The Myanmar JOURNAL

Letter from the Editor-in-Chief

Myanmar and Korea have many similarities and are complementary relationship. Therefore, we believe that research exchange will expand mutual understanding between Myanmar and Korea, and will be the cornerstone for mutual development.

KOMYRA and YUE have co-published The Myanmar Journal since August 2014. So far, many scholars have published numerous papers through the journal, and We are sure that this journal has helped many people understand Myanmar and Korea more clearly and closely.

The Myanmar Journal covers various issues in Myanmar and Korea. It covers various topics that can promote bilateral development and mutual understanding, not limited to specific topics such as economy, industry, society, education, welfare, culture, energy, engineering, healthcare, and agriculture.

We hope that this journal will continue to promote understanding of the current status and potential capabilities of Myanmar and South Korea and promote in-depth international exchange and cooperation.

We would like to express our deepest gratitude to the editorial board and YUE and KOMYRA for their valuable support in The Myanmar Journal publication.

August 31, 2020

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INFORMATION ABOUT
The Myanmar Journal

The Myanmar Journal (ISSN 2383-6563) is the official international journal co-published by Yangon University of Economics (YUE) and Korea Myanmar Research Institute (KOMYRA).

This journal aims to promote the mutual cooperation and development of Myanmar and Korea through intensive researches in the entire filed of society, economy, culture, and industry.

It will cover all general academic and industrial issues, and share ideas, problems and solution for development of Myanmar.

Articles for publication will be on-line released twice a year at the end of February and August every year on the Myanmar Journal webpage.

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Articles

DETERMINANTS OF URBAN AND RURAL POVERTY IN MYANMAR

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ABSTRACT : Poverty is a multi-dimensional socioeconomic problem in most Asia Countries. Ending poverty is one of seventeen global goals for sustainable development. The SDGs build on efforts under the UN Millennium Development Goals to reduce poverty, hunger and other deprivations. The main purpose of this paper is to identify the determinants of household poverty in urban and rural areas of Myanmar. Poverty captured at household level is expected to provide insights for polices to alleviate poverty at national level. This paper is based on data obtained from Myanmar Demographic and Health Survey (2015-2016). This research identified the different determinants of poverty in urban and rural areas by using a binary logistic regression model. This study has estimated the socioeconomic status of urban and rural households (poor and non-poor) using ten independent variables. This study found that age and education of household head, household size, states/regions, having children with age under 5 years, smoking cigarette and sharing toilet in households have significant role in alleviating household poverty in urban and rural areas. However, male-headed household and drinking safe water have important role in reducing likelihood of household being poor in rural areas. Therefore, this study suggests that government and policy makers should perform to enhance the education and health programs and to implement regional development plans in rural areas. In addition, government should carry out women empowerment and gender equality for urban and rural areas of Myanmar.

Key words : *Poverty Reduction, Sustainable Development Goals, Development Plans of Rural Areas, Logistic Regression,*

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I. Introduction

Poverty causes the lack of income and productive resources to ensure sustainable livelihoods. Its manifestations include hunger and malnutrition, limited access to education and other basic services, social discrimination and exclusion, as well as the lack of participation in decision-making. In 2015, more than 736 million people lived below the international poverty line of US$ 1.9 per person per day. Around 10 percent of the world population is living in extreme poverty and struggling to fulfill the most basic needs like health, education, and access to water and sanitation. In 2018, 8.6% of the world's workers and their families lived in less than US$ 1.9 per person per day. There are 122 women with age 25 to 34 living in poverty per 100 men of the same age group. More than 160 million children are at the risk of continuing to live in extreme poverty by 2030.

Poverty remains a global concern for the last few decades. Poverty has many dimensions, and its causes unemployment, social exclusion, and high vulnerability of certain populations. Its nature and dimension are much complex in rural areas than urban areas. Poverty restrains economic growth and sustainable development. Poverty eradication issues were given the highest emphasis in the Sustainable Development Goals (SDGs). The general assembly adopted the 2030 agenda for sustainable development includes 17 sustainable development goals (SDGs). The Sustainable Development Goals are a bold universal agreement to end poverty for people, planet and prosperity. The SDGs have been developed through an unprecedented consultative process that brought national government and millions of citizens from the globe together to negotiate and adopt this ambitious agenda. Therefore, the goal 1 of SDGs as end poverty in all its forms everywhere is implemented for poverty reduction.

The social, economic, demographic, cultural and other significant contributing factors for poverty reduction have implications on the economic development and policy interventions (World Bank, 2014). Globally, majority of the poor live in rural areas and mainly depend on agriculture. Myanmar has an estimated population of 51.4 million, consisting of diverse ethnic groups. It is ranked 150 out of 187 countries on the Human Development Index. In Myanmar, 32.1% of the population lives below the national poverty line and the proportion of employed population below $1.9 purchasing power parity a day is 6.2% in 2015. The share of population below the national poverty line is the highest level in ASEAN.

II. Literature Review

Myanmar is a least developed country. According to the United Nations, least developed countries exhibit the lowest indicators of socioeconomic development, with the lowest Human Development Index ratings of all countries in the world. About 30 percent of Myanmar's population is still classified as poor. The average poverty rate of the country is 20% in rural areas and 9% in urban areas. According to Myanmar Living Conditions Survey 2017, the number of people below the poverty line drop from 48.2% in 2005 to 24.8% in 2017. Regarding the new report of Central Statistical Organization (CSO), poverty has declined substantially, but one in four still poor. Rural inhabitants are 2.7 times more likely to be poor than urban inhabitants in 2017.

Poverty is a state where one's material living standards are deemed to be inadequate. There are various ways of defining inadequate living standards which can be separated two broad categories such as absolute poverty and relative poverty. Absolute poverty refers to living standards that do not meet specific minimum requirements, usually defined by a poverty line (less than $1.9 per person per day). Relative poverty refers to living standards that are lower than those of other people in the population. Poverty could be defined as being one of the poorest 20% of people in the population. The wealth index is a way of determining relative poverty. The wealth index is based on asset ownership and household characteristics rather than monetary income.

In this study, it is important to find out the determinants on household poverty in urban and rural areas of Myanmar. Patterns of poverty differ between rural and urban areas. The data consistently show that poverty is considerably higher in rural areas as compared with urban areas. A study conducted by Thapa (2004) reveals that about 40% of the world's poor live in South Asia, where poverty is mostly a rural crisis. This study explores the relationship between household poverty and socio-demographic and environmental factors.

A number of studies are reviewed for poverty, its determinants and the impacts on the household poverty. Coulombe and Mckay (1996) analyzed the determinants of poverty in Mauritania based on household survey data for 1990. They estimated a multinomial logit model for the probability of being poor depending on households. The authors found that low education, living in a rural area and a high burden of dependence significantly increased the probability of being poor in households.

Okojie (2002) found that educational level affects the household's income poverty and the human poverty using household data of 1980, 1985, 1992 and 1996 for Nigeria. In the poverty model, the logistic regression was used and it was found that all levels of education (primary, secondary and tertiary) are significant in reducing the probability of being poor inhouseholds. The results show that male-headed

households are less likely to be poor than female-headed households. In the welfare model, the mean per capita expenditure was used as dependent variable and educational variables found to be significant in increasing the mean per capita expenditure of the household.

Ahmed (2004) mentioned that the main objective was to explore the relationship between poverty variables and eight socio-demographic determinants like location, gender, age, household size, marital status, occupation, land ownership and house ownership in one of the poorest regions of Bangladesh. Poverty is defined and measured by ten indicators, which incorporate multi-dimensionality of poverty such as food, income, assets, consumption, capability and well-being. It is found that the incidence of rural poverty ranges between 46 per cent to 67 per cent and income, capacity and well-being poverty is greater than food poverty. Furthermore, it is found that land ownership and occupation are the crucial correlates of poverty followed by marital status, age, geographic location and gender.

Abuka et al. (2007) estimate the determinants of poverty in Uganda using logistic regression technique and the data from Uganda National Household Survey (UNHS). The results showed that an increase in the schooling of household heads not only has a positive impact on the productivity and earnings but also enhances the productivity of other members of the household. The household size and being in rural areas significantly increase the likelihood of being poor.

Khudri and Chowdhury (2013) discussed determinants of poverty in Bangladesh and its different impact on poverty. They aimed to evaluate living standards and socioeconomic status of Bangladesh households through constructing an asset index and identify key determinants of poverty in Bangladesh. Using logistic regression model, division, type of place of residence, own land usable for agriculture, highest education level and employment status were identified as key determinants of poverty. The results also revealed that ownership of agricultural land and having higher education reduce the likelihood of being poor whereas rural unemployed people were more prone to poverty. Korankye (2014) investigated that poor governance, lack of education and prevalence of diseases were the major causes behind poverty in Ghana. Khatun (2015) identified that poverty was caused from lack of income, access to education, credits and public infrastructure in Bangladesh. Rahman (2015) examined the factors associated with income inequality and consumption in rural Bangladesh. The study recommended for adoption of modern agricultural technology, rural infrastructure development to promote economic diversification and nonagricultural income to reduce income inequality and increase consumption of rural households in Bangladesh.

