 25% of GDP.

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\* This paper were presented the 2nd YUE and KOMYRA International Joint Conference in 2014.

The economic effect of bond is considered very important. In the countries whose government don't have sufficient capital, the economic effect of bond is considered more critical.

Myanmar has to make more effective operation on the concerned system and administration to expand the effect of the issuing bond. But the current Myanmar bond issuing and distributing get quite behind such as non-automatic issuing. And the bond interest rate is 9-11% and the one in open market is 8-13%, which is quite high, compared to other countries.

This study is going to overview Myanmar bond market and draw some implications to boost the collaboration between Korea and Myanmar. The economic importance of bond, the current state of the bond market, the government's effort of supporting the bond market are to be studied. And the measures to help the relation between two countries are going to be suggested.

## II. The Economic Effects of Government Bonds

There are several perspectives on the role of issuing bond and its economic effects. First, there is a negative argument that the effects of issuing bond is feeble because the increase of government's debt raises the market interest rate, which crowds out private investments. Second, there is a dissenting argument that the increase of government's debt raises the market interest rate, which irritate the economic agents to assume the prospective raising of tax and to save more income. So it offset by the deficit, because there is no economic effect. Finally, there is a positive argument that issuing bond has good economic effect on the developing countries. In the shortage of capital, the expansion of budget makes no influence on the interest rate nor makes the rate drop, which promotes private investments and boost the economy. It has crowding-in effect.

Table 1. Existing Studies of Economic Impacts on Treasury Bond

Researchers	Results
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Eunsook Seo, et al(2013.9)	- In credit crunch, the expansion of government's debt can have crowding-in effect.
Aschauer(1989)	- The investment will be increased if the capital accumulation is promoted by the brisk public investment.
Argimon, Gonzale-Paramo, and Roldan(1997)	- The public investment has broad crowding-in effects on private sectors in OECD countries.
Hatano(2010)	- Crowding-in effects in public investment on the private investment in Japan.
Krugman(2009)	- Active expanding of government's expense can promote the private investment.
Werning(2011)	- Crowding-in effects should be induced by active government's budget expansion in the beginning of liquidity trap.

There are many studies focusing on the economic importances of issuing bond. Eunsook Seo, et al(2013) analyzed that the expansion of government's debt offset the negative effect of interest rate dramatically in credit crisis situation or global finance crisis. In credit crunch, the expansion of government's debt can have crowding-in effect. Aschauer(1989) suggested in his study that the productivity of private investment will be improved and the investment will be increased if the capital accumulation is promoted by the brisk public investment. Argimon, Gonzale-Paramo, and Roldan(1997) proved that the public investment has broad crowding-in effects on private sectors in their analysis of actual proof on OECD countries. Hatano(2010) apprehended that there should be crowding-in effects after researching the influence of public investment on the private investment in Japan. Krugman(2009) suggested that there is low chance of having crowding-out effects in economic dragging situation such as finance crunch because it is unlikely to have any chance of investment decrease and interest raise under the government's expansion even in the economic dragging situation. He asserted that active expanding of government's expense can promote the private investment. Werning(2011) asserted that crowding-in effects should be induced by active government's budget expansion in

the beginning of liquidity trap which can minimize the crowding-in effects.

Table 2. Myanmar Treasury Bond Role

Researchers	Results
Soe Thein (2014.4)	- Bond issued by government is efficient way to control the finance
IMF(2013)	- Can reduce inflation through issuing treasury bonds
Central Bank of Myanmar (www.cbm.gov.mm)	- Need issuing treasury bond to activate capital market

The following analyses show the importance of issuing bond in Myanmar. Soe Thein (2014.4), the ex-vice director of National Budget Administration emphasized the importance of government's issuing bond and interest rate adjustment to administrate the national budget in a more effective way. IMF(2013) predicted that the average inflation in Myanmar, 5.6% will be dropped by 4% if the government substitute its deficit with bond financing and perform a consistent monetary policy. Central Bank of Myanmar(CBM) admitted the importance of bond and have issued so far to secure the capital needed to develop the national economy.

### III. Analysis on the Myanmar Government Bond Market

#### 1. Economic Status and the Need for Government Bonds

Myanmar is making a rapid economic innovation in many sectors such as currency, monetary exchange, tax collection, public expenditure, business & investment circumstance, capital market, agriculture, free trading, etc. By taking advantage of the enforcement of active open policies, the recent GDP growth has increased from 7.3% in 2012 to 7.5% in 2013 and is expected to grow further of more than 7.8% in 2014 and 2015(ADB, 2014.3).

Table 3. Myanmar's main economic indicators

	2009	2010	2011	2012	2013
GDP Growth Rate(%)	5.1	5.3	5.9	6.4	6.8
Per Capita GDP(USD)	587	742	900	868	915
Total Revenue, in % of GDP	10.7	11.4	12.0	23.0	23.4
Total Expenditure, in % of GDP	15.6	16.9	16.6	26.6	28.4
Fiscal Deficit to GDP (%)	4.9	5.4	4.6	3.7	5.0
Current Account Balance to GDP (%)	-1.3	-1.9	-2.4	-4.4	-4.3

Source: IMF, <http://www.econstats.com/>

A considerable amount of capital is needed to boost the economic development both in public and private sectors in developing countries like Myanmar. In order to promote the economic development, it is necessary to have sufficient amount of capital. (Kyaw Myo Htoon, 2014). The main source of government budget is tax, which takes up only 4% of GDP(revenue to GDP ratio). The portion is very low, compared to other countries like Vietnam(25%), Cambodia(15%) and Bangladesh(10%). Myanmar government has played a leading role in constructing infrastructure for its economic development like other under-developed countries. The government expense has been expanding for several years so far owing to the expansion of infrastructure construction. This budget deficit has been supplemented by issuing bond(May Toe Win, 2010).

## 2. Government Debt

The total government debt of Myanmar is 20.98 trillion US dollars in 2013 and the portion of debt in GDP is 37%. In March 2013, the public debt has gone up to 10.82 trillion Kyat. After the commencement of the new government, 1,657 million Kyat worth of bond and securities were sold in 2011-2012 fiscal year and 886 million Kyat worth of bond were sold in 2012-2013 fiscal year.

Table 4. Myanmar's Govt gross debt

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Govt gross debt % of GDP	110.05	89.86	109.24	140.95	107.30	88.70	84.93	81.20	68.79	49.56	42.45	44.58	42.87
Govt gross debt National currency   Billions	1771.59	1968.20	2788.50	5001.50	6035.94	6844.62	7710.37	9976.49	11592.26	11565.87	12215.25	14420.92	15618.66

Source : IMF, <http://www.econstats.com/>

Table 5. Myanmar's Govt lending/borrowing

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Govt net lending/borrowing % of GDP	-0.4280	-1.263	-3.374	-2.989	-1.266	-3.458	-1.964	-1.476	-2.282	-1.971	-0.5980	-3.138	-4.524
Govt net lending/borrowing National currency   Billions	-6.890	-27.67	-86.14	-106.07	-71.21	-266.87	-178.27	-181.34	-384.50	-459.99	-172.05	-1015.20	-1648.39

Source : IMF, <http://www.econstats.com/>

### 3. Treasury Market Status and Distribution System

#### 3.1 Treasury Market Status

The capital market in Myanmar is in its early stage. The government realizes the necessity of direct finance market and tries to nurture the finance market with the help of finance-developed countries(Capital Markets Weekly, 2012.5). Myanmar Ministry of Finance(MOF) is examining various systems to boost the stimulation of distributing market as the market is still not well-established despite the fact that there exists a bonding market.

In spite of Myanmar Securities Exchange Centre(MSEC) where the bonds can be exchanged, the capital market is very weak such as securities company, organized stock exchange, central depositing institution. In 1996, the state-run Myanmar Economic Bank(MEB) founded small stock exchange with the cooperation of Daiwa in Japan, but only 2 companies have been listed in the market.

Table 6. Long-term Government Bond Interest Rate(Unit: %)

Interest rates	'08.	'09.	'10.	'11.	'12.	'13.	'14.2.4.
5 Yrs Rate	11	11	11.5	11.5	9.5	9.5	9.5
CBM Rate	12	12	12	12	10	10	10
Bank loans best interest	17	17	17	15	13	13	13
Lowest bank interest	12	12	12	10	8	8	8

Source : Myanmar Statistics, Central Bank of Myanmar(<http://www.cbm.gov.mm>)

The new government is cooperating with other Asian countries and reinforcing the collaboration to secure the infrastructure for new capital market. In April 2012, Central Bank of Myanmar(CBM) signed an MOU agreement with Tokyo stock exchange and Daiwa security company and concluded to open a stock exchange in Myanmar.

MOF established Securities Exchange Law in 2013 and will found Myanmar Stock Exchange and Central Securities Depository.

Myanmar is issuing bonds with 2 year maturity, 3 year one and 5 year one. The interest rate of 5 year maturity bond is 9.5%. The interest rate of CBM is keeping high with 10%.

### 3.2 Treasury Bond Issuance Market

90% of the total bond issued in Myanmar are taken directly by private bank through CBM. The rest are distributed to personal investors through national MEB and MSEC.

Myanmar adopted bond registering system and gives the registration numbers without issuing real securities in private banks. But personal investors get real securities. CBM manages bond registration in manual way and the owners in the registration are private bankers and personal investors through MEB and MSEC.

MEB and MSEC, the national bond distributing institution are managing the uniformed securities directly. When securities are sold separately, the issue is informed to CBM on a weekly basis and listed on the register.

Bonds are issued with 2, 3, or 5 year maturity. Bonds are directly

purchased by personal investors or domestic investors through MEB or MSEC. The current bond interests are 8.75% with 2 year maturity, 9.0% with 3 year maturity, and 9.5% with 5 year maturity.

National bonds are the only way to make investments in Myanmar bonds market. There is no other way to invest in Myanmar bonds market(May Toe Win, 2010).

Table 7. Myanmar: Revenue, Expenditure, Debt, in % of GDP>

	2009/10	2010/11	2011/12	2012/13 EST	2013/14 PROJ
Total revenue	10.7	11.4	12.0	23.0	23.4
Total expenditure	15.6	16.9	16.6	26.6	28.4
Net lending (+)/borrowing (-)	-4.9	-5.4	-4.6	-3.7	-5.0
Domestic public debt	18.7	21.0	22.5	22.6	22.4
Total external debt (billions of U.S. dollars)	13.8	14.4	15.3	13.7	11.7
- In % of GDP	36.1	29.0	27.3	24.8	19.7
- External debt arrears(billions of U.S. dollars)	9.3	9.9	10.8	4.8	-

Source: IMF, 2013.

### 3.3 Treasury Bond Exchange Market

On January 1 of 2010, state-run MEB and MSEC were designated as sellers to develop the bonds market and market infra. Secondary market trading was allowed in April 2013. Myanmar bonds are purchased mainly by private banks. Private banks are buying bonds to maintain powerful liquidity because CBM let private banks substitute reserve requirement with national bond

Individuals and organizations can buy treasury bond but only CBM can buy treasury bills. In Myanmar treasury bonds market, private banks have been allowed to buy and sell treasury bond through MSEC from 2011. But the distributing market is weak and dealings are achieved 7-8 times a month. Private bankers can buy and sell the treasury bond only

through MSEC, the IDB(inter dealer broker) using registration numbers. Money approvals are made by the accounts opened in CBM.

Individuals can buy and sell only through MEB and MSEC, the separate selling operators. Sellers present real securities to separate selling operators and receive the money back. When buyers deposit the money and get the real securities, the deals are completed.