Farah (2015) mentioned that the main objective was to identify the factors that had relative effect on poverty of the household. Several demographic and health

factors could shape up the economic status of a household. The main objective of this paper was to identify the factors that have relative effect on poverty of the household. The probability of a household being poor depends on the ownership of assets and other household data. The further analyses suggest that rural poverty is significantly affected by the demographic and household characteristics.

Biyase and Zwane (2017) examined the determinants of poverty and household welfare in the South Africa using random effect probit model and fixed effect model. Their study identified several factors such as education, sex, race, employment and marital status of the household's head is significantly related to the household welfare and poverty. In addition, they reported that the households living in rural areas were more likely to be extremely poor compared to the urban areas.

As discussed above, various scholars and researchers have presented definitions of household poverty and have observed poverty from different viewpoints. In this study, the impacts of socio-demographic and environmental factors on household poverty are investigated. Figure 1 presents the conceptual framework of this study.

Socio-demographic factors
- Age of household head
- Gender of household head
- Marital status of household head
- Education level of household head
- Size of household
- States/region
- Having children with age under 5 years
Environmental factors
- Smoking cigarette
- Drinking safe water
- Sharing toilet in households

Household poverty status
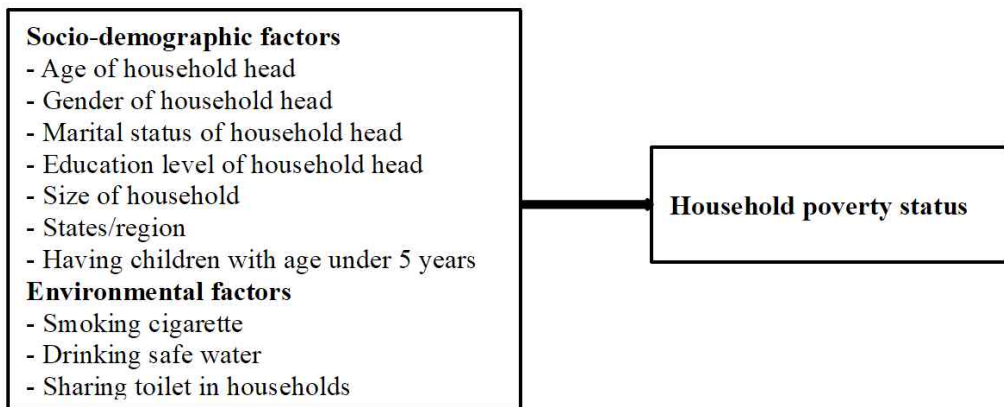
Figure 1. Conceptual framework

III. OBJECTIVES OF THE STUDY

The objectives of the study are
(i) To investigate the household poverty status in urban and rural areas of Myanmar
(i) To analyze the relationship between household poverty and socio-demographic and environmental factors in urban and rural areas of Myanmar.
(iii) To explore the influencing factors of household poverty in urban and rural areas

of Myanmar.

VI. DATA AND METHODS

1. Data

The analysis uses datasets from the 2015-2016 Myanmar Demographic and Health Survey (MDHS), which collected data for multiple indicators of demographic and health information (Ministry of Health and Sports and ICF 2017). Approval was obtained from Myanmar Ministry of Health and Sports and the DHS Program to use the datasets for this study. The survey had various types of questionnaires such as households, men and women questionnaires. The data analysis of this study focuses only on the household data to determine the impacts of the poverty among households in urban and rural areas of Myanmar. Information for this cross sectional study, the study was considered with a sample of 3399 households in urban areas and 9101 households in rural areas. This study was only considered the head of households.

2. Key Variables and Measurements

The identification and measurement of dependent and independent variables for fitting model is shown in Appendix Table 1. The dependent variable is household poverty status and independent variables are age, gender, marital status and education level of household head and states/regions, residence, size of household, having children with age under 5 years, smoking cigarette, drinking safe water and sharing toilet in households.

3. Statistical Analysis

For the multivariate analysis, a binary logistic regression model is used when the dependent variable is household poverty. The binary logistic regression model was carried out to determine socio-demographic and environmental factors related to households poverty. Relative poverty refers to living standards that are lower than those of other people in the population. The wealth index is one way of determining relative poverty. Therefore, the wealth index is based on assets of ownership and household characteristics rather than monetary income. A variety of assets and household characteristics are needed to create a meaningful wealth index. Through

principal component analysis (PCA), each asset and household characteristic is given a factor weight and based on each respondent in MDHS can be given a wealth index score. The wealth quintiles are recoded into dichotomous variable: household is poor (poorest and poorer) or non-poor (middle, richer and richest).

V. RESULTS

1. Descriptive Analysis

Appendix Table 2 provides information on socio-demographic and environmental factors of households in urban and rural areas of Myanmar included in the study, as well as descriptive statistics on their poverty status.

Regarding urban areas, the age group with below 30 years is the most poverty of household, followed by 30-49 years, 70 years and above and 50-69 years. Regarding the vast majority of household poverty, 11% of household heads are female, 10.8% of household heads are married, 22.3% of household heads are no education. Concerning the majority of household poverty, 14.7% of households have 7 and above members and 27.6% of households are having 3 children and above. In addition, Ayeyarwady State is the highest level of household poverty and Rakhine Region is the second highest level of household poverty in urban areas of Myanmar. Yagon is the lowest level of household poverty in urban areas of Myanmar. Regarding the most household poverty, 13.8% of households are smoking cigarette, 14% of households are drinking safe water and 21.5% of households are sharing toilet.

Concerning rural areas, the age group below 30 years is the most poverty of household, followed by 30-49 years, 50-69 years and 70 years and above. Regarding the vast majority of household poverty, 56.7% of household heads are female, 55.4% of household heads are single, 60.5% of household heads are no education. Concerning the majority of household poverty, 62.2% of households have 7 and above members and 65.9% of households are having 3 children and above. In addition, Rakhine State is the highest level of household poverty and Ayeyarwaddy Region is the second highest level of household poverty in rural areas of Myanmar. Mandalay is the lowest level of household poverty in rural areas of Myanmar. Regarding the most household poverty, 57.1% of households are smoking cigarette, 61.3% of households are drinking safe water and 64.3% of households are sharing toilet.

2. Association between Household Poverty and Socio-Demographic and Environmental Factors

Cross-tabulation and Chi-square test were done to determine the association between the socio-demographic and environmental factors and poverty of households. Appendix Table 3 shows the association between socio-demographic and environmental factors and poverty of household in urban and rural areas of Myanmar.

Regarding urban areas, age, gender and educational level of household head is found to be significantly associated with household poverty. The highest proportion of poverty is observed in the youngest age group as below 30 years (21.8%). The prevalence of household poverty is higher among a female-headed household than a male-headed household. The highest prevalence of household poverty is found that a headed household who has no education (22.3%). States/regions, household size and having children with age under 5 years are found to be significantly associated with household poverty. The highest prevalence of household poverty is observed in Ayeyarwady Region (37.6%) and the lowest prevalence of household poverty is Yangon Region (3.7%). In addition, smoking cigarette, drinking safe water and sharing toilet in households is observed to be significantly associated with household poverty.

According to rural areas, age, gender and educational level of household head is found to be significantly associated with household poverty. The highest proportion of poverty is observed in the youngest age group as below 30 years (76.9%). The prevalence of household poverty is higher among a female-headed household than a male-headed household. The highest prevalence of household poverty is found that a headed household who has no education (60.5%). States/regions, household size and having children with age under 5 years are found to be significantly associated with household poverty. The highest prevalence of household poverty is observed in Rakhine Region (81.2%) and the lowest prevalence of household poverty is Mandalay Region (36.3%). In addition, smoking cigarette, drinking safe water and sharing toilet in households is observed to be significantly associated with household poverty.

3. Multivariate Analysis

1) Model 1

Binary logistic regression model is performed on poverty status of households in urban areas of Myanmar. The results are shown in Appendix Table 4. According to the socio-demographic factors, age of household head has negative effect on household poverty. A household head with age 50-69 years and age 70 years and

above is about 0.65 times and 0.66 times less likely to be poor as compared to a household head with age below 30 years. This study finds that household poverty has decreased the older household heads. In addition, education level of household head has negative effect on household poverty. A household head with primary, secondary and higher education is about 0.52 times, 0.83 times and 0.99 times less likely to be poor as compared to a household head with no education. It is found that household poverty has decreased the household head with higher education. States/regions have positive effect on household poverty. A household head lives in Kachin, Kayah, Kayin, Chin, Tanintharyi, Bago, Magway, Mon, Rakhine, Shan, Ayeyarwaddy and Nay Pyi Taw is about 2.6 times, 2.09 times, 2.16 times, 3.91 times, 2.35 times, 3.22 times, 2.52 times, 2.32 times, 14.87 times, 3.44 times, 12.80 times and 2.37 times more likely to be poor as compared to a household head lives in Yangon. Size of household has positive effect on household poverty. A household with 3 to 6 people is 2.21 times more likely to be poor as compared to a household with 1 to 2 people and a household with 7 people and above is 5.89 times more likely to be poor as compared to a household with 1 to 2 people. Having children with age under 5 years has positive effect on household poverty. A household which has one child, two children and three children and above is about 1.4 times, 3.07 times and 5.23 times more likely to be poor as compared to a household which has not children.