Table 8. Treasury investment of major investors (2009.6.30)

Name of Banks	Amount of Bond Purchased (Kyat in Million)	Share(%)
Kanbawza Bank	100,000.00	29.65
Myawaddy Bank	75,300.00	22.33
Myanmar Livestock & Fisheries Development Bank	43,000.00	12.75
Remaining 12 Banks	118,950.00	35.27
Total	337,250.00	100.00

Source: CBM, <http://www.cbm.gov.mm>

#### IV. Treasury Bond Market Development Efforts in Myanmar

“Capital Market Study Society” led by vice president of Myanmar Central Bank was founded to research the ways to develop capital market on October 19, 2006. Capital Market Development Committee led by administrator of Finance Ministry was also founded on July 1, 2008 to develop the capital market in Myanmar.

Myanmar bonds market was initiated with the support of JAFTA (Japan-ASEAN Fund for the Technical Assistance) on the basis of MBMI(Asian Bond Market Initiative). ASEAN office designated DIR(Daiwa Institute of Research) as technical supporter for bond market. The first stage of the support was done from June, 2011 to May 2012 and second one has been started since June 2013.

The purposes of Technical Assistance on Developing Bond Markets for Myanmar - Phase I are the following.

- 1) Examining current situation and identifying problems in the finance

sector

- 2) Examining supply and prospective needs for fixed income securities
- 3) Examining suggestions, solutions, problems and pre-demanding need for operating bond market such as operating circumstances and infra
- 4) Examining system and ability of MOF and CBM
- 5) Road map and management program coupled with MOF strategies on developing bond market

The effects of Technical Assistance on Developing Bond Markets for Myanmar - Phase I are the following.

- 1) Analyzing the existing system and management on fixed income securities market and examining the necessary measures on issuers, investors and infra
- 2) Developing overall road map for bond market promotion
- 3) Practical operating programs
- 4) Publishing the final report

The purposes of Technical Assistance on Developing Bond Markets for Myanmar - Phase II are as follows.

- 1) Developing primary market, methods of bond issuing, and planning of new ways for treasury bond issuing
- 2) Development of bond trading
- 3) Securities Settlement System
- 4) Expanding financial literacy

The total expenses for the projects including the consulting expenses Phase I & II are supported by JAFTA(CBM, 2014. 4)

The Stock Exchange Law which is crucial for developing Myanmar bond market was enacted on July, 2013. The Stock Exchange Law defines stock as 1) treasury bill, treasury bond, bond, debenture issued by government or governmental organization 2) treasury bills, treasury bonds, bonds and debentures issued by international organizations or foreign governments.

The second chapter in the Stock Exchange Law defines the purpose of the exchange laws. The main purpose of the stock exchange law is to secure the money for developing the economy through activating the stock market. The following explores the defined purposes in more

depth.

- 1) to develop the market-oriented economic system effectively
- 2) to introduce systematic emergence of the securities market which can supply the long-term capitals for national economy development
- 3) to develop economy by promoting the effectiveness of the national and private finance companies
- 4) to monitor securities industry's proper operation
- 5) to protect the people concerned in the securities industry by laws
- 6) to support the government's finance policy by encouraging people to invest

## V. Conclusions and Implications

Myanmar's economy has been growing fast and has strong will to develop the economy. A considerable amount of capital is needed for economic growth but securing sufficient amount of capital by tax collecting is not easy. Therefore, securing sufficient amount of fund through treasury bond market is critical for the country.

The current bond market in Myanmar is very poor and primitive. The government is trying to secure the capital by developing the capital market. But there are many difficulties that need to be resolved such as system, infra, and personnel concerns.

Table 9. Myanmar government bond market complementary approach

<Korea side cooperation matters>	<Myanmar side cooperation matters>
○ Provide efficient capital market regulatory system and infrastructure	○ Provide long-term and favorable capital market
○ Providing investment capital for the capital market enabled (for example, pension funds, etc.)	○ Provide stable and high yield bonds

Myanmar has large territory and abundant natural resources and is

located in advantageous position between China and India. The country has plentiful of manpower and high growth potential. These beneficial factors have induced many countries to consider investing in Myanmar's capital market, constructing financial infra, and founding financial companies. Some of the countries want to construct their financial system in Myanmar such as stock exchange infra.

Korean government resumed credit assistance that was stopped in 2005 and support companies' expansion in the country with making "Myanmar support group". But Japanese government and its companies expansion are firm in Myanmar finance market and the cooperation between two countries are strong. The possibility of Korean participation in Myanmar finance market seems not so strong.

But Myanmar government has strong will for economic development and may want to use Korea as a middleman to restrain both Chinese and Japanese influence, which can be a good opportunity for Korea. And ADB who is the advisory organization to Myanmar government considers Korea as a better development model than Japan. Also, even after the Myanmar Central Bank became organizationally independent from the Finance Ministry, Finance Ministry still has the practical control over the finance market, which may benefit to Korea's expansion in Myanmar finance market. Therefore, win-win approaches for the benefit of both countries need to be considered.

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**A Study on the Color Reproducibility by G7 Calibration  
Application for Printing Standardization of Coated Paper for  
Package**

## **A Study on the Color Reproducibility by G7 Calibration Application for Printing Standardization of Coated Paper for Package<sup>4)</sup>**

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### **Abstract**

This research applied G7 calibration printing by method that paper characteristics keeps good color reappearance and consistent quality in other package printing. Printing result estimated color repeatability that become basis of printing quality estimation. Result that evaluate solid density and CIEL\*a\*b\* value of C, M, Y, K, color difference, delta L\*, delta Ch, gray balance, half-tone dot reappearance (TVI) appeared according to GRACoL2006 coated1v2 standard that require by standard in printing of coated paper for package. This result can utilize to basic data of guide and quality improvement that evaluate printability of coated paper for package.

This research is supported by Ministry of Culture, Sports and Tourism(MCST) and Korea Creative Content Agency(KOCCA) in the Culture Technology(CT) Research & Development Program

**Key words: package printing, color management, G7 calibration, gray balance, color difference**

## **I. Introduction**

Cost of sales dominates ratio more than about 80% in total sales in packaging industry. Specially, account that raw material purchase

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4) This research is supported by Ministry of Culture, Sports and Tourism(MCST) and Korea Creative Content Agency(KOCCA) in the Culture Technology(CT) Research & Development Program

expense among manufacturing cost holds is industry that raw material dependence is high about whole 60 ~ 70%. Much of material is paper or PP, PE etc. Also, it can be said that is all kinds of small quantity production industry because package quality of the material changes according to quantity and form, and weight and volume of content.

Package industry have grown steadily by continuous increase of domestic demand and export amount of materials according to economic strength of inside and outside of the country with service and distribution industry etc. that is farm produce and processed food that is primary industry in light industry putting first according to industrial structure change, and tertiary industry.

Packaging industry sales scale was assumed by total 33.4227 trillion won in 2011 to '2012, packaging industry statistical research' of Ministry of Industry ordinary. Also, compare with 2010 and increased 6.8%. This was investigated that increase fast by 2 times of world packaging market (about \$670 billion, \$820 billion, 3% growth rate by 2016). Specially, stamping and visual effect, and packaging of brand and corporate image that packaging can explain to consumer with protection function of product of externally one kind of valuation basis optimum color repeatability be.

Therefore, apply GRACoL G7 calibration by method to keep good color reappearance and consistent quality in package printing and did offset printing("Alliance(2012), Calibrating, Printing and Proofing by the G7 Method(G7 How To), International Digital Enterprise Alliance, Inc."). Specially, in this research, selected package coated paper 3 for been selling representative because domestic paper-making companies produce.

Printing used equal printing condition and international printing quality estimation test form.

Printing result wished to utilize to basic data of package coated paper printability estimation guide and quality improvement by inflecting estimation tool that is certified ISO("http://ipc.printing.org") and present color repeatability by C, M, Y, K relationship solid density and CIEL\*a\*b\* value, contrast reappearance characteristics, gray balance, dot gain through TVI curve characteristics and color gamut in CIEL\*a\*b\* color space, color difference etc.

## II. Experiment

### 1. Printing ink and paper

The C, M, Y, K ink that use in test printing was sole-free ink of DI, Inc. that is correct in ISO 2846-1. Is same with Figure 1 as result that confirms spectral reflectance to visible wave region by ink. Spectrophotometer that use this time was X-Rite iliSis. Observer was 2° visual field under measurement condition. Illumination was D50, 0/45 ° (geometry), and background was black (status T standard).

Printing paper refers ISO 12647-2 paper type 1&2 with Table 1 and Sample A, B selected Neo Star Art (180gsm coated paper) and Neo CCP (240gsm) of the Moorim Paper, Inc. Sample C used selecting Hi-Q SC (240gsm) of the Hansol Paper, Inc. When wave and color difference  $\Delta E^*_{ab}$  that compare CIEL\*a\*b\* value with ISO standard are Sample A, B, was in tolerance 3 by 2.6, 1.6. But, when is Sample C,  $\Delta E^*_{ab}$  was 5.5. This was out of tolerance 3 by result by big difference of L\* value("ISO 12647-2:2007 Graphic technology, Process control for the production of half-tone colour separations, proof and production prints-Part 2: Offset lithographic processes.").

### 2. Experiment method

#### 2.1 Printing condition

Original(IDEAlliance test form) that use in test printing optimum C, M, Y, K solid density and CIEL\*a\*b\* value for color management with Figure 3, right and left ink-key balance, TVI curve, dot gain of ink, trapping efficiency of secondary color R, G, B, gray balance color bar that can confirm, P2P target, image etc. include .

Also, IDEAlliance test form includes IT 8.7/4 target that is consisted of 1,649 color patches that is necessary in ICC profile manufacture.

The C, M, Y, K printing plate with Table 1 used Fuji FDT thermal type of the Fujifilm, Inc. Plate output condition was round dot of 175lpi, and output printing plate through Trueflownet workflow (Rip) of the

Dainippon Screen, Inc. ("CGS. Reference Manuals for ORIS Products"). Also, press used LITHRONE S40 5 color press of the Komori Ltd. This time, blanket used 1.96mm thickness that is Vulcan Folio of the Trelleborg, Inc. IPA content of Fountain was 6%, and temperature is 10.2°C, and pH is 5.5, and conductance was 970 $\mu$ s/cm. Present fountain condition existed in pH 5.5 ~ 6.5, conductance 800~1,500 $\mu$ s/cm that is fountain standard that it is informed usually ("JAGAT(2009), Working order and knowledge of offset printing technology(pp. 201-202, 299-301), Korea Research Institute for Vocational Education & Training(2011), Printing•Photographic Materials, Ministry of Education(pp. 262-263)").

## 2.2 Printing method

### (1) Decision of Solid density and CIEL\*a\*b\* value by package paper

In this research, we found optimum solid density and CIEL\*a\*b\* value that is basis of color management to refer GRACoL2006 coatedlv2 standard in test printing. As well as, printed test target to confirm roller state of press, uniformity of ink supply, symmetry of ink-key value and responsibility. In experiment method printing progress direction of test target C-> M-> Y-> K be, and was applied as image area is different from left side to right side.

We progressed test target printing by each total 6 reams (3,000 sheets). We excepted in printing result because printed so that 200 sheets which print first confirm ink inheritance and registration. Sample printing did sampling one in 200. We were registration, solid ink density, right and left solid deflection of sample, ink balance and fountain balance, slur and double, ghost, hicky etc. to checking item at printing, and considered these problems("JAGAT (2006), Trouble shooting of offset printing technology(pp. 15-16, 78-88)").

### (2) GRACoL G7 calibration application

Usually, one kind of color standard management method of printing that is easy to approach is that use gray balance. GRACoL G7 calibration printing method can achieve color management of printing by can control gray balance by NPDC(Natural Printing Density Curve) that is

relation between neutral density value of gray scale and halftone percent of in-print gray scale and original halftone percent. As well as, most important thing of GRACoL G7 calibration standard gray scale that visual characteristic can be considered as definition about size of scale dot by step of each color separations(C, M, Y, K) be, and this is same with TVI curve value of ISO 12647-2("Alliance(2012), Calibrating, Printing and Proofing by the G7 Method(G7 How To), International Digital Enterprise Alliance, Inc.").