Regarding the environmental factors, smoking cigarette has positive effect on household poverty. A household which has smoker is 1.49 times more likely to be poor as compared to a household which has not smoker. It is found that household poverty has reduced household members who are not smoking. Sharing toilet in households has positive effect on household poverty. A household that shares the toilet to another household is 2.15 times more likely to be poor as compared to a household that does not share toilet to another household.

2) Model 2

Binary logistic regression model is performed on poverty status of households in rural areas of Myanmar. The results are shown in Appendix Table 4. According to the socio-demographic factors, age of household head has negative effect on household poverty. A household head with aged 30-49 years, 50-69 years and 70 years and above is about 0.55 times, 0.8 times and 0.86 times less likely to be poor as compared to a household head with aged below 30 years. This study finds that household poverty has decreased the older household heads. In addition, education level of household head has negative effect on household poverty. A household head with primary, secondary and higher education is about 0.37 times, 0.77 times and

0.95 times less likely to be poor as compared to a household head with no education. It is found that household poverty has decreased the household head with higher education. Sex of household head has positive effect on household poverty. A female-headed household is 1.19 times more likely to be poor as compared to a male-headed household. States/regions have positive effect on household poverty. A household head lives in Kayin, Chin, Tanintharyi, Bago, Magway, Mon, Rakhine, Ayeyarwaddy and Nay Pyi Taw is about 1.39 times, 3.05 times, 2.11 times, 1.74 times, 1.59 times, 1.39 times, 7.36 times, 4.84 times and 1.97 times more likely to be poor as compared to a household head lives in Yangon. Size of household has positive effect on household poverty. A household with 3 to 6 people is 1.41 times more likely to be poor as compared to a household with 1 to 2 people and a household with 7 people and above is 3.12 times more likely to be poor as compared to a household with 1 to 2 people. Having children with age under 5 years has positive effect on household poverty. A household which has one child, two children and three children and above is about 1.33 times, 1.98 times and 2.06 times more likely to be poor as compared to a household which has not children.

Concerning environmental factors, smoking cigarette has positive effect on household poverty. A household which has smoker is 1.35 times more likely to be poor as compared to a household which has not smoker. It is found that household poverty has reduced household members who are not smoking. Drinking safe water has negative effect on household poverty. A household which receives drinking safe water is 0.31 times less likely to be poor as compared to a household which does not receive drinking safe water. Sharing toilet in households has positive effect on household poverty. A household that shares toilet to another household is 1.71 times more likely to be poor as compared to a household that does not share toilet to another household.

VI. CONCLUSION AND RECOMMENDATIONS

Myanmar is one of the three poorest countries in Asia. More than 32 percent of the Myanmar population lives in below the poverty line. Between 66 and 70 percent of the Myanmar population live in rural areas and depends heavily on low-tech fishing and farming largely for subsistence. This exacerbates the gap between the urban and the rural, hence rural poverty is twice as high as urban poverty. Within the Association of Southeast Asian Nations (ASEAN), Myanmar had the lowest adult life expectancy at 66.04 years in 2015, according to the World Health Organization (WHO). Myanmar also had the second highest child mortality rate in the ASEAN

region.

The investigation of relationship between socio-demographic and environmental factors and poverty of households revealed the following points:

(i) A household head is educated and older who shows falling the household poverty in urban and rural areas whereas a female-headed household indicates rising household poverty in rural areas.

(ii) A household head is residing in urban areas of Kachin, Kayah, Kayin, Chin, Tanintharyi, Bago, Magway, Mon, Rakhine, Shan, Ayeyarwady and Nay Pyi Taw shows rising the poverty of household but a household head is residing in rural areas of Kayin, Chin, Tanintharyi, Bago, Magway, Mon, Rakhine, Ayeyarwady and Nay Pyi Taw shows rising the poverty of household.

(iii) Urban and rural Households which have increasing family size and children with age under five years, smoking cigarettes, sharing toilet to another household increase the risk of poverty. In addition, rural households which receive drinking safe water decrease the risk of poverty.

Based on the findings of the study, government and policy makers should implement the key areas for poverty reduction. These policies priority are

(i) Implement the regional development plans for urban and rural areas
(ii) Upgrade basic education and higher education in urban and rural areas
(iii) Carry out gender equality in urban and rural areas
(iv) Increase the number of women in workforce in rural areas
(v) Improve family planning and health program in rural areas
(vi) Receive drinking safe water in underdeveloped states and regions of rural areas.

ACKNOWLEDGMENT

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Appendix

Table 1. Identification of dependent and independent variables

Dependent variable	Independent variables
Household poverty status $Y = 1$ if household is poor $\quad = 0$ if household is non-poor	Age of household head $X_1 = 1$ if below 30 years $\quad = 2$ if 30-49 years $\quad = 3$ if 50-69 years $\quad = 4$ if 70 years and above
	Educational level of household head $X_2 = 1$ if no education $\quad = 2$ if primary $\quad = 3$ if secondary $\quad = 4$ if higher
	Sex of household head $X_3 = 1$ if male $\quad = 2$ if female
	Marital status of household head $X_4 = 1$ if single $\quad = 2$ if married
	States/ regions $X_5 = 1$ if Yangon $\quad = 2$ if Kachin $\quad = 3$ if Kayah $\quad = 4$ if Kayin $\quad = 5$ if Chin $\quad = 6$ if Sagaing $\quad = 7$ if Tanintharyi $\quad = 8$ if Bago $\quad = 9$ if Magway $\quad = 10$ if Mandalay $\quad = 11$ if Mon $\quad = 12$ if Rakhine $\quad = 13$ if Shan $\quad = 14$ if Ayeyarwady $\quad = 15$ if Nay Pyi Taw
	Size of household $X_6 = 1$ if 1-2 people $\quad = 2$ if 3-6 people $\quad = 3$ if 7 people and above
	Having children with age under 5 years $X_{10} = 1$ if no $\quad = 2$ if 1 child $\quad = 3$ if 2 children $\quad = 4$ if 3 children and above
	Smoking cigarette $X_7 = 1$ if no $\quad = 2$ if yes
	Drinking safe water $X_8 = 1$ if no $\quad = 2$ if yes
	Sharing toilet in households $X_9 = 1$ if no $\quad = 2$ if yes

Source: MDHS (2017)

Table 2. Percent distribution of socio-demographic characteristics on household poverty in urban and rural areas of Myanmar

Socio-demographic and environmental factors	Classification	Household poverty status in urban areas		Household poverty status in rural areas	
		Poor	Non-poor	Poor	Non-poor
Age of household head	Below 30 years	21.8	78.2	76.9	23.1
	30-49 years	12.0	88.0	58.6	41.4
	50-69 years	8.0	92.0	46.9	53.1
	70 years and above	10.3	89.7	45.1	54.9
Gender of household head	Male	10.3	89.7	52.8	47.2
	Female	11.0	89.0	56.7	43.3
Marital status of household head	Single	6.7	93.3	55.4	44.6
	Married	10.8	89.2	53.5	46.5
Educational level of household head	No education	22.3	77.7	60.5	39.5
	Primary	15.7	84.3	56.7	43.3
	Secondary	7.0	93.0	39	61
	Higher	0.2	99.8	14.4	85.6
States/ regions	Yangon	3.7	96.3	41.9	58.1
	Kachin	9.0	91.0	46.2	53.8
	Kayah	10.4	89.6	42.8	57.2
	Kayin	7.8	92.2	52	48.0
	Chin	12.3	8.7	62.9	37.1
	Sagaing	6.7	93.3	36.3	63.7
	Tanintharyi	9.2	90.8	58.7	41.3
	Bago	10.5	89.5	52.7	47.3
	Magway	11.2	88.8	50.8	49.2
	Mandalay	4.6	95.4	36.7	63.3
	Mon	7.8	92.2	49.1	50.9
	Rakhine	31.2	68.8	81.2	18.8
	Shan	15.2	84.8	49.2	50.8
	Ayeyarwady	37.6	62.4	74	26
	Nay Pyi Taw	9.2	90.8	58.7	41.3
Having children with age under 5 years	No	9.3	90.7	49.8	50.2
	1 child	11.3	88.7	56.5	43.5
	2 children	18.7	81.3	65.6	34.4
	3 children and above	27.6	72.4	65.9	34.1
Size of household	1-2	7.2	92.8	51.2	48.8
	3-6	10.1	84.9	52.1	47.9
	7 and above	14.7	85.3	62.2	37.8
Smoking cigarette	No	7.6	92.4	48.8	51.2
	Yes	13.8	86.2	57.1	42.9
Drinking safe water	No	14.0	86.0	61.3	38.7
	Yes	5.4	94.6	51.9	48.1
Sharing toilet in households	No	8.5	91.5	51.7	48.3
	Yes	21.5	78.5	64.3	35.7

Source: MDHS (2017)

Table 3. Association between household poverty and socio-demographic characteristics in urban and rural areas of Myanmar

Socio-demographic and environmental factors	Classification	Urban areas		Rural areas	
		Number of household	χ^2	Number of household	χ^2
Age of household head	Below 30 years	170		584	
	30-49 years	1328		3846	
	50-69 years	1490		3699	
	70 years and above	411	261.82***	971	261.82***
Gender of household head	Male	2444		7187	
	Female	955	9.37***	1914	9.37***
Marital status of household head	Single	213		333	
	Married	3186	0.49	8768	0.49
Educational level of household head	No education	430		2903	
	Primary	992		4142	
	Secondary	1494		1931	
	Higher	483	314.91***	125	314.91***
States/ regions	Yangon	591		348	
	Kachin	279		472	
	Kayah	183		570	
	Kayin	193		604	
	Chin	170		590	
	Sagaing	178		743	
	Tanintharyi	195		564	
	Bago	228		696	
	Magway	170		734	
	Mandalay	283		597	
	Mon	219		574	
	Rakhine	138		687	
	Shan	178		630	
	Ayeyarwady	165		757	
	Nay Pyi Taw	229	595.45***	535	595.45***
Size of household	1-2	529		1294	
	3-6	2225		6341	
	7 and above	645	52.61***	1466	52.61***
Having children with age under 5 years	No	2363		5452	
	1 child	804		2600	
	2 children	203		876	
	3 children and above	29	101.37***	173	101.37***
Smoking cigarette	No	1798		3831	
	Yes	1601	60.66***	5270	60.66***
Drinking safe water	No	1375		1664	
	Yes	2024	48.68***	7437	48.68***
Sharing toilet in households	No	2859		7753	73.25***
	Yes	540	81.67***	1348	

Note: ***, **, * represent 1%, 5% and 10% level of significance, respectively.
Source: MDHS (2017)

Table 4. Summary results of logistic regression model for household poverty in urban and rural areas of Myanmar

Independent variables	Classification	Urban areas		Rural areas	
		Odds ratio	P-value	Odds ratio	P-value
Constant		0.03	0.000	2.1	0.001
Age of household head	Below 30 years (ref)				
	30-49 years	0.71	0.166	0.45***	0.000
	50-69 years	0.35***	0.000	0.20***	0.000
	70 years and above	0.34***	0.001	0.14***	0.000
Educational level of household head	No education (ref)				
	Primary	0.48***	0.000	0.63***	0.000
	Secondary	0.17***	0.000	0.23***	0.000
	Higher	0.01***	0.000	0.05***	0.000
Sex of household head	Male (ref)				
	Female	1.00	0.998	1.19***	0.005
Marital status of household head	Single(ref)				
	Married	1.19	0.592	1.07	0.590
States/ regions	Yangon (ref)				
	Kachin	2.60***	0.003	1.22	0.204
	Kayah	2.09**	0.035	1.03	0.857
	Kayin	2.16**	0.035	1.39**	0.024
	Chin	3.91***	0.000	3.05***	0.000
	Sagaing	1.63	0.207	0.76	0.155
	Tanintharyi	2.35**	0.014	2.11***	0.000
	Bago	3.22***	0.000	1.74***	0.000
	Magway	2.52***	0.009	1.59***	0.001
	Mandalay	0.97	0.932	0.80	0.132
	Mon	2.32**	0.016	1.39**	0.024
	Rakhine	14.87***	0.000	7.36***	0.000
	Shan	3.44***	0.000	0.90	0.469
	Ayeyarwady	12.80***	0.000	4.84***	0.000
	Nay Pyi Taw	2.37**	0.011	1.97***	0.000
Size of household	1-2 (ref)				
	3-6	2.21***	0.000	1.41***	0.000
	7 and above	5.89***	0.000	3.12***	0.000
Having children with age under 5 years	No (ref)				
	1 child	1.40**	0.043	1.33***	0.000
	2 children	3.07***	0.000	1.98***	0.000
	3 children and above	5.23***	0.004	2.06***	0.000
Smoking cigarette	No (ref)				
	Yes	1.49***	0.003	1.35***	0.000
Drinking safe water	No (ref)				
	Yes	0.81	0.109	0.69***	0.000
Sharing toilet in households	No (ref)				
	2 households	2.15***	0.000	1.71***	0.000

Note: ***, **, * represent 1%, 5% and 10% level of significance, respectively.
Source: MDHS (2017)

Consolidation of Post-Civil War Democracy in Liberia: Implications for Reconciliation and Reconstruction

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ABSTRACT: Ethnicity is an integral part of African society and it shapes economy and political structure. In Africa, ethnicity provides security perception, common history and culture, common language for communication and common vision. Modern Liberia was found by free American slaves in 1847. There are many ethnic groups in Liberia such as Krahn, Kpelle, Bassa, Kru, Mandingo, Mano, Konneh, Gio and other smaller groups. The ethnic conflict in Liberia is deep rooted between Americo-Liberians and indigenous Liberians. The Indigenous Liberians, who had been denied all social, political and economic freedom and other civil rights in independent Liberia became unhappy with new political arrangements and wanted to ensure inclusive political and economic affairs of the country. The small groups of Americo-Liberians held power until 1989 when Charles Taylor led National Patriotic Front of Liberia to oust the repressive regime of president Samuel Doe. But the demise of Americo-Liberians regime failed to bring peace and stable democratic government. The conflict started between Prince Yormie Johnson and Charles Taylor for the control of political power and it resulted seven years of civil wars. Since, 1989 Liberia has been engulfed in civil war due to ethnic division, corrupt political system and economic mismanagement. The civil war has led to increased social unrest, internal displacement, economic slowdown and political instability. In this civil war Charles Taylor succeeded and he became president in 1997 through elections but Taylor's regime failed to end the violence. Under the Taylor's regime social unrest and ethnic conflict escalated between 1997 and 2003. This paper traces the root causes of ethnic conflict and social unrest in Liberia. In 2005, the first presidential election was conducted after fifteen years of a hideous civil war in Liberia. In this election Ellen Johnson Sirleaf had been elected and

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became first women president of any African country. A legitimate democratic mandate has provided the basis for the new Liberian government to improve the reconstruction and reconciliation process. President Sirleaf's twelve year cemented peace and transformed the authoritarian Liberian political structure into democratic political structure. In 2017 presidential election former soccer star George Manneh Weah's victory as a president consolidates the country's post-civil war democracy. This is the first and smooth democratic transfer of power in Liberia since 1944. Liberia has consolidated democracy through UN Mission in Liberia, decentralization of government, justice and security reform, local participation in management of natural resources and decision making, national reconciliation, diversification and recovery of economy, impartiality of judiciary, independent national election commission, smooth political transition, civil society, youth leadership, iconic star leadership, large number of women participation in elections. This paper examines instruments and mechanism for the restoration of peace and consolidation of democracy in post-civil war Liberia.

Key words : *Ethnicity, Social Conflict, Civil War, UNMIL, Presidential Election, Democratic Transfer of Power, Democratic Government, Reconstruction, Socio-Economic Development,*

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I. Introduction

After over one hundred sixty years of independence the Liberian state was close to total collapse as a result of fourteen years of civil war. The state's failure and breakdown of central authority has had debilitating social, economic, and political consequences, such as; destruction of valuable infrastructure, internal and cross-border refugee problems, unemployment, hunger and violation of human rights. The challenge for a post-conflict state such as Liberia is the consolidation of democracy and the implementation of the necessary steps required to achieve sustainable development.

The history of Liberia can be traced as far back as 1816 with the formation of the American Colonization Society (ACS). The primary objective of the organization was to promote and execute a plan for settling in Africa freed people of colour residing in the United States. From 1818 to 1847 the American Colonization Society with the support of the United States government began the process of emigration and repatriation of free persons of African heritage back to Africa. The process began with the passage of the Congressional Anti-Slave Trade Act of 1819, when the president of American Colonization Society Bushrod Washington was granted

permission by President James Monroe to execute the Congressional Act in Africa
(Boas 2005, p. 74).

However, between 1822 and 1847 Liberia was under the colonial administrative
control of the United States government, which apart from protecting Liberia from
other neighbouring European interests, it was also preoccupied with mounting
opposition from the majority indigenous groups. Against this background, the settlers
created their own ethnic identity, hence the Americo-Liberians. On achieving
independence, the young republic of Liberia encountered several socio-economic
problems; one of which was the hostility between the indigenous people and the
Americo-Liberians. One of the causes of this hostility was the land tenure system and
land ownership (Adibe 1997, p. 478). Thus, opposition by indigenous groups who
were the original land owners in Liberia became common. Another reason for this
hostility was cultural misunderstanding. The settlers, because of their acquired
Western values, had become acculturated in Western culture while their counterparts
lived according to traditional African mores.