First, when CTP does not become calibration to find RIP curve correction value to apply to GRACoL G7 calibration with Figure 5, made C, M, Y, K printing plate. And printed putting these printing plates to offset press and apply standard solid density value. We select one in 200 sheets among result which print and five times did sampling. After we cut right and left P2P target in printing, we measured iliSis colorimetric of the X-Rite, Inc. This time, colorimetric condition is D50, and 2° visual field. When do colorimetric, used software was GretagMacbeth ProfileMake measurement tool of the X-Rite company.

Also, we compared gray scale of in-print G7 P2P target with reference scale. And we calculated RIP curve correction value in dot percentage there is in NPDC shape that press wants. This time, software tool that we use was Curve 3 of 2012 Hutch Color, LLC. & CHROMixes, Inc.

Also, we input each by percentage values by C printing plate in RIP curve and corrected calculated value. And we made printing plate again, and achieved GRACoL G7 calibration by printing by the printing plate. We measured density and color value of P2P target by X-Rite iliSis to confirm the result. We compared and analyze dot gain through tone reproduction characteristics and gray balance, TVI curve characteristics by Curve 3 software tools using the values. Also, we compare and estimated color gamut volume and color difference using CIEL\*a\*b\* color space.

### III. Results and Discussion

#### 1. Result of Solid density and CIEL\*a\*b\* values by experimenting package paper

Result that confirm that solid density and CIEL\*a\*b\* value of C, M, Y, K of test form that apply GRACoL G7 calibration were reappeared according to GRACoL2006 coated1v2 standard was same with Table 3. All printed Sample papers existed in tolerance E\*ab 5 according to GRACoL2006 coated1v2 standard.

Also, according to sample result that confirm hue and chrome particularly in GRACoL 2006\_coated1v2 standard with Figure 6 and CIEL\*a\*b\* color space, primary colors of C, M, Y, K existed within all tolerance.

## **2. Printing result that apply GRACoL G7 calibration by experimenting package paper**

### **2.1 RIP curve correction and NPDC result**

We when did not apply GRACoL G7 calibration first, calculate correction value that is accurate as increase of dot gain confirming by result that print and corrected printing plate manufacture RIP curve. And we could get result that CMY and K scale target of P2P target are linearized with Figure 7 (a), (b), (c) by printing GRACoL G7 calibration output printing plate. Specially, compare gray scale by Sample A, B, C to reference scale and press need to do fitting by wanted NPDC shape. Therefore, we applied GRACoL G7 calibration printing calculating NPDC correction value. Because gray NPDC presenting in GRACoL G7 and red color NPDC that is neutral density value of actuality press did matching similarly each other, we could confirm that gray balance was reappeared as is good.

### **2.2 Gray balance result**

One kind of color standard management method of printing is that use gray balance. GRACoL G7 calibration printing method that can reappear this gray balance can control neutral density value and NPDC that is relation between halftone percent and original halftone percent of print gray scale of gray scale.

Therefore, we can achieve color management of package printing as gray balance.

Figure 8 (a), (b), (c) are that display  $\Delta L^*$  deflection with CMY and K scale measurement in P2P target that print standard reference value GRACoL G7 NPDC and GRACoL G7 calibration. Average weighted  $\Delta L^*$  with standard reference value GRACoL G7 with result of Figure 8 (a) was included in all GRACoL G7 tolerance 1.5 in CMY and K scale. Also, all CMY and K scale were included in GRACoL G7 tolerance 3.0 in the maximum weighted  $\Delta L^*$ .

$\Delta Ch$  gets into standard that is excellent in neutral gray balance confirmation by showing trapping color error comparing with ideal GRACoL G7 gray balance. Relative color error of CMY scale comparing with ideal GRACoL G7 gray balance target value in P2P target by  $\Delta Ch$ , also can graph each absoluteness  $a^*$  &  $b^*$  value about CMY scale of P2P target. Specially, because color error is more and more noticeable than brightness error as is near to neutral gray.

Average weight  $\Delta Ch$  with Figure 8 (a), (b), (c) existed in tolerance 1.5 of GRACoL G7. Average weighted  $\Delta Ch$  with Figure 8 (a), (b), (c) existed in tolerance 1.5 of GRACoL G7. As well as, because maximum weighted  $\Delta Ch$  was low trapping color error by all 3.0 lows, confirmed that gray balance attains as is good. Therefore, in this research, gray balance got good result visually by characteristics by paper achieves gray balance of considered printing.

## **2.2 TVI curve characteristics result**

If dot gain amount that print than destination dot gain amount as can know in TVI curve characteristics, color error occurs as escape. As well as, should make dot gain reappeared properly in printing process because generate more color errors as become overprinting. After GRACoL G7 calibration printing, result that compare TVI curve characteristics with GRACoL2006 coated1v2 standard was same with Figure 9. This time, in this research, compared 40% TVI of mid-tone range, 80% TVI of shadow tone range. Because evaluation standard compared mid-tone 40%, shadow tone 80% TVI because reproduction of

the halftone dots of 25%, 50%, 75% refers this because of in C, M, Y, K scale of GRACoL G7. When comparison area with Figure 9 is Sample A according as TVI is corrected by GRACoL G7 calibration printing, was appeared to the dot gain deficiency which TVI escape dot gain tolerance  $\pm 4\%$  of mid-tone 40% range, dot gain tolerance  $\pm 3\%$  of shadow tone 80% range in M scale. Also, was confirmed to the dot gain deficiency which TVI escape dot gain tolerance  $\pm 3\%$  of shadow tone 80% range too in Y scale but was reappeared as half-tone dot is good according to GRACoL2006 coated1v2 standard in remainder range.

When is Sample B, was confirmed to the dot gain deficiency which TVI escape dot gain tolerance  $\pm 3\%$  of shadow tone 80% range in M scale but was reappeared as half-tone dot is good according to GRACoL2006 coated1v2 standard in remainder range.

When is Sample C, dot gain that TVI escapes dot gain tolerance  $\pm 3\%$  in shadow tone 80% range in C scale was appeared to the 1% deficiency. Also, dot gain tolerance of 0.3% that TVI escapes dot gain tolerance  $\pm 4\%$  in mid-tone 40% range scale was seen, and was appeared expose to dot gain tribe of 0.7% that escape dot gain tolerance  $\pm 3\%$  in shadow tone 80% range. Was confirmed to dot gain deficiency of 1.1% that TVI escape dot gain tolerance  $\pm 3\%$  in shadow tone 80% range in Y scale. Sample C of this is Manila paper type, although paper surface was coated. Is thought that this is as result that influence in halftone reproduction because surface smoothness still falls relatively than other Sample. However, Sample C was reappeared as half-tone dot is good according to GRACoL2006 coated1v2 standard in remainder range.

### **2.3 Color gamut comparison from CIEL\*a\*b\* color space**

After GRACoL G7 calibration test printing, we did P2P target colorimetry. And the result compared at color gamut volume from CIEL\*a\*b\* color space with reference value P2P target, and appeared to Figure 10. Color gamut and that color gamut that print matches of reference value P2P target are ideal. But, need color management that color difference of color patch that exist to the space if difference of color gamut becomes occurs. Specially, when exist to outside space than color gamut volume that color

patch of reference value P2P target can reappear in printing, we must do color administration who do it to change to similar color because can not do matching identical color.

When is Sample A with Figure 10 (a), there is +a and -b space, +b space and when it is color existed to the space by being extended than color gamut volume of standard P2P target, must reduce color difference through color correction because is reappeared color as is different from P2P target.

Also, when is Sample B with Figure 10 (b), because color difference of color patch that exist to this space by being extended than color gamut volume of standard P2P target from +a and +b space, a and +b space is added, need to reduce color difference through additional color correction because appeared.

When is Sample C with Figure 10 (c), it is printing in equal condition, but printing effect was decreased than color gamut volume of standard P2P target from all space falling more relatively than other Sample by paper characteristics. In particular, you can not be corrected from narrow gamut volume to wide gamut volume. Therefore, need to be corrected the nearest color and minimize color difference because when it is color existed outside Sample C color gamut, equal color matching is difficult. Therefore, when it is color that exist outside Sample C color gamut to need, it is that is corrected the nearest color and minimizes color difference because equal color matching is difficult.

#### **IV. Conclusion**

In this research, got following conclusion as result that apply G7 calibration in offset printing by method to keep good color reappearance and consistent quality in printing by package paper.

(1) According to result that confirm that solid density and CIEL\*a\*b\* value of C, M, Y, K of sample A, B, C printing that apply GRACoL G7 calibration were reappeared according to GRACoL2006 coated1v2 standard, all samples existed in tolerance  $\Delta E^*_{ab}$  5 according to GRACoL2006 coated1v2 standard. Also, Samples existed within all standard tolerance in

result that compare chrome with hue of GRACoL 2006 coated1v2 standards and printing C, M, Y primary colors in CIEL\*a\*b\* color space.

(2) Compare gray scale by Sample A, B, C to reference scale and because NPDC presenting in GRACoL G7 by doing fitting by NPDC shape that press wants and NPDC that is neutral density value of actuality press were matched similarly each other, was reappeared as gray balance is good.

(3) Delta L\* deflection result and average weighted delta L\* with CMY and K scale measurement of P2P target that print from standard reference value GRACoL G7 NPDC were included to all GRACoL G7 tolerance 1.5. Also, all CMYs and K scale shown GRACoL G7 tolerance 3.0 lows in maximum weighted delta L\*. Average weighted delta Ch, companion color error of P2P target CMY scale comparing with ideal GRACoL G7 gray balance target value, existed in tolerance 1.5 of GRACoL G7. Also, gray balance was shown good result by trapping color error that maximum weighted delta Ch becomes low by existing in tolerance 3.0 of all GRACoL G7.

(4) Was reappeared as most half-tone dot is good according to GRACoL2006 coated1v2 standard according as TVI of C, M, Y, K is corrected by GRACoL G7 calibration printing that refer package paper characteristics of Sample A, B, C in an experiment.

(5) Result that compare color gamut volume of reference value P2P target and printing value P2P target from CIEL\*a\*b\* color space applied GRACoL G7 calibration on equal condition, but need color correction method that is additional according to necessity by being reappeared as color gamut volume is different according to paper characteristics.

## References

- Alliance(2012), Calibrating, Printing and Proofing by the G7 Method(G7 How To), International Digital Enterprise Alliance, Inc.
- CGS. Reference Manuals for ORIS Products.
- JAGAT (2006), Trouble shooting of offset printing technology(pp. 15-16, 78-88).
- JAGAT(2009), Working order and knowledge of offset printing

technology(pp. 201-202, 299-301).

<http://ipc.printing.org>

ISO 12647-2:2007 Graphic technology, Process control for the production of half-tone colour separations, proof and production prints-Part 2: Offset lithographic processes.

Korea Research Institute for Vocational Education & Training(2011), Printing.Photographic Materials, Ministry of Education(pp. 262-263).