Figure 1. Political Map of Liberia

The Americo-Liberians viewed the culture of indigenous Liberians as primitive and
saw themselves as a civilizing force. Accordingly, President Jenkins Roberts, an
Americo-Liberian leader, stated that Americo-Liberians had a manifest destiny to bring
civilization to the tribal heathen of the hinter land." The hostility between
Americo-Liberians and the indigenous groups led to several ethnic conflicts that were

apparent in some of the inter-ethnic land conflict in Liberia when the first settler's arrival during the pre-independence period of the republic. According to Gus Liebenow, the initial misunderstanding was over the traditional concept of land tenure, which was based upon use rather than ownership through purchase. This was compounded by the subsequent failure of the settlers or the American Colonization Society to pay even the low prices agreed upon; by the seizure of land for alleged insults against the colonists or for nonpayment of debts; and by constant disputes over land boundaries (Nilsson and Mimmi 2005, p. 398).

The land issue was subsequently complicated by the policies and practices in the use of native labour on farms owned by Liberian settlers. The native labour policies reinforced social inequities between Americo-Liberians and the indigenous groups. For instance, indigenous Liberians lacked basic amenities on farmlands, while Americo Liberians had the power to fine their indigenous employees. Also, the apprenticeship system under which indigenous youth were assigned to Americo Liberian families until they came of age was extensively abused and was at the root of a labour discord during the early period.

However, these actions created a situation in Africa not unlike the very one against which the repatriated Americo-Liberians themselves had rebelled against in America. The indigenous Africans were expected to give freely their labour for road construction and other public works; as well as their payment of taxes to an alien people (Kodjoe 2007, p. 271). It is under these inhumane conditions that a conflict between the Americo-Liberians and the indigenous Africans was further exacerbated. The Americo-Liberians were committed to Western culture and the capitalist system of labour exploitation. Consequently, they showed cultural hostility towards the indigenous inhabitants.

II. Background of Conflict in Liberia

To examine the causes of the conflict in Liberia, a brief background of the country's civil war is needed. The Liberian civil war began in 1989. The country was ruled by Americo-Liberians (American descendants) until 1980 when Sergeant Samuel Doe, a native Liberian, became the first president of Liberia. Liberians for the first time thought they were going to be liberated under Samuel Doe's regime. However, his regime became very authoritarian, discriminatory and abusive of human rights in Liberia. It was as a result of the repressive regime of Samuel Doe that Charles Taylor began an attack in 1989 which finally led to the overthrow of Samuel Doe's government by a break-away faction from the rebels' group of Charles Taylor

(Murphy 2003, p. 70)

This group, known as the Independent National Patriotic Front of Liberia (INPFL), was led by Prince Johnson in September 1990. The ECOWAS Monitoring Group (ECOMOG), a regional peacekeeping group of the Economic Community of West African States (ECOWAS), mediated, and Dr. Sawyer acted as interim president until the 1997 elections when Charles Taylor of the National Patriotic Front of Liberia (NPFL) was elected as president (Adibe 2010, p. 475). Two years later, the civil war began with two rebel groups. One emerged from the border between Ivory Coast and Liberia and became known as the Movement for Democracy in Liberia (MODEL), the other was started by a group of exiled Liberians in Guinea who called themselves Liberians United for Reconciliation and Democracy (LURD). These two groups that fought Taylor's government destabilised the country. With international pressures and ECOWAS intervention, Charles Taylor was compelled to resign in 2003. He went into exile in Nigeria and his vice-president, Gyude Bryant, was chosen to act as interim president until the 2005 election, when Ellen Johnson Sirleaf was elected and sworn in as the President of Liberia in January 2006.

Many reasons have been given for this conflict. For Adebajo, the conflict is generally attributed to bad governance. Adebajo identifies six key issues, as indices of bad governance, that contributed to the Liberian War: 'the exclusionary rule of the Americo-Liberian Oligarchy, the brutal and inept rule of Samuel Doe; the deleterious effects that Doe's rule had on the armed forces of Liberia, ethnic rivalries and personal ambitions that resulted from Doe's rise to bloody power; and the destabilizing effects of the withdrawal of the U.S. support from Doe, a strategic Cold War ally' (Adebajo 2002, p. 19).

Given these issues outlined by Adebajo, it can be seen that Liberians suffered from the Americo-Liberian rule in that they were systematically discriminated against in terms of employment, political representation and development projects. Samuel Doe's government became more repressive, authoritative and abusive of human rights. Indeed, there were political, social and economic factors that led to a resumption of the civil war in 1989. Firstly, after the 1985 elections, instead of establishing inclusive democratic governance, Doe deepened ethnic exclusion by disproportionately appointing his own tribe, the Krahns, and co-opted the Mandingoes, who were the wealthiest business people, into his cabinet to the neglect of the rest of the fourteen tribes of Liberia. Secondly, the extra-judicial execution of Colonel Thomas Quinwokpa and his military men, including the Gios and Manos, brought about counter-reaction. Thirdly, the execution of William Tolbert and several members of his cabinet, and the reckless confiscation of property, led the Americo-Liberians to support Charles Talyor's uprising (Obi 2009, p. 124).

From the above account of the factors that led to the civil war in Liberia, it is

sufficiently clear that bad governance was the main reason for the violence that followed. As can be seen in Liberia, a crisis of governance as exhibited in the abuse of human rights, dictatorial rule, social and ethnic exclusion, and institutional failures led to the overthrow of Doe's government and the turmoil that then engulfed the country. Samuel Doe's regime was very repressive and pursued ethnic discrimination policies. As Amos Sawyer argues, 'Sergeant Samuel Doe ascended to power from the lumpen elements of the Liberian Army. Within a few years, he purged the military of all his rivals and of its trained officers, and relied on an under disciplined core recruited largely by his Krahn ethnic groups' (Sawyer 2004, p. 444). This means that the professionalism of the military was undermined, and this not only negated merit principles in the military but also weakened the military institution.

III. The Consolidation of the Peace Process

Liberia was engulfed in a vicious and brutal cycle of conflict that lasted 14 years (1989 - 2003) and resulted in the deaths of 270 000 people, the displacement of 800 000, and the devastation of the economy and national and civil machineries. Destabilisation of the entire West African region occurred as Liberia's neighbours, Sierra Leone, Guinea and Côte d'Ivoire also became embroiled in conflict. While it was hoped that elections in Liberia in 1997 would restore order to the country (indeed, the United Nations Observer Mission in Liberia-UNOMIL-withdrew from the country on this basis), violence continued unabated and between 2000 and 2003 a new wave of conflict gripped the region (Knight 2008, p. 32).

The key actors to the conflict signed the Comprehensive Peace Agreement (CPA) in Accra, Ghana, in August 2003, and a National Transitional Government of Liberia (NTGL) was established in October 2003. The CPA was a comprehensive peace agreement intended to address the civil war within Liberia as well as the regional conflict dynamics, and to firmly place Liberia and the region on the path to post-conflict recovery and sustainable peacebuilding. In 2005, Ellen Johnson-Sirleaf was elected president in the first post-conflict elections, and a unity government took power in 2006. While the elections marked an important milestone toward the attainment of peace, the critical challenge of the post-conflict building processes still dogged the country (Paes 2005, p. 260)

The UN Mission in Liberia was established by the UN Security Council Resolution 1509 and was deployed in October 2003. UNMIL was a wholly integrated mission which, practically, meant that all key components of the mission were located under a unified command structure. Some in the humanitarian sector doubted this

integration and feared that the mix of the humanitarian with political and security imperatives would compromise core humanitarian principles. Others in the humanitarian and NGO sector, however, did not object to working with UNMIL. Generally, there was a positive attitude toward UNMIL in the country (Olonisakin 1996, p. 44).

The Liberian government has already constructively engaged the international donor community to assist in expanding capacity and creating an enabling environment for peace, economic prosperity and reconstruction. To date, the US is the most influential bilateral donor in Liberia, followed by the European Union, the World Bank, the United Kingdom, Germany, Japan, Denmark, Sweden, Norway, the Netherlands, Ireland, Spain, France, Italy, and the People's Republic of China. In addition, a growing number of multinational corporations, non-governmental organizations, the Roman Catholic Church and other religious organizations are acting as private-sector donors in Liberia.

In this scenario, the government should make a considerable effort to promote the socio-economic well-being of the citizens as its main priority. A democratically stable environment will enhance the prospects for successful reconstruction projects addressing the basic needs of the people such as water, electricity, roads, education and job creation. Despite the fact that shortly after her administration was sworn in, President Johnson-Sirleaf restored electricity to certain areas in Monrovia, many Liberians still rely on generators as a source of energy. The restoration of the infrastructures, particularly roads, is a labor-intensive project that could provide jobs for thousands of young people currently demobilized and/or unemployed. Although it is unrealistic to expect miracles from the present regime in just two years, better management of resources, objective identification of priorities and a strong political will could lay the foundations for the rise of an economically viable and socially cohesive Liberia before the next elections (Kaihko 2015, p. 256).

One of the most significant impediments to the successful completion of the reconstruction process in Liberia is the poor mobilization of resources both internally and externally. While the Liberian government is working hard to improve the utilization of its domestic resources, donors have done little more than make promises. Liberians are of the opinion that, while the US has an important role to play in the post-reconstruction process, the country needs to diversify its partnerships. According to Lansana Gberie, "Liberia's problems are simply overwhelming and the US appears unwilling or unable to invest enough to make a difference" (Gberie 2007, p. 142). This echoes the sentiments of the Liberian people who would prefer that their government adopt an inward looking approach and work closely with regional actors such as the African Development Bank, the West African Bank for Development, and other regional partners such as Nigeria to decrease its

excessive dependence on the US.

This will foster Liberia's pride and at the same time promote the empowerment of the people. As a war-torn country with a heavy debt burden, Liberia certainly needs sustainable and coordinated external support in its post-war reconstruction phase. This should not, however, be at the expense of domestic ownership and control over the process. It is expected that the government will have to increasingly take a leading role in co-ordinating external assistance through its established institutional framework, the Liberian Reconstruction and Development Committee (LRDC), to improve the effectiveness of the reconstruction plans. The LRDC has identified five important areas that require attention: security, economic revitalization, governance combined with rule of law and infrastructure that provides basic services.

Foreign debt will remain a huge obstacle to the recovery and the healing process in Liberia. The massive debt, if not cancelled or dealt with adequately, will severely restrict Liberia's capacity to combat poverty. This situation will be aggravated if donors fail to fulfill their pledges. Inconsistencies in government policies on corruption and actions on the ground could cause donors to withhold funding. In this case, the government will have to rely on domestic resources, which appear insufficient for the implementation of the recovery programmes. Even though some bilateral as well multilateral donors are prepared to provide aid to Liberia with no strings attached (Ahunna 1998, p. 34), the political considerations on the part of influential donors (the US for example) may affect the flow of financial assistance and delay the state's response to the basic needs of the people. Therefore, the government may not be able to keep its promises to the people, who, if the democratic consensus remains in place, will manifest their disappointment through the ballot box or through popular protests.

Finally, post-conflict reconstruction involves exit strategies for the donors and peacemakers. Unfortunately, the local community in Liberia has no exit strategy. People living in the rural areas ultimately have the greatest need to build a sustainable peace. Often, the international community sees only the highly visible ex-combatants and those in power, while ignoring the faceless majority. Therefore, conflict-affected people need timely and effective support to regain confidence in the ability of the state and its institutions to deliver and so embark them on the path to sustainable peace (UNDP Report 2006, p. 152).

IV. Consolidation of Post-Civil War Democracy in Liberia

Liberia is now to recover from the scars inflicted by 15 years of warfare, which

claimed the lives of more than 200,000 people and further displaced a million others into refugee camps in neighbouring countries. Some had been forced to flee as many as five times from one zone to another. This resulted in unprecedented social dislocation, which could still have a lasting impact on Liberia's socio- economic recovery plans. It is estimated that 80 per cent of the country's housing had been damaged or destroyed in fighting (Richards et al., 2006). Sexual violence and gender-based violence were perpetrated against the civilian population to the extent that trauma caused by ruination, grief and loss still affect a considerable number of Liberians (Richards et al. 2006, p. 72).

After more than a decade of war, there is no doubt that the oldest republic in Africa needs a combination of internal and external resources to rise again. A well-considered setting of priorities and overall mobilization of the various players around those priorities will help Liberia to successfully complete the peacebuilding and economic recovery process. It has become evident that a major factor affecting reconstruction in Liberia is using the opportunity to learn from the relative success in neighbouring Sierra Leone. Many Liberians are of the opinion that Liberian post-conflict reconstruction affords the citizens and their authorities the historical opportunity to lay strong foundations for a stable and economically prosperous society. It is an opportunity for those who now have the responsibility of building the Liberian nation, to bring into being the development projects that were compromised and delayed by a century of political exclusion, dictatorship and war (Boas 2010, p. 710)

With the November 2005 elections, Liberians entered into a new social contract based on the commitment of the main political actors and the population to establish a political order based on good governance and the promotion of socio-economic recovery (Harris 2006, p. 384). The imperative of peace in this volatile West African region compelled George Weah, a favorite in the general elections, to abandon his challenge of the results that declared Ellen Johnson-Sirleaf, President of Liberia. George Weah came out on top in the first round of the presidential elections only to loose to the Harvard graduate and veteran politician, Ellen Johnson-Sirleaf in the run-off. It is speculated that George Weah's lack of education coupled with the 'fear of Doe syndrome' made some development partners nervous about the possibility of the Liberian football legend becoming president of the war-torn state of Liberia (Gray 2005, p. 80)

Despite the controversies over the outcome of the elections, President Ellen Johnson-Sirleaf's government has been sworn in with a double mandate to rebuild Liberia and to demonstrate the commitment of the new administration to addressing some of the complex problems that lay at the root of the conflict while promoting sustainable socio-economic development. The imperative of consolidating state

authority throughout the country is as critical as reforming the security sector and meeting the socio-economic expectations of the population (Harris 2006, p. 22).

The elections in Liberia in 2005 were extraordinary, not only did the Liberian electorate elect the first female president in Africa ever, but the elections were also historic from a national perspective. In several different areas the elections excelled expectations; they were free and fair and were more similar to African peacetime polls than post-conflict elections (Kieh 2009, p. 16). The elections were also highly competitive yet violence-free. Given this remarkable assessment, this paper has attempted to evaluate the perceptions of these elections among the ex-combatant community in Liberia, and their possible impact on the long-term democratization process. When assessing the political culture among the ex-combatants, it is important to take note of Sawyer's assertion: Liberia has never had a democratic electoral culture; these were only the first free and fair competitive elections in modern times.

The elections in Liberia in October and November of 2005 have generally been hailed as very successful and democratic, indeed some have called them "the freest and fairest elections that Liberia has ever seen" (Amos 2005, p. 107). Presidential and legislative elections were held at the same time, and since no candidate received 50 % plus one vote, a runoff presidential election was held a little later. In the end, Ellen Johnson Sirleaf (a Harvard graduate, minister during the Tolbert regime in the late 70s and a former World Bank employee) won with 59.4% of the votes against George Weah's (a high school dropout and international football star) 40.6%. Despite logistical problems, Liberians registered and voted in very large numbers (an estimated 90% of the population registered, and participation in the first round of elections stood at 74.9% and in the runoff presidential election at 61% (Boas and Utas 2014, p. 52). The conduct of campaigns and actual polling were orderly and professional, and very few incidents of violence occurred. The election was also exceptional since no incumbent nor former warlord was on the ticket, which left the field wide open. This also meant that most seats were a very close call; no party or presidential candidate achieved a landslide victory so common in Africa in general. Of significance to this paper is also George Weah's challenge of the election results, his claims of electoral fraud were, however, never proven to have systematically biased the results.

Besides, to consolidate democracy, peace and development in Liberia, the role of civil society is significant. As Stedman argues, 'there is the necessity for democratic reform to reorient state-society relationship so that the political accountability of the rulers is the hub of political life'. The empowerment of civil society will enable them to hold government accountable and ensure transparency. It will also enable civil society to play a watchdog role over the conduct of government to avoid

mismanagement of the economy, as well as corruption, political patronage and rent-seeking. To that extent, it is important that civil society has inputs into the policy process, in such areas as the drafting of the national budget and the implementation of policies, development projects and programmes that government pursues. It is important that the tax payers exercise their rights regarding what their monies are used for and how they are used. Indeed, the test of the current leadership and the stability of Liberia will depend on the pursuit of good governance and security policy. What follows now is a discussion of the security policies that will be required to maintain peace in Liberia (Sawyer 2008, p. 180).

V. Implications for Reconstruction and Reconciliation

Reintegration in the context of post-conflict development involves two aspects: social reintegration and economic reintegration. The social aspect of reintegration involves healing the wounds of victims occasioned by past human rights abuses. Thus, the social aspects of reintegration will require the Government of Liberia to use the reconciliation process and to encourage religious bodies to address issues with regard to the acceptance of ex-combatants into their communities. This involves persuading offenders to admit to their crimes through the hearings of a Truth and Reconciliation Commission, and for the victims to forgive them for their misdeeds. An alternative would be for the state to institute a retributive justice system in which perpetrators are prosecuted for crimes committed during the civil war. The current government has thus far adopted a reconciliation process. It has also adopted a retributive system for some officials in that Charles Taylor is currently being tried by the International Court of Justice in the Hague for his alleged involvement in crimes against humanity (Armstrong 2002, p. 475).

On the economic aspects of reintegration, the state needs to provide compensation for those whose properties were confiscated, or who lost relatives. These have been the traditional approaches to reintegration. Though these are necessary, they have been short-lived. I argue that there is a need to pursue a combination of a short and a long-term development approach that aims simultaneously to address security and development (Rookwood 2011, p. 195). Because most conflicts exploit short-term dissatisfaction among the populace to initiate conflict, it is imperative for the state to provide short-term jobs or the means of livelihood to all Liberians. However, a long-term development plan is needed to promote sustainable peace and socio-economic development. This can be reached through investment in education by building schools to enable Liberians and

ex-combatants to acquire new skills and fully engage in economic activity. Simply forbidding the use of arms does not provide livelihood, and can lead to a return of conflict. Thus, policies are required to promote human security which encompasses survival and the provision of jobs, health care and education.