Table 1. CIEL\*a\*b\* value comparison of ISO 12647-2 paper type 1&2 and paper that print test

ISO 12647-2 paper type 1&2			Sample A			Sample B			Sample C			tolerance $\Delta E^*_{ab}$	measurement $\Delta E^*_{ab}$		
L*	a*	b*	L*	a*	b*	L*	a*	b*	L*	a*	b*		Sample A	Sample B	Sample C
95	0	-2	94.5	-1.1	0.3	95.6	1.0	-0.9	89.8	1.3	-3.3	3	2.6	1.6	5.5

Table 2. Condition of test printing

Items	Features
plate Type	manufacturer: Fujifilm name of product: Fuji FDT-500 thermal type
printing plate production conditions	manufacturer: Dainippon Screen name of product: PTR-8600 workflow(Rip): Trueflownet screening: 175lpi dot shape: round dot
press	manufacturer: Komori name of product: LITHRONE S40 5 color printing speed: 9,200sph(sheet per hour) print size: 1020×710mm

	sequence: K->C->M->Y ink key No.: 30
blanket	manufacturer: Trelleborg name of product: Vulcan Folio thickness: 1.95mm
fountain	IPA: 6% temperature: 10.2°C pH: 5.5 conductance: 1,050µs/cm
pressroom environment	temperature: 22°C humidity: 60%
Measuring Equipment	manufacturer: X-Rite autoscanning system: Intellitrax AT2 spectrodensitometer: X-Rite 528 spectrophotometer: iliSis

Table 3. Comparison of GRACoL2006 coated1 standard and solid density, color difference between test target printing by paper

solid ink	printed test target											GRACoL2006 coated1			
	CIEL <sup>*</sup> a <sup>*</sup> b <sup>*</sup> z <sup>*</sup>									density(D <sub>s</sub> )			ΔE <sup>*</sup> <sub>ab</sub>		
	Sample A			Sample B			Sample C			Sample			Sample		
	L <sup>*</sup>	a <sup>*</sup>	b <sup>*</sup>	L <sup>*</sup>	a <sup>*</sup>	b <sup>*</sup>	L <sup>*</sup>	a <sup>*</sup>	b <sup>*</sup>	A	B	C	A	B	C
<b>C</b>	54.6	-33.4	-50.7	56.2	-36.3	-51.0	52.3	-32.6	-51.0	1.42	1.40	1.45	3.2	1.6	3.0
<b>M</b>	48.6	71.6	-1.5	49.8	74.1	-1.2	46.3	69.6	-1.4	1.48	1.33	1.39	3.5	2.5	4.8
<b>Y</b>	87.0	-5.0	90.1	90.4	-5.0	97.0	83.6	-4.6	83.7	1.03	1.04	1.02	3.6	3.9	4.6
<b>K</b>	13.0	0.4	1.6	17.9	0.8	2.9	17.5	0.2	0.5	1.80	1.58	1.80	2.5	4.2	3.2

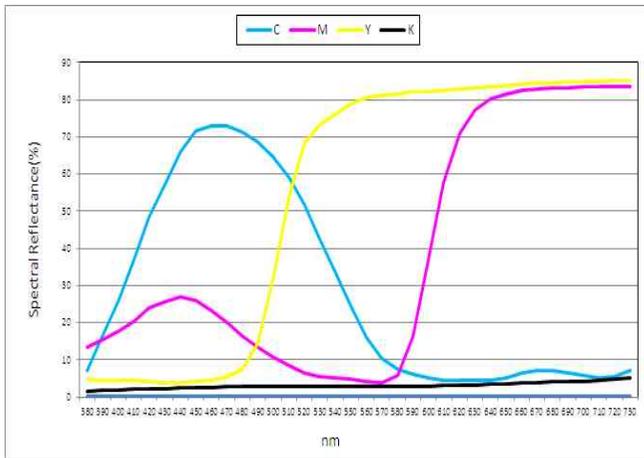
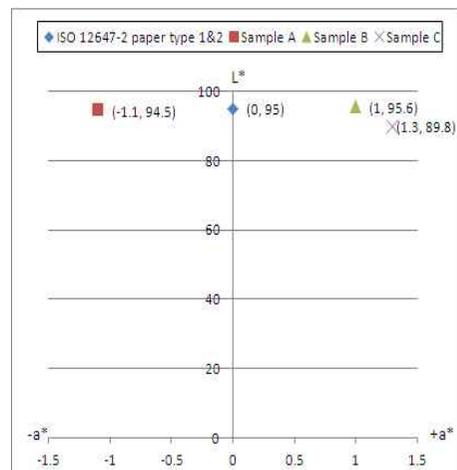
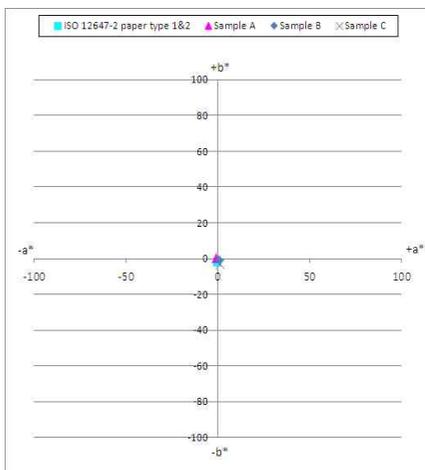


Figure 1. Spectral reflectance in visible region of C, M, Y, K inks.



(a) Comparison from CIE  $a^*b^*$  colorspace

(b) Comparison from CIE  $L^*a^*$  colorspace

Figure 2.  $L^*, a^*, b^*$  of ISO 12647-2 paper type 1&2 and sample paper that print test in CIE  $L^*a^*b^*$  color space.

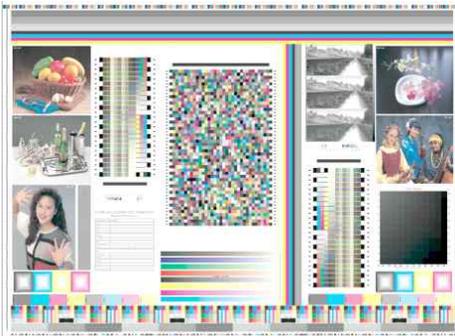


Figure 3. IDEAlliance test form.



Figure 4. Solid density and CIEL\*a\*b\* value measurement by measuring instrument.

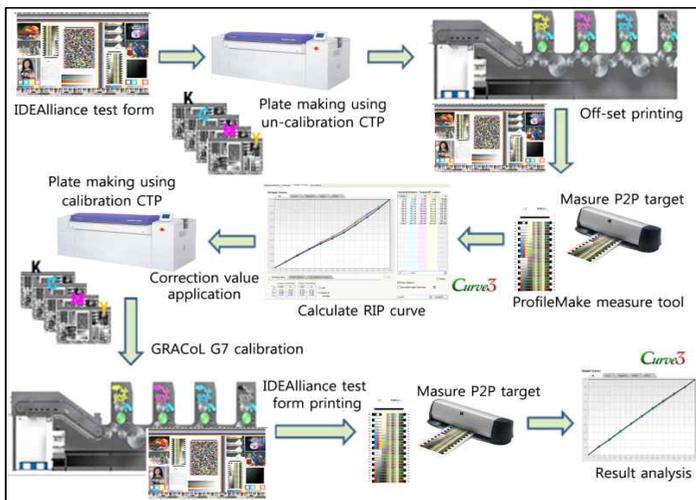
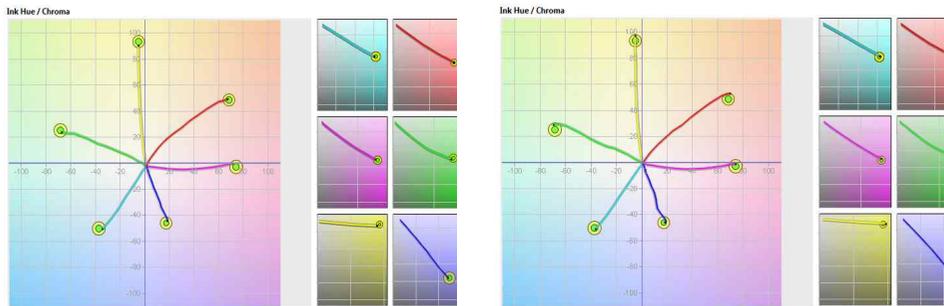
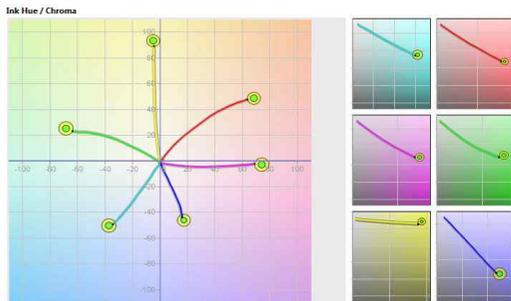


Figure 5. Process that apply GRACoL G7 calibration in offset printing.



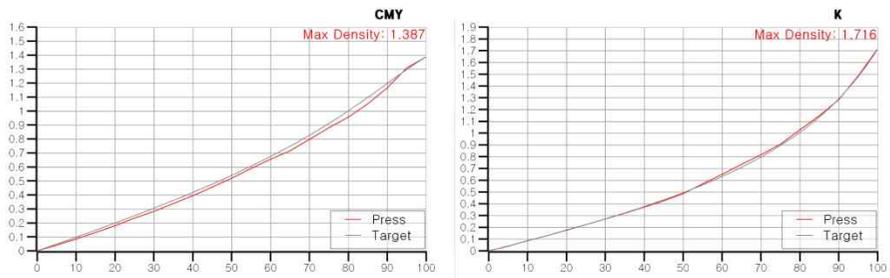
(a) Sample A

(b) Sample B

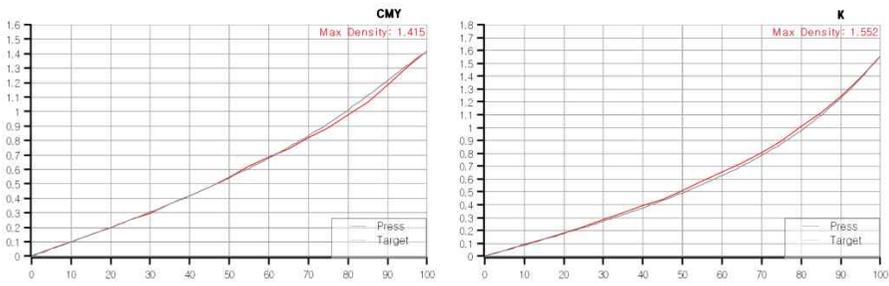


(c) Sample C

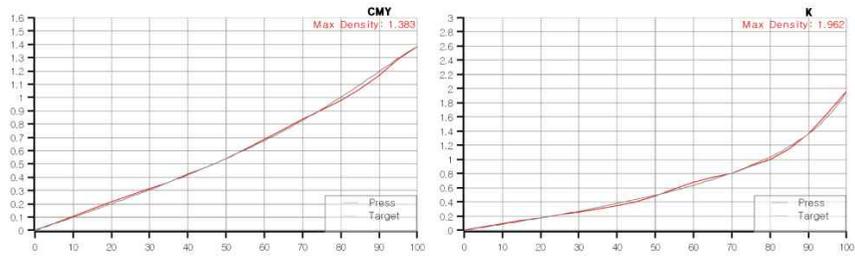
Figure 6. Hue and chroma result of C, M, Y ink in CIEL\*a\*b\* color space.