These are the key issues to be addressed by the government that can in the long run address illiteracy, unemployment, poverty and vulnerabilities. This means that peacebuilding is a long-term process that requires a developmental approach linking security to development. The reintegration of ex-combatants as well as the provision of jobs to Liberians becomes crucial in the country's strides to stability. Post-conflict peacebuilding is a complex, costly and multi-facetted one aimed ultimately at providing security, development and social rehabilitation through institutional transformation, and tackling the root causes of conflict (Rookwood 2008, p. 480). It needs to address security challenges under which military, DDR, political, social and economic problems are linked.

Development cannot be achieved without security. At the same time, security is not sustainable without development. There is a synergy of development and security. If developmental problems such as poverty, unemployment, regional inequalities, lack of access to health care and education are not addressed in Liberia, the chances for a resumption of conflict are high. Also, if issues such as the professionalism of the military and the domination of the military by one ethnic group are not addressed and the control of SALWs is not done at the borders and internally, the stakes for opportunistic politicians or greedy individuals to hire rebels from other countries to enter the borders and destabilise the stability of the state are also high (Hoffman 2006, p. 259). There is, therefore, a need to view security and development issues as interwoven and inextricably linked.

Given the lessons learned in the previous conflicts in Liberia, the post-conflict situation demands a democratic, all-inclusive governance approach. Nepotism, political patronage, rent-seeking, corruption and identity politics which characterised the previous governments should not be repeated. This will require marshalling the necessary political will to address issues such as identity, participation, distribution, penetration and legitimacy (Binder 2011, p. 373). To overcome the crisis of governance in Liberia, it is imperative that these five issues be dealt with. There is a need for the state to provide an enabling political and regulatory environment for civil society to participate in the policy process and decision-making processes either through their representatives in parliament or by grassroots participation. One of the crucial policy actions required by the Government of Liberia is to endeavour to ensure equitable distribution of resources to benefit all regions, and that is where penetration is important, because a lack of penetration and the concentration of development projects in some regions to the neglect of others lead to

marginalisation and regional imbalances. Governance also requires that leadership be willing to bargain and incorporate the inputs of the various groups into decision making that reflects broad consensus and values (Omotola 2006, p. 45).

1. Building National Capacities

Liberia has had a functioning government for only five years now. It is still in the post-war reconstruction stage, and capacity building is required to address the poor infrastructural state of public institutions, education, justice, the public sector and the health care system. The UNDP defines capacity building as 'the process by which individuals, organizations, institutions and societies develop abilities (individually and collectively) to perform functions, solve problems, and set and achieve objectives' (UNDP Report 1997, p. 3). Capacity building is providing individuals, institutions and organisations with the technical, regulatory, political, social and economic tools to empower themselves. Capacity building in Liberia will need to take place at the national and local levels.

At the national level, there is a need for two levels of capacity building to be put in place: one that empowers and improves the skills, capabilities, and competencies of the people put in place to manage the country (politicians, policymakers and public servants in the various ministries); and, secondly, a system of rules and frameworks to guide them in the implementation and management of the affairs of the country. As such, a key priority of the government should be to focus on building leadership underpinned with managerial skills, public service values and ethics, integrity and encompassing national interest, and also administrative and technical capacities at various levels both in the public and private sectors (Jahr 2006, p. 25).

Arguably, measures urgently required are: building a strong public ethics commission, establishing the office of an ethics commissioner to investigate complaints of unfairness, conflict of interest, abuse of office and authority, unethical behaviour of public servants and workers in public institutions, and introducing an ethical model to train public servants in virtue ethics of excellence of character and of duty and obligations. Workshops and training must focus on ethical standards, a code of conduct for public officials, and duties and obligations required of public servants and leaders, especially politicians, to fulfil their obligations of the state-citizenship contract. In addition, building strong audit institutions to promote transparency and accountability, and a new leadership underpinned with ethics and managerial skills are urgently required to address the massive levels of corruption which led to the prolonged war and the execution of past presidents in Liberia. A key capacity-building effort will be required to strengthen the General Auditing

Commission (GAC) of Liberia established in 2005, by recruiting staff with integrity and solid experience and understanding of audit practice (Chesen and Krech 2010, p. 56).

2. Building local capacities

Building local capacities to participate in policy formulation, implementation and evaluation is vital if Liberia is to attain socio-economic development and sustainable peace. Building local capacity and ownership will engineer sustainable peace and enhance democratisation and the rule of law in a post-conflict society. The best guarantee of stability is to ensure that people do not only have the capacity to govern themselves, but also have control of the structures put in place to govern. Therefore, strengthening local capability through training and the development of skills to analyse government and local budgets, manage and implement policies, and monitor and evaluate government's programmes and projects is urgently required to enable Liberians to participate in the development process (Beleli 2011, p. 30).

It also requires decentralising political, administrative and financial structures to enable local communities to administer their own localities, generate revenues to undertake development, and link local development plans into the national development plan. Each community is unique and has its own developmental needs and priorities, it is imperative that they should decide about their own development policies and participate in the decision-making process. Building their capacities thus involves leadership training, technical capacities to analyse budgets and knowledge about the policy processes and institutions of governance. Thus, there is a need for the state and development partners in Liberia to invest in equipping local leadership with institutional and technical capacities to participate in the development process (Nilsson and Kovacs 2013, p. 12).

VI. Conclusion

This article has examined the causes of the Liberian Civil War of 1989–2003 and the policy alternatives that are now available in the country's transitional period to ensure a durable peace and development. It argues that the root cause of the civil war in Liberia was a crisis of governance. By crisis of governance is meant an arbitrary exercise of power (without due regard to the rule of law), authoritarianism, abuses of human rights, the politics of exclusion, the politicisation of the military, inequitable distribution of resources, ethnic discrimination and the suppression of the right to dissent.

It also means the maintenance of the spoils system, a system whereby the ruling government gives government jobs to party supporters as a reward for winning power, and as incentive to keep them in power. This leads to the marginalisation of certain ethnic groups, regions of poverty and inequalities that gradually lead to discontent, revolt and violent conflict. This is what took place during the regimes of Samuel Doe (1980–1989) and Charles Taylor (1990–1999). The case of Liberia, as of many countries in Africa, illustrates the view of Stedman (1991:393) that 'a yawning gap lies in the normative theory of how governments in Africa should act and the explanatory theory of how governments in Africa do act'.

This means that the principles of the rule of law, accountability, transparency, independence of the judiciary, press freedom, a robust civil society and a fair distribution of resources, which are the normative principles of democracy, are undermined. As a result, it has led to civil war and the negation of peace and development in Liberia. In this light, there is a need to recognise that democratic consolidation is conditioned by a number of factors 'the speed with which ethnic issues are recognized; the level of ethnic tension when the democratization process begins; the size and power of different ethnic groups within the state; the ethnic composition of the previous regime and its opposition; the political positions of the leaders of the main ethnic groups; the presence or absence of external ethnic allies; and the ethnic composition of the military'.

The article makes the case that good governance is the key to addressing the root causes of conflict and to maintaining sustainable peace in Liberia. It argues for responsible governance that is participatory, inclusive of ethnic groups, accountable, transparent, and supportive of democratic principles as the equitable distribution of resources and the pursuit of the rule of law. It is also imperative that the state builds strong institutions to strengthen security. These security policies should go beyond mere DDR and include economic reintegration, adoption of a strong national security policy and a regionalised collaboration between police and customs officers to control the proliferation of small arms and light weapons.

More importantly, post-conflict development is more than the temporary cessation of violence, the provision of humanitarian relief and the holding of early elections to enable the exit of peacekeepers and the international community. It is a long-term developmental approach, which requires time and the financial support of the international community and regional actors, to help Liberia undertake the necessary infrastructural reconstruction and the provision of jobs to maintain peace and stability. The security and development are so tightly linked that policy makers should move beyond the artificial separation between 'conflict as belonging to the field of security and development as the domain of economics'. There is no denying the fact that enhanced development will promote security. Conversely, the lack of

development will trigger insecurity.

The policy implication is that security and development are so intertwined that Liberia, like any post-conflict country, should pursue both policies in tandem, if it is to replace conflict through a sustainable peace and prosperous development. It also implies that development policies and programmes should benefit not only the rich but also the poor. It is important that the four pillars of the Liberian Poverty Reduction Strategy Paper launched in 2007, namely (i) Security; (ii) Economic Revitalisation; (iii) Governance and the Rule of Law; and (iv) Infrastructure and Basic Services (Liberia Poverty Reduction Strategy Paper 2008), are vigorously implemented. In particular, the revitalisation of the economy and the provision of infrastructure and basic services need to be implemented to address sanitation and water issues, agriculture and food security and engineer livelihood empowerment for the poor at the rural level.