(a) Sample A

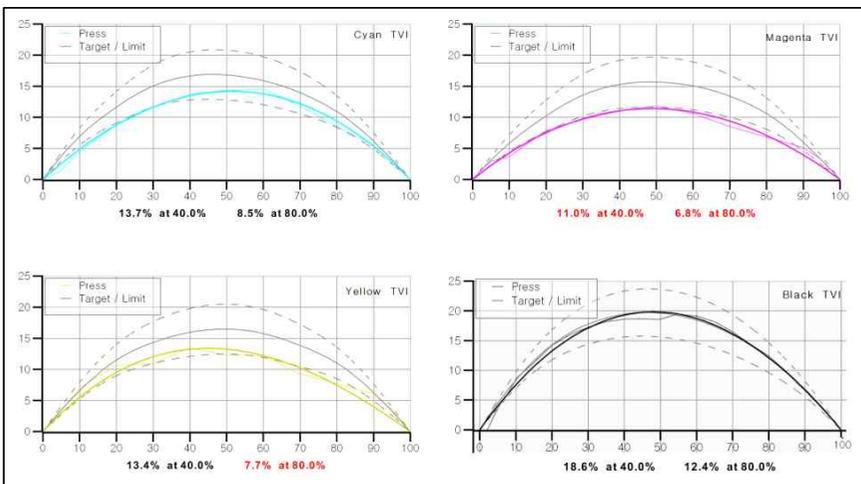


(b) Sample B

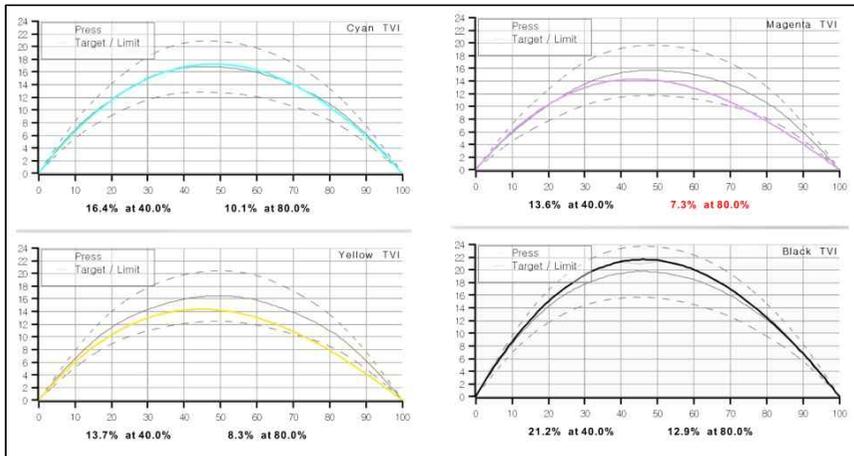


(c) Sample C

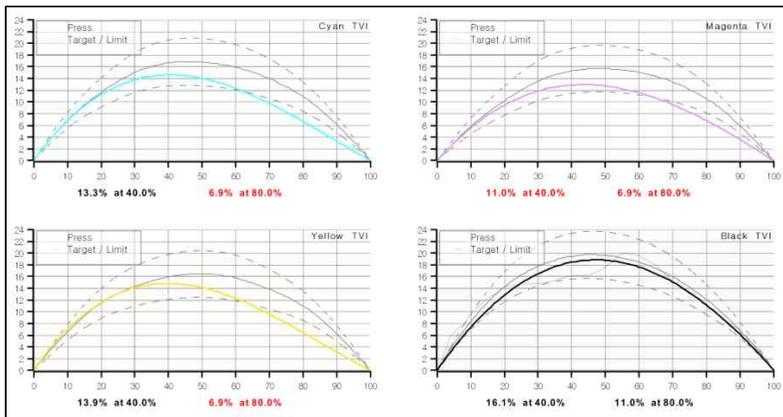
Figure 7. NPDC comparison by GRACoL G7 calibration printing result.



(a) Sample A

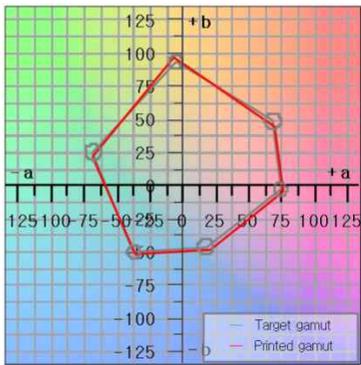


(b) Sample B

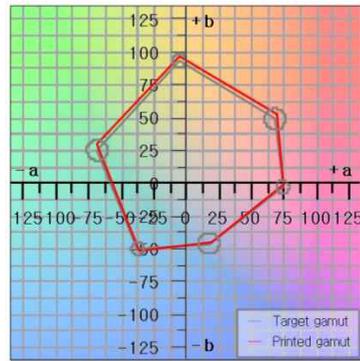


(c) Sample C

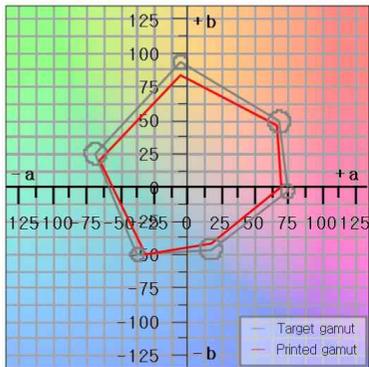
Figure 8. TVI(C, M, Y, K) curve characteristics comparison by test printing result by Sample.



(a) Sample A



(b) Sample B



(c) Sample C

Figure 9. From CIEL\*a\*b\* color space after GRACoL G7 calibration printing by Sample comparison of color gamut.

**“Financial institution reforms and establishment of  
stock exchange in Myanmar”**

## **“Financial institution reforms and establishment of stock exchange in Myanmar”**

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### **Abstract**

The financial sector in Myanmar is the least developed of all in Southeast Asia and cannot adequately fulfill its role as a financial intermediary. However, due to the recent reform process, the sector has already undergone tremendous changes. Steps to develop a stock market in 2015 are underway, and the insurance market, formerly monopolized by the state, has been liberalized. However, capital and insurance markets still play a minor role, and the financial sector continues to be dominated by banks. While state owned banks currently account for the majority of assets, they are struggling to keep pace with the speed of reforms and high growth rates of their private sector peers. Given the low level of development of the banking sector and the size of the potential market, growth potentials continue to look promising. Despite current reforms, the legal framework as well as the financial infrastructure of the banking industry lags behind international standards. The main challenges ahead for the banking sector are the management of the reforms, including the pace thereof, and the development of human resources. These challenges become even more important when considering foreign banks entering the market from 2016 onwards, after Myanmar will have joined the single market of ASEAN Economic Community.

**Key Words:** Financial Reform, Insurance Market, Treasury Bond, Central Bank of Myanmar,

### **Introduction**

The military started to relinquish its grip over the government in 2011, and many observers looked towards the country as the perfect destination for investment opportunities. The country has been underdeveloped, and a number of industries are seeking the necessary financing to help them catch up with their neighbours. In March 2012, a foreign investment law was announced that should boost the prospects

of the country. The law stated that foreigners would no longer need a local partner to set up a business in Myanmar, although the ownership of property would still be prohibited.

Also in 2012, the Asian Development Bank began discussions with the country with the intention of financing infrastructure and other development projects, while countries including the US, Japan and many across Europe removed economic sanctions. These first steps towards opening up the country have drawn considerable praise from the investment community. However, while there are plenty of opportunities within the country, it is essential that there is a higher degree of financial institution reforms in Myanmar, so that international investors can feel secure and comfortable when putting their money into projects.

As the financial sector plays such an important role in economic development, it is vital that financial institution reforms in Myanmar occur soon to aid growth. Myanmar is one of the few remaining countries relatively untouched by the global economy. It is rich in natural resources, including oil, natural gas, precious stones and many other minerals, and as recently as 2011 it has recorded GDP growth of 5.5 percent. The potential for that rate to increase further is reflected by the interest of international businesses that are keen to get a foothold in this new market. As the emerging economies that enthused investors over the last decade – such as Brazil, Russia, China and India – begin to run out of steam, many are looking to untapped and undeveloped economies with plenty of growth opportunities. Myanmar is one such economy, and having been closed off to the investment community for so long, it is garnering considerable attention. With the economy opening up, and more private banks emerging, there are new sources of finance to help Myanmar grow. Hence, there must be some financial institution reforms in Myanmar to encourage investors that it is a safe bet.

## **Institutional reforms**

Since the new government took control in 2011, there have been key financial institution reforms in Myanmar, allowing private institutions to

operate alongside the state-owned banks. The Central Bank also shifted from a fixed exchange rate system to a managed floating system in early 2012. This has led to the rate remaining relatively stable against the dollar, providing a more secure currency than the neighbouring Thai baht and Indian rupee. A daily foreign exchange auction has also been implemented, where banks can act as counterparties. Other reforms that have already been carried out by Myanmar's Central Bank include the licensing to private banks of money changing counters, which now allow buying and selling of up to \$10,000 without the need for documentation. Other financial institution reforms in Myanmar include the creation of dealer licenses for an interbank foreign exchange market - the Yangon Foreign Exchange Market - and a currency remittance service to authorised dealer banks.

The Foreign Exchange Management Law came into effect in August 2012, removing exchange restrictions for other currencies. Financial institution reforms in Myanmar are creating a market-based system. The issuing of licenses to private banks to enter the forex market is a crucial step in the financial institution reforms in Myanmar. Despite the progress made with financial institution reforms in Myanmar, there are still a number of issues that must be addressed by the industry if it is to equal other Asian financial markets. Until 1988, there were no private banks in the country, and it took until the reforms of two years ago for the country to open itself up to foreign investment. Due to the industry's late development, people are not familiar with the concept of a foreign exchange market. If, more private and international companies enter the market and more people will become familiar with exchange currencies. This is being actively encouraged.

Another problem for the financial industry, one that is prevalent in emerging economies, is the informal market. Myanmar's unregulated - and untaxed - market is larger than the formal market. The authorities must focus on this as they carry out financial institution reforms in Myanmar. The Central Bank of Myanmar (CBM) Law was signed by the president, on July 11, 2013. The legislation secures the bank's autonomy and clarifies its responsibilities. Widely seen as one of the key building blocks in the recent round of reforms, the law is set to radically shift

the way the financial sector is regulated in Myanmar, while providing potential investors with a confidence boost. The financial system in Myanmar remains one of the least developed in the world, with under 10% of the population holding of a bank account and less than one citizen per 1000 active in the credit market. Both individuals and businesses have struggled to access capital from financial institutions for decades, due to a combination of high inflation, bank runs insider lending and low capital bases. Attracting depositors back into the banking system is regarded as one of the biggest challenges Myanmar faces.

Bodies such as the IMF had criticised the CBM for its lack of budgetary and operational independence from the government of Myanmar, which permitted the state to print money to finance its deficit. The new CBM Law gives the central bank the authority and responsibility to implement monetary and exchange rate policies independently from the government. The institution is expected to act as a lender of last resort on rare occasions only, using its autonomous power to enact the policies needed to achieve its broader aims. The primary objective of the central bank will be to keep inflation in check, while sustaining monetary and fiscal stability. The new body, alone, holds the right to issue new currency. It has also been tasked with establishing a credit bureau that will gauge the creditworthiness of borrowers.

The law requires the CBM to regulate local banks, oversee the development of capital markets and manage the official foreign exchange reserves, which are forecast to increase in the coming years on the back of rising gas exports. As reserves build up, confidence in the local currency, the Myanmar kyat is expected to grow, with investors likely to eye the country more favourably. The responsibility for deciding how to achieve these goals will rest largely on the shoulders of the CBM governor. In line with international practice, the overhauled central bank will be expected to adhere to a much stricter level of transparency and accountability. Under the new law, the bank will be required to submit its reports on monetary affairs to the government at least twice a year and publish reports on monetary developments quarterly. The information flow will allow financial researchers and onlookers to assess

risk more effectively and invest accordingly. The complex systems of monetary policy and regulation required by a central bank take years of fine-tuning and can still fall prey to the market forces around them, as western nations, whose bank regulations are built on decades of detailed analysis and data, know all too well.

The Central Bank of Myanmar unveiled a report in early 2013 that outlined its intended regulatory roadmap. Financial institution reforms in Myanmar are taking place over three phases, the first of which was during 2008 and 2009, where public companies were encouraged to launch. The second phase, between 2010 and 2012, saw securities regulations put in place, while the third phase, which began in 2013 and will take until 2015, will see a link established with the ASEAN Stock Exchange Center. These plans are being consulted and financially supported by the Tokyo Stock Exchange and the Daiwa Institute.

Domestic private banks are also being encouraged to run joint venture banks with foreign firms, while foreign firms will soon be allowed to establish wholly owned subsidiaries in Myanmar. Ultimately, foreign banks will be allowed to open branches after the financial institution reforms in Myanmar. While the banking sector in Myanmar is relatively underdeveloped, some firms offer a large range of products to domestic customers. Its product offering has grown steadily as a result of financial institution reforms in Myanmar. In July 2012, the bank gained approval from the Central Bank to offer foreign currency accounts in US and Singapore dollars and the euro. Local banks's international banking product range now includes remittance services through both SWIFT Telegraphic Transfer and International Money Transfer Service, as well as payment services, bank guarantees, import and exports financing services.

## **Products and services**

For a developing country like Myanmar to grow economically, it is essential for its citizens to be able to deposit the money they earn into secure bank accounts, while companies are able to get the sorts of loans that will help them grow. Local banks offer such facilities, including

current accounts, saving accounts, fixed deposits, as well as overdrafts and fixed loans. While the rest of the world is accustomed to a plethora of ATM machines nearby, Myanmar has not had the same level of exposure to such electronic banking. The scarcity of ATM machines is being addressed by banks, which has installed many of them across the country. Finally, local banks will also soon be launching their Premier Banking service, which will offer personalised banking facilities, as well as lifestyle benefits, that only their top customers can enjoy.

### **Establishment of Capital Market in Myanmar**

The importance of financial development and the nexus between financial development and economic development have long been well recognized in the development studies. Financial liberalization programs in many countries have predicated that a market based financial system can mobilize savings most effectively. It is also obvious that a well-functioning capital market serves as a means of mobilizing domestic savings and attracting foreign portfolio capital as a means of allocating savings to the most productive uses in a market economy. As such, capital market development is particularly important for developing countries, where the deficiency of capital resources prevails.

Since late 1988, pursuing a market oriented economic system; Myanmar has made efforts to raise its available financial capital through various ways and means, including attracting FDI, liberalizing trade and banking sectors, encouraging private and public savings, taking steps to create a securities market, etc. The establishment of capital market in Myanmar, and the ensuring developments in the Myanmar securities market still encounter some constraints in the task of creating capital market in the economy.

### **A brief history of the securities market in Myanmar**

(a). An Informal OTC Market in 1930s and in late 1950s

Before the World War II, there was some trading of equity securities

in Myanmar on the Yangon (Rangoon) Stock Exchange. A limited number of British and European stocks were traded by seven European firms in that secondary market within an informal OTC framework. A leading European firm placed an office in the Balthaza Building on Merchant Street in Yangon and issued price quotations taken from news reports on the various Indian stock exchanges such as the stock exchanges of Bombay and Calcutta. There were no Myanmar companies listed in that fledgling market. Eventually, the Yangon stock Exchange failed to develop and ended with the outbreak of the Second World War.

In the late 1950s, with a view to encouraging private sector development, the government formed nine joint venture corporations with the private sector. There was, however, no properly organized securities market in those days. Shares of these joint venture corporations were traded as preferred stock on an unofficial OTC market. This market was closed when nationalization of economic entities took place as the centrally planned system was adopted in Myanmar, in 1962.

(b). Issuance of Treasury Bonds in Myanmar

Issuance of Government Securities, consisting of promissory notes, treasury bills, stock -certificates, bearer bonds, treasury bonds and alike are governed by the Government Securities Act (1920). As this act is basically an Indian Act X, 1920, government securities issued in Myanmar during inter-war period were largely confined to those of the Indian Government under the British regime. In the post-war period Myanmar Government Treasury Bills with three months maturity at  $\frac{3}{4}\%$  interest, later raised to 1%, were issued. They were freely discountable at the Central Bank (Union Bank of Myanmar). After August 1948, Treasury Bills were not discountable as of right at the Central Bank. Moreover, 6 months and 9 months Treasury bills were added effective November 1948. Issuance of these Treasury Bills, however, terminated in December 1948. Treasury Bills and other Government Securities had limitations in making available to the general public, the Central Bank (Union Bank of Myanmar), on behalf of the Government, had issued 3 years Treasury Bonds and 5 years Treasury Bond bearing 2.5% and 3%

rate of interest respectively, in denomination of K 1,000, K 10,000, K 100,000 and K 1,000,000, in April, 1950. Interest rates of these bonds were considered to be attractive compared to other interest rates prevailing at that time.

The Central Bank buys and sells these bonds directly with the commercial banks, but dealings with the public were made through some brokers. As in the case of Treasury Bills, the Central Bank, at that time, adopted the policy to buy some of the Treasury bills in such quantities as were considered necessary to assist the banks in meeting seasonal and other temporary increases in the demand for funds. In 1962, Myanmar economy was transformed into a centrally planned economic system. Accordingly, all domestic and foreign banks were nationalized in 1963. However, a nationalized commercial bank continued to act as broker for the Central Bank's issuance of Treasury Bonds although these bonds were no longer popular.

In 1988, Myanmar had embarked on a market economy and pursued financial reform. In 1990, new banking laws, namely the Central Bank of Myanmar Law, the Financial Institutions of Myanmar Law and Myanmar Agricultural and Rural Development Bank Law were enacted. Following this, efforts were made to establish capital markets in the economy. Consequently, in December 1993 the Central Bank of Myanmar reactivated and issued K 10,000, K 100,000, and K 1,000,000 Treasury Bonds carrying interest rates of 10.0% for 3 year Treasury bond and 10.5% for 5 year Treasury bond. Interests are payable twice a year, in the mid of March and September. Interest rates for 3 year and 5 year Treasury bonds were raised to 13.5% and 14% respectively in April 1996.

### **Justification for the Establishment of a Stock Market in Myanmar**

As Myanmar steered its economy towards a market based system in 1988 after abandoning the planned economic system, various economic and financial reform measures were taken. Accordingly, the idea of forming a stock market in Myanmar revived again and justification for the establishment of a stock market in the economy was made in a symposium on the development of capital market in Myanmar which was

jointly conducted in Yangon, in December 1990, by the Central Bank of Myanmar and the Sung Hung Kai Fund Management Ltd. of Hong Kong.

Some justifications for the establishment of a stock market presented at the symposium were as follows-

- (a) With the substantial increase in the number of limited companies, and the formation of joint-venture corporations between the government and the private sector, the volume of tradable shares is found sufficient and likely to be ; increasing further, although the shares of all these companies are yet to be tradable publicly. The government announced that it will sell the shares held by the government to the private sector when conditions permits and thus trading of equity shares is expected to take place, and therefore it is desirable to create an efficient stock market for the execution of the sales of equity shares.
- (b) Myanmar is not a high consumption society, but it is the country with an increasing saving potential.<sup>5)</sup> It is predicted too that large sums of saving has not been with the banks but in the private hands. These facts provide some grounds to believe that adequate investable funds exist in Myanmar for the functioning of a stock market.
- (c) Myanmar has sound legal basis for the setting up and operating business companies. Myanmar Companies Act promulgated on April 1, 1914 facilitates the corporate development as Myanmar reactivates the market economic system. The Act clearly defines the meaning of share and recognizes the nature of shares as negotiable or tradable. The Act also assures the rights of shareholders, such as the rights to inspect books and records, to transfer ownership, to participate in the company management, to corporate distributions and to corporate assets upon dissolution. Since the Law was enacted over 80 years ago, it needs some

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5) The total savings increased by 32.0 percent in 1992/93 and 49.5 per cent increase in 1996/97 due to increases in interest rates on savings in 1992 and 1996. The financial savings ratio to Gross Domestic Product has increased substantially by 11.1 per cent in 1996/97 compared to 7.8 per cent increase in 1989/90.

amendments so as to make it appropriate for the present developments. Nowadays, corporate formations and commencing the businesses are made under this Law. Two types of companies- (i) private company and (ii) public company can be formed under the Myanmar companies Act.

- (d) The accounting profession, which is similar to that of Britain, is established in Myanmar.

Moreover, the symposium recommended to form a high level steering committee and to draft the Securities and Exchange Law, Rules and Regulations for the establishment of a stock market in the economy.

Myanmar has been pursuing a comprehensive development programme, based mainly on agriculture, forestry, tourism, mining and energy sectors. In so doing, the need of financial capital especially in long term nature is surging: This need will be satisfied by creating an efficient capital market where long term funds are made available by lenders. Although the saving potential in the economy is possibly high, savings to GDP ratio in Myanmar is quite low by Asian standard and in order to make a far more effective mobilization of savings, amassing surplus funds from the household and business sectors to establish a capital market is inevitable and imperative.

Preparatory Steps for the Establishment of a Capital Market in Myanmar

- (a) In 1991, seeking the international cooperation for the establishment of a capital market in Myanmar, the Central Bank of Myanmar made efforts to secure technical and financial assistance from the IMF, UNDP and the IFC, whose helping hands are unfortunately, yet to be unfolded.
- (b) In August 1992, the Ministry of National Planning and Finance set up a steering committee for the establishment of a capital market.
- (c) Various seminars on capital market development and privatization have been organized by the Ministry of National Planning and Economic Development and the Ministry of Finance and Revenue in collaboration with the KPMG Peak Marwick Co., the UNDP and the Daiwa Institute of Research (DIR) Ltd. of Japan, since 1994.

- (d) With a view to implementing the capital market development project, the Myanmar Economic Bank and the DIR reached an agreement to sign the Memorandum of Understanding in early 1995.

## **Setting up a Securities Exchange Centre**

### **(a) Formation of MSEC**

A tangible step taken in June 1996, for the capital market development was the setting up of the Myanmar Securities Exchange Centre Co. Ltd. (MSEC), a 50-50 % joint venture firm between the Daiwa Institute of Research Ltd. Japan and the Myanmar Economic Bank, a state-owned bank with the biggest banking network throughout the country. The MSEC is established with authorized capital of US\$ 17mn and paid-up capital of US\$ 3.4mn. In response to the nation's requirements, as it has transformed from a planned economy into a market-oriented one, aiming at building a more developed and modern nation, the MSEC came into existence as an organized securities exchange which would play a major role in the efficient marshalling of funds. The MSEC is to help promote the nation's economic development by tapping the unutilized fund resources from the general public to provide the much needed funds for domestic investments and to generate long term funds for modernizing and expansion of business firms. The MSEC also aims to be ancillary to the privatization scheme sponsored by the government through securitization. With the transformation to a market-oriented economy, and future formation of a securities market, the government views the privatization of certain state economic enterprises (SEEs). In September 1994, the government announced the impending transfer of ownership of select SEEs to co-operatives, foreign joint ventures, or private sector companies.

A privatization commission, which was formed in January 1995, has overseen the divestment process for SEEs. The government has attempted to carry out the privatization process through a series of different strategies, and other methods of divestment are likely in the future. The full ranges of methods to be used are as follows:

- full transfer of ownership, in one step;
- full transfer of ownership, in stages;
- partial transfer with government holding the majority stake;
- partial transfer with government holding a minority stake;
- outright sale to private management and employees;
- gradual sale of assets, leading to liquidation or closing down of the enterprise;
- securitization of SEEs ( offering shares to employees as well as the public ); and
- leasing out the assets of SEEs

The commission has privatised 51 SEEs to date, under phase one of the programme, by auction with the commission setting a floor price for each SEE. Subsequent phases of the privatization programme will offer larger and more significant SEEs for divestment. To the present date, the MSEC is the one and only Securities Company officially established at the outset of the creation of a securities market in Myanmar. Its operations came into effective in December, 1996.

## **Investment Instruments in the Existing System**

### **(a) Treasury Bonds**

As have been mentioned above, the Central Bank of Myanmar has issued 3-year and 5-year Treasury Bonds with effect from 1st December 1993 on behalf of the Government. Buyers are institution investors, such as Private Banks, and general public. The investors have the right to sell their bonds to anyone without restriction. In order to encourage the investors, the government abolished 15% taxation on interest with effect from 27th August 1995 and the amount sold to investors increased year by year. Up to end July 1998 the value of Treasury bond issued reached K. 16.46bn.

### **(b) Treasury Bills**

Central Bank is selling the Treasury Bills to private sector with discount. The interest rate of 3-month Treasury Bills is 4%.

(c) Portfolio Investment Opportunities

Although they are small in number, a few investment opportunities are available to foreign portfolio managers wishing to gain exposure to Myanmar: there is one listed country fund exclusively devoted to investing in venture capital projects in the country, and two listed mutual funds investing in the Indochina region which also aim to commit capital to projects in Myanmar.

## **Organizing the Primary and Secondary Markets**

(a) Eligible Companies for Trading on OTC Market

In 1996, the MSEC set forth the criteria for the companies eligible for trading on the OTC market, as follows-

- (i) A public company formed and registered under Myanmar Companies Act or Special Companies Act 1950;
- (ii) The paid up capital should be kyat 50 million or more;
- (iii) The total value of the net assets should not below the amount of its paid up capital;
- (iv) The number of shareholders should be 100 or more;
- (v) No restriction on transfer of the company's shares among Myanmar Citizens;
- (vi) The company shall publish its financial statement regularly and shall have a system to disclose promptly any important fact which may materially influence its business.

MSEC has also determined the rules for trading shares in the OTC Market. As of June 1998 there are 17 public Myanmar companies and 13 joint-Venture public companies, which have issued shares and started share trading.

(b) Lines of Business

MSEC offers the followings as its main businesses.

- Assisting companies going public;

- Brokering, dealing and underwriting securities;
- Making research on the national economy and companies;
- Publishing investment information;
- Providing investment consultancy services;
- Managing venture capital funds and acting as agent for joint venture;
- Selling to the investors Myanmar Treasury Bonds as agent of the Central Bank of Myanmar and shares of Myanmar companies as agent of those companies.

(c) Current Securities Business Performances

(i) Securities trading

After scrutinizing various companies, MSEC has selected Forest Products Joint Venture Corporation (FPJVC) as the first company for selling its shares to the general public opening a trading floor. The Corporation is a joint venture company organized in 1993 by the Forest Department of the Ministry of Forestry, Myanmar Timber Enterprise and the Private Sector.

In December 1996, an agreement was concluded between FPJVC and MSEC on the offering of FPJVC new shares to the public. MSEC started the sale of their shares in December, 1996 and completed selling of FPJVC over 20,000 shares in December, 1997. MSEC has created over 1,000 new shareholders through 13 months operation.

As soon as FPJVC shares have been sold out in December, 1997, Secondary Market was started. As the Forest Joint Venture Corporation is paying high dividend, the investors wish to hold the company's shares for their induced income and only 70 average number of shares changed hands monthly on the OTC market. As the sales agent of FPJVC, MSEC set the share prices as mentioned in the Attachment I. Earning power of the stock has much been better in 1995-96 and 1996-97, compared to 1994-95 figure.

MSEC sold Treasury bonds for kyat 4 million as an agent of the Central Bank of Myanmar. As MSEC was allowed to maintain a trading market for Seasoned Bonds on the OTC Market, MSEC bought Treasury

bonds for kyat 3 million and sold to investors through the OTC market.

(ii) Steps for establishing a Stock Exchange

In order to materialize the target of establishing an official Stock Exchange in Yangon in near future, MSEC is screening the companies and providing a trading market for the shares initially sold.

(iii) Distribution of dividends

FPJVC has declared dividend between the range from 24 to 30 percent and for the convenience of shareholders MSEC provides place for FPJVC staff to distribute dividend to the shareholders who have bought shares through MSEC. Dividends for shareholders in Mandalay were distributed by MSEC on behalf of FPJV. Promoting such kind of services extensively, MSEC will lead to create a Transfer Agent in future.

## **Drafting the Securities and Exchange Law**

In order to pave the way to systematic emergence of the Securities Market in Myanmar and to protect the market participants in the Securities Market in accordance with the Law, a regulatory framework with necessary laws, rules and regulations should be established. To this end, MSEC has prepared a draft Securities & Exchange Law. An outline for the drafting of the Myanmar Securities and Exchange Law was presented to the Ministry of National Planning and Economic Development in early 1995 by Daiwa Institute of Research Ltd. Detailed and heated discussions on the matter were made between officials of the Ministry of National Planning and Economic Development and DIR staff.

In August of the same year meetings were held at the Central Bank to have discussions on the draft by senior officers from the Ministry of National Planning and Economic Development, the Ministry of Finance and Revenue and DIR, Japan. The meetings were presided by the Deputy Minister for Finance and Revenue and the Governor of the Central Bank of Myanmar. The Project Appraisal and Progress Reporting Department of MNPED taking in charge of this project, sent the first draft Law to the Attorney General's office in September, 1995. After discussions with the

senior officers of Attorney Generals office for three and half years the draft was agreed finally. The Minister for Finance and Revenue had agreed to submit the draft to the Cabinet.

### **Myanmar People's Attitude towards Savings and Investment**

Domestic Savings is said to be low, as savings to GDP ratio is still low compared to Asia standard. As mentioned earlier, Myanmar economy is not a high consumption society. However, Myanmar people, in general, mostly put their savings in the forms of land and gold. Nevertheless, the form of savings and investment of the people has changed, as the economic system and investment climate changed. Even under the socialist system, as the Central Bank raised interest rate gradually from 3½ % in 1973 to 6% in 1975 and 8% in 1977, in order to reduce inflation and mobilize more savings, much of the surplus funds from private sector flows into banks and bank deposits and domestic savings have increased dramatically. Interest rate has been further raised up to 12% in 1996. Annual rate of increase of domestic savings increased from 32 % in 1992/93 to 50 % in 1996/97. Under the socialist regime there were not many alternatives for savings, but only savings bank deposits and savings certificates were available as savings and investment vehicles.

When the government adopted the market economic system, and encouraged private sector investment, more private savings were tapped. Some private sponsors collect funds, by organizing some informal private saving groups and private companies, with their own choice of procedures for minimum deposit, allocating profits and refunding, accruing or offering interest on investment. Monthly interest rate offered by private groups' range between 4% and 7%, and this rate is far higher than bank interest rate. However, the informal private business groups fail to disclose the groups' financial situation, business operations, and performances etc. to investors and investors can rely only on luck. Some investors who desire high return and invest in such funds have faced with losses. Such kind of fund collecting is very similar to the fund-collecting by an investment company. Therefore, it could be taken

that the functions of investment companies had been already introduced and existed in the informal market. In order to protect the investors, investment funds should be formally established.

### **Issues Encountered in Establishing a Capital Market in Myanmar**

Major issues associated with the establishment of a capital market in the economy can be summarized as follows.

- Lack of public knowledge regarding securities and stock market;
- Reluctance of business owners to widen ownership;
- Inadequate infrastructure, including electricity supply, telecommunications system, electronic data processing system, etc.;
- Insufficient regulatory and incentive aspects of the stock exchange;
- Lack of skillful intermediaries, such as brokers, fund managers, etc.;
- Shortage of required skills, such as highly qualified accounting professionals, auditing firms and financial analysts, etc.;
- Insufficient supply of stocks and low market capitalization;
- Inflation;
- Interest rates which do not provide adequately for the risk in lending;
- Exchange control and unrealistic official exchange rate;
- High tax imposition and the levy of stamp duty on shares trading.

To address the above issues, necessary reform measures should be taken effectively in the financial sector. In tackling the said issues, combating inflation should be the most immediate task among others. Maintaining macroeconomic stability with a sustained economic growth in an economy is the most fundamental job in macroeconomic management. Moreover, sound macroeconomic indicators help attract substantial amount of foreign capitals, which could be utilized for

development purposes. To reduce inflation, aggressive policies should be set and implemented to promote productivity and production, by exploring and utilizing better technology in industries as much as possible and stimulating investment in the economy through granting reasonable economic incentives, including lower tax rates, easier access to markets, transparent business procedures, availability of market information, etc. to various economic agents without discrimination and through extensive diversification of economic activities. On the other hand, fiscal deficit should be maintained at a prudent level. However, challenging task to control fiscal deficit while Myanmar has to rely only on her own resources for her comprehensive economic development programs, in the absence of tangible multilateral and W external cooperation. On the monetary side, concretionary policy will help squeeze the money supply.

At the same time, exchange rate policy should be compatible with the domestic and international economic environments. Exchange rate overshooting does not do any good to the economy, as it makes domestic products less competitive and reduces exports while it encourages imports. An overvalued exchange rate thus causes balance of payments problems. In an open economy, with capital mobility, maintaining a nominal exchange rate that the market considers seriously overvalued, will lead to a large capital outflow and thus to balance of payments problems, unless domestic interest rate is raised sufficiently. In a closed economy, where a fixed exchange rate system prevails, a long used overvalued exchange rate will bring about persistent balance of payments deficits which will result in dwindling the foreign reserves of the nation, lower out put, lower income, higher inflation, severe macroeconomic deterioration and socio-economic woes. This can be proved theoretically by illustrating the following Figure- 1.

Changes in exchange rate expectations can affect the actual exchange rate as well as the domestic interest rate and output. This will be explained with the help of Figure -1, which assumes perfect capital mobility. Here the BB schedule is drawn for a given foreign interest rate an a given expected rate of change of the exchange rate, say zero. Suppose that at point E, which is in full equilibrium, the market

develops the expectation that the home currency will appreciate. This implies that even with a lower home interest rate, domestic assets are attractive, and so the BB schedule shifts downward by the amount of expected appreciation.

Point E is no longer an equilibrium, given the shift of the BB schedule to BB', but rather a position of surplus with large-scale capital inflows motivated by the anticipation of appreciation. The surplus at E causes the exchange rate to start appreciating, and we move in a southwesterly direction, as indicated by the arrow. The speculative attack causes appreciation, a loss in competitiveness, and, consequently, falling output and employment. Thus the expectation of an exchange rate appreciation is self-fulfilling.

This illustration confirms that exchange rate expectations, through their impact on capital flows and thus on actual exchange rates, are a potential source of disturbance to macroeconomic equilibrium.

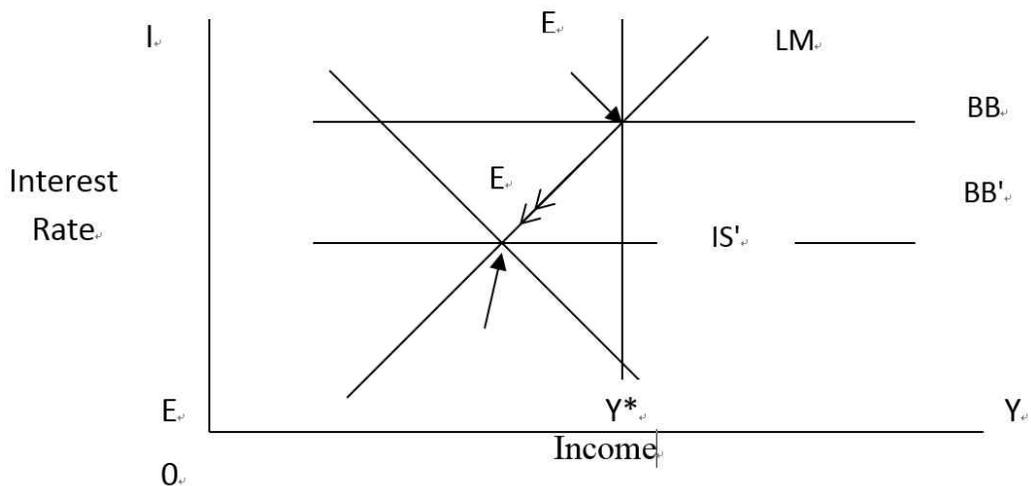


FIGURE 1 -The initial equilibrium at E is disturbed by the expectation that the home currency will appreciate. The BB schedule shifts down to BB', reflecting the fact that people are willing to hold domestic assets at a reduced interest rate since they expect to be compensated for the differential by the anticipated appreciation of the currency. At E there is now a capital inflow that leads to exchange appreciation. The IS schedule (not drawn) shifts to IS', and the economy moves into a recession. The

capital inflow has brought about a loss of trade competitiveness and thus unemployment at point E'.

As stated earlier, a long used of over- appreciated exchange rate, combined with a fixed exchange rate system could lead to profound financial difficulties. Official exchange rate in Myanmar has long been considered a highly unrealistic exchange rate and a major source of market distortions in the economy. The overvaluation of kyat has eroded export competitiveness and economic efficiency and also has been the disincentive to foreign investors, and this will be an impediment in establishing capital market. Thus, exchange rate adjustment is an essential step in the process of capital market formation.

Crisis analysts believe that the primary source of recent currency turmoil lay in the interaction of large capital flows and weaknesses in financial and corporate sector. However, the crisis was caused not by a single phenomenon. Multiple destabilizing factors combined together in affecting the hard-hit economies. The effected economies have pursued the aggressive development programs with the help of liberalization in their capital markets, before their bank supervision systems have been developed enough. The very much lax regulatory and supervisory system in the banking sector is one of the contributing factors, which beck one the financial instability problems. Moreover, lack of capable financial institutions and market agents for assessing and managing risks is one significant weakness that have led to excessive risk taking in the crisis economies. In order to develop a well organized stock market, at the initial stage, particular private companies, which are financially sound and viable, with good governance should be encouraged to involve in the stock trading as listed companies. A reasonable time frame should be set for such companies to develop more and to equip them with adequate knowledge of the risks involved. Then, further steps should be taken for a wider opening of the market.

Promoting institution and human resource developments and establishing proper regulatory and supervisory framework should be accorded priority in the reform package. Without adequate capable financial institutions and regulatory and supervisory bodies in the

financial sector, it is too perilous to liberalize the external sector of an economy. This has been proven by recent currency turmoil in Asia. Taking lessons from the recent crisis, proper sequencing of financial sector reform should be taken. Nowadays, financial institutions especially banks in Myanmar are increasingly viable and they have healthily expanded their banking networks throughout the various regions in the country. Private Banks should also be taken into consideration to make them involved in the functioning of the capital market in the future.

In today's world, globalization in financial markets has been growing and this has increased pressure for capital account liberalization. Crisis analysts have explored that increased financial liberalization spurred banking crises in developing economies. Change in global exchange rates, especially the US dollar appreciation against Japanese Yen, has affected less flexible economies in Southeast Asia, which peg their currencies to the US dollar. Since they peg their currencies to the dollar, when the dollar appreciates, their currencies automatically become appreciated and overvalued.

As mentioned above, with the overvalued exchange rate, their exports become less competitive in international markets and this eventually results in external imbalances, lower output and higher prices. To prevent their currencies from devaluation, their central banks sell their foreign reserves and their foreign reserves are much reduced. In order to maintain the value of their currencies and to tackle the macroeconomic turbulence, interest rates in these economies are kept high. Due to interest rate differential, high return seeking investors bring their capital money into these countries which offer high interest rates. In this way, substantial foreign capitals flow into these economies.

Moreover, the liberal financial policy in these countries allows their people to borrow foreign loans through banks to finance their payments deficits without control or without proper risk assessment. When the foreign investors' confidence in the these countries' currencies has gone, as the balance of payments difficulties deepen in these economies, foreign investors withdraw their capitals, leaving the host countries with the collapse of their local currencies, severe debt and financial difficulties in their capital markets. The crises even spread swiftly over

East Asian countries. The recent currency turmoil in Asia has left painful if lessons and alarmed tumultuously that liberalization of capital accounts, without adequate safeguard is destabilizing and will lead to severe financial crises. Myanmar, therefore should cautiously take preparatory steps for establishing a capital market in the economy.

### **Challenges and Outlook<sup>6)</sup>**

The Myanmar banking sector is particularly facing challenges in the pace and nature of the reform process, developing Human Resources, and in re-establishing trust in the banking sector. During the recent reform process, the banking sector in Myanmar has already undergone tremendous changes. The upcoming years will continue to bring along changes and will pose challenges to the sector and its actors. Banks are currently up-scaling their operations and growing in terms of clients, branches, staff members, and total assets. The upcoming new FIML is expected to provide banks with more freedom to further develop their range and pricing of products. In addition, the new regulation is expected to allow foreign banks' competition to come in as early as 2014 and 2015, via joint ventures and foreign bank licenses, respectively.

For the time being, two major challenges should be high-lighted: The sound continuation of regulatory reforms as well as the development of human resources in the banks. With the new Central Bank Law enacted in 2013 and the upcoming, new FIML as well as other relevant laws such as the Myanmar Accountancy Council Law in the drafting stage, the legal framework under which banks operate is changing extremely and at a fast pace. At the same time, it has to be noted that these laws remain rather general in their regulation and will still be specified with the help of secondary rule and regulations.

However, the direction of the legal reform process is clear: Myanmar is heading towards international good practices and increasing com-petition in the financial sector. The nature and the speed of this

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6) Quoted from the report "Myanmar's Financial Sector A challenging environment for Banks" by GIZ.

journey are the more difficult questions that lawmakers and regulators will have to answer. The future reform process needs to be managed carefully. This relates particularly to the area of liberalization and good governance, where room for improvement can still be widely observed in the Myanmar financial sector. In a liberalized financial sector, financial services could be designed to meet the demands of more people and enterprises, and hence access to finance would improve and poverty could be reduced. But at the same time, regulation needs to assure that the risks that come along with liberalization and a growing banking business can, on the one hand, be managed properly by the Myanmar banks and, on the other hand, also adequately be supervised by CBM. At the same time, the Central Bank needs to pay attention to its own resources when steering the future reform paths. The best legal framework is of no use if it cannot be enforced. To ensure sound supervision and proper bank management, good corporate governance, reliable data, and transparency as well as risk management are inevitable prerequisites which still need to be further promoted in Myanmar.

Myanmar's banking sector will grow in terms of size and complexity. In addition, Myanmar's local banks will face regional and international competition in the coming years with foreign banks bringing in their skilled staff. The changing environment puts great demand on local banks' human resources. Myanmar's isolation of almost half a century also constrained innovation in the education and training sector. The primary, secondary, and tertiary education sectors in Myanmar do not fulfill regional or international standards. Hands-on vocational training in the banking sector is virtually non-existent. The only significant national training provider for imparting banking knowledge is MIB. However, MIB's outreach is currently too limited and training is too general to close the wide knowledge gaps of local bank employees. Therefore, more and more domestic banks hire repatriates or international staff in key positions with regional working experience. They also attempt to bridge the training gap with in-house training schools or classes, which might be sufficient to train entry-level staff but which usually lacks more specialized trainings. Recently, several banks have started to introduce

new specialized modules to their in-house training with the assistance of their international correspondence banks or foreign training providers. Nevertheless, all domestic banks need further structured, comprehensive, and needs-based trainings for all hierarchy levels to learn more about innovative approaches and international banking practices which can enable them to better deal with the changing environment and with foreign competitors in the future.

Challenges for banks are not limited to internal adaptations - trust, which is the basis of every financial system, has to be regained by Myanmar banks. Peoples' trust in the financial and especially the banking sector was shaken heavily by a series of demonetization and especially the banking crisis in 2003, resulting in the closure of a number of banks and severe losses for and consequently loss of its depositors. The impressive growth in deposits observed over the last years indicates that banks regained trust. Taking a closer look, however, reveals that cautious behaviour is still dominant. Deposits, for example, are to a vast extent only time deposits. Term deposits are barely existent.

## **Conclusion**

Some economists have stated that the growth of security markets and capital markets is directly related to the economic growth of the country. A country's economic growth or development is also associated with four key elements, namely, Myanmar is rich in natural resources. Myanmar people are easily adaptable to changing conditions. As the standard of education in Myanmar could be raised further, the Myanmar people's to absorb technology would grow better. Therefore mobilization and efficient utilization of capital resources should be cited as the most important key element for Myanmar, and thus profound attention should be placed on more rapid development of an efficient capital market in the economy.

Although there are some signals that capital market can be misused and manipulated by speculators and that it may bring about financial panics and crises, countries who wish to achieve rapid and sustained

development cannot keep it self far from capital market activities. The hard core of efficient and effective capital market is confidence. From the early steps onward, authorities should bear in mind the importance of building up and maintaining confidence- confidence in the certainty with which the legal system will enforce financial contracts with minimum delay, confidence in integrity and accountability of the persons who are responsible for transactions in capital markets, confidence in the ability, flexibility and policy making capacity of the monetary authorities to promote stability in the price level, and confidence in the willingness and readiness of the authorities to alleviate any threatening factors to the financial stability.

Sound macroeconomic fundamentals are equally important for an appropriate assessment over the economy. Indicators such as high savings and economic growth rate, high investment potentials, high interest rate, low inflation, less external sector control and stable exchange rate beckon the investors, and attract large capital inflows, which sometimes are destabilizing phenomena.

The past six years saw the country enjoying a GDP growth of 6% to 7% and the GDP growth is to be further sustained around 6% in coming years. Fiscal deficit and inflation will be reduced to a controllable level. Proper legal and regulatory frameworks are being founded in a step by step manner. With such a conducive economic environment, the country's investment should be further encouraged through a more proper development in the capital market. Taking the lessons from recent currency turmoil in Asia, Myanmar should make steps towards a capital market mechanism with a great caution and on a gradual approach basis. Adequate institution development environment should be created in the economy before Myanmar would embark on financial liberalization.



## Guide for Authors

Welcome to the submission to *The Myanmar Journal* co-published by YUE(Yangon University of Economics) and KOMYRA (Korea Myanmar Research Association, [www.komyra.com](http://www.komyra.com)).

### Submission and Referees Review

Please submit your manuscripts by e-mail to the Editorial Office, [cjyfall@sunchon.ac.kr](mailto:cjyfall@sunchon.ac.kr)(Korea Side) and you will be guided stepwise. The manuscript will be peer-reviewed. Authors could submit, with the manuscript, the names, addresses and e-mail addresses of potential referees who are available for reviewing your manuscript. The editor retains the right to decide whether or not the suggested reviewers are used. Notification of the Editor's decision and requests for revision takes place via E-mail within 4 weeks from the submission.

### Topic

- Academic and industrial issues related to economic, social, and cultural development of Myanmar
- Recent research findings or reviews on Myanmar

### Preparation of Manuscript

#### • *General*

- Manuscript should be written in English, which has been 'spell-checked' and 'grammar-checked'.
- Manuscripts must be type-written in a Microsoft Office Word with page number and single-space.
- Length: No more than 10 pages (font size 10, Times New Roman style, single space) including tables and figures
- Information on the corresponding author should be provided (e-mail address and phone number).

#### • *Manuscript structure*

- It should include Title, Authors, Affiliations, Abstract, Keywords, Main text (including Figure and Table), Acknowledgements, and References as an example shown below.

<Example>

## **Analytical Quality Improvement of Food Composition Database**

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Phone number: 82-61-750-3258

### **Abstract**

- The abstract should not exceed 300 words, which should include the purpose of the research, the major results and conclusions.

**Key words:** no more than 5 key words

### **Main Text**

- Sections should be numbered with I, II, III, ... and then subsection numbers should be 1, 2, 3, ... (then 1.1, 1.2, 1.3, ...).

- Figures and Tables with captions should not be imported in the main text. Please place them after the reference section.

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*For more than two authors:* "Chun et al.(2012) studied the effects..."

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- Please use the following reference format:

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Van der Geer J, Hanraads JAJ, & Lupton RA. (2010). The art of writing a

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### **Contact**

If you have any further questions on the submission and review process, please feel free to contact Jiyeon Chun, editor-in-chief of *The Myanmar Journal*(Korea site) via email ([cjyfall@sunchon.ac.kr](mailto:cjyfall@sunchon.ac.kr)) or phone (+82-10-7126-0371).

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