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Key Predictors of Contraceptive Use Among Married Youths Women in Myanmar

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ABSTRACT : Contraceptive use is viewed as a safe and affordable way to halt rapid population growth and reduce maternal and infant mortality. Its use in Myanmar remains a challenge despite the existence of family planning programs initiated by the government and other stakeholders aimed at reducing maternal and infant mortality and increasing contraceptive use. This study aimed to determine the key predictors of contraceptive use among married youths women. Descriptive Analysis showed that 51% of respondents are not used contraceptives. Among the contraceptive use, less than 1% of those respondents are used traditional contraceptives while nearly 50% of them prefer modern methods. Binary Logistic Regression Analysis found the age of husband, age at first married, the number of children a woman had, fertility desire, the experience of child death, education level of women, wealth status, employment, and place of residence are significant key predictors while the age of women, duration of the marriage, family planning, and education level of husband are insignificant. The results also are shown that the age of husband, fertility desire, wealth status, employment, and place of residence have a positive influence on contraceptive use and age at first married, the number of children a woman had, education level of women have negatively influence on contraceptive use.

Key words : *Contraceptive method, youths women, Binary Logistic Regression,*

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I. Introduction

Birth control also referred to as contraception and fertility control, maybe a method or device wont to prevent pregnancy. Universal access to family planning (FP) is a human right, central to gender equality and women's empowerment, and a key factor in reducing poverty and achieving the Millennium Development Goals. Gender equality, women's health, child survival, and HIV prevention are benefits of FP. For adolescents, improved access to comprehensive sexuality education and modern contraception increases opportunities throughout their lives, including for higher levels of education, fewer pregnancies, a later and healthier start to childbearing, and greater ability to engage in an income-producing activity (United Nation Population Fund, 2012). Despite the enormous benefits of family planning services, the uptake of the service remains low in developing countries. This has resulted in high rates of unwanted pregnancies, unplanned deliveries, unsafe abortions, and maternal mortalities (Eliason et al. 2013).

Contraceptive use particularly modern contraceptive use remains prominent in demographic and health literature due to its numerous health benefits to women and families like preventing unintended pregnancies, promoting healthy birth spacing, reducing lifetime risk of maternal deaths, and enhancing attainment of development goals (Ahmed S et al.,2012; Bongaarts J et al., 2012; Cates JW. 2010). Besides, contraceptive use remains a dominant population and health issue due to its important role within the demographic transitions in several countries with varying degrees of demographic situations (Eliason S et al. (2013)). Large numbers of studies across the world have examined individual, institutional, and community determinants of contraceptive use among different groups of women (Izale K et al., 2014; Peer N et al. 2013). However, there is a lack of studies focusing on the dynamics of contraceptive use and non-use among youths women. Youths Women in reproductive age refer to women aged 15–24 years.

Half of the world's population is aged below 25 years, of who the majority are youths, especially in developing countries (De Silva WI. (1998)). A youth, according to World Health Organization (WHO), is defined as a person between the age of 15 and 24 years, further classified as a late adolescent (15-19 years) and young adult (20-24 years) (World Health Organization, 1989). Many countries in the Asia-Pacific region have shown a trend toward increasing age at marriage among both sexes; however, marriage during adolescence is not uncommon. A review on teenage pregnancy reported that 25% of all pregnancies in Sub-Saharan Africa and Asia resulted in induced abortion. In developing countries, married adolescents have a higher exposure to risky sexual intercourse and unintended pregnancies because of

unprotected intercourse and having sex more frequently, and they are less likely to protect themselves than unmarried adolescents (Bearinger LH et al. (2007)). Improving contraceptive use among married youths is an important reproductive health issue; as a result, predictors of contractive use among married youths need to be addressed.

Globally, women and couples are increasingly using contraceptives to control the number and timing of childbirths and to avoid unwanted and mistimed pregnancies. However, despite the availability of contraceptive information, as well as services and supplies by the family planning programs, contraceptive prevalence varies across the countries where substantial gaps remained in some population groups (United Nations, 2015). In 2017, an estimated 70 million women of reproductive age in Southern Asia were not using modern contraceptives despite wanting to avoid pregnancy (United Nations, 2017).

Myanmar is a developing country in Southeast Asia. In Myanmar, both the public and private sectors provided birth spacing services since the 1970s. Although services were available, birth spacing officially launched as a public sector program in 1991. The population policy drafted in 1992 ensured that birth spacing services were available to all married couples. Myanmar Reproductive Health Policy was introduced in 2002 and facilitated the alignment of reproductive health care services to the population policy (Ministry of Health Myanmar, 2014).

The Ministry of Health implemented the successive Strategic Plans on Reproductive Health (2004– 2008, 2009–2013, and 2014–2018) to conform to the national policy guidance and international agenda. All of the plans included birth spacing services as one of their core elements. Myanmar is also one of the Family Planning 2020 focus countries and receiving support for family planning and contraceptive services (Ministry of Health Myanmar, 2014).

Due to these policies, plans, and activities, the contraceptive prevalence rate (CPR) of modern methods among married women increased from 13.6% in 1991 to 38.4% in 2007 and reached 46% in 2010. The 2015–2016 Myanmar Demographic and Health Survey (DHS) reported that the CPR (modern method) for currently married women was 51.3%, while only 1% reported using traditional methods. There have been very few studies investigating on contraceptive use among married women and not specifically among youths. Therefore, this study aims to explore the significant predictors associated with contraceptive use among married youths women (Ministry of Health and Sports Myanmar, 2017).

II. Materials & Methods

1. Data Source

Data analyzed in the study were extracted from the 2015-2016 Myanmar Demographic and Health Survey (MDHS). The respondents included in this study were married women aged 15 to 24 years. A sample size of 1086 women between 15 to 24 years of age was used.

2. Outcome variable

The outcome variable in this study was current contraceptive use which has two possible outcomes, namely non-use and using the contraceptive. In this study, married youths women who reported non-use of any method were grouped as 'non-use' while those women who reported using any modern method such as condom, implants, injectables, sterilization and foaming tablets and those women who reported use of a traditional method such as abstinence, withdrawal and lactational amenorrhea were grouped as 'using contraceptive'.

3. Explanatory variables

The explanatory variables used in the study were socio-demographic characteristics and socio-economic characteristics. The socio-demographic characteristics selected for analysis were the age of women and their husbands, age at first married, duration of the marriage, children ever born, child mortality experience, fertility desire, and family planning. The selected socio-economic characteristics were maternal and husbands' education, employment status, household wealth, and place of residence.

Some of the variables were however re-classified. The age of women was classified into two such as 15 to 19 years, and 20 to 24 years. Similarly, husbands' age was categorized into four namely 15 to 19 years, 20 to 24 years, 25 to 29 years, and greater than equal 30 years. Age at first marriage was categorized into three such as 10 to14 years, 15 to 19 years, and 20 to 24 years. Duration of marriage was classified as 0 to 4 years, 5 to 9 years, and 10 to14 years. The number of children ever born was categorized into two, namely at most two and more than two. Fertility desire was categorized into four, namely don't know, both want the same, husband wants more, and husband wants fewer children respectively. Similarly, educational level of women and husband (no education, primary school, secondary school, and higher education), wealth status was classified into three, namely poor, middle, and rich, employment status (not employed or employed), and type of resident (rural and urban).

4. Statistical Analysis

The Univariate analysis ran frequency distribution of all the variables used in the study and cross-tabulation and Chi-square analysis was applied to determine the significant relationship between contraceptive use and socio-demographic and socio-economic variables. And the multivariate analysis such as binary logistic regression technique which provides information on direct and indirect relationships among the outcome and explanatory variables was done.

III. Results and Discussion

Table 1 shows the selected socio-demographic and socio-economic characteristics of respondents. According to the results, more than three fourth of respondents were in the young adult teenager (20-24 years) and 22% of those respondents were age between 15 to19 years. More than half of the respondents were married 15 to 19 years. However, more than a quarter of the respondents have married 20 to 24 years, and a slightly one-tenth of respondents were married 10 to 14 years. 78% of respondents had a duration of marriage were less than five years and the proportion of respondents who had never experienced child mortality was much higher than those respondents who had ever experienced child mortality and the majority of respondents (96%) had no more than two children.

More than half of the respondents who husbands want more children, followed by both want the same number of children (16%), don't know desire children (13%) and the husband wants fewer children (1%). Seventy-three percent of respondents did not know about family planning. Nearly 11% of the respondents had no education. Among respondents with educational attainments, nearly half of the respondents had secondary education, followed by primary (38%), and higher education (5%). The same results were found in the husband's education. Fifty percent of respondents whose husbands completed secondary education, followed by primary education (32%), and higher education (4%). Only 15% of respondents whose husbands had no education. Regardless of the occupational category, fifty-one percent of respondents were employed.

Nearly half of the respondents were in the lowest wealth group, followed by rich group (33%), and the middle group (21%). Respondents from the rural area were dominant in the sample and among them; slightly more than one-fifth of women knew the family planning. Slightly more than half of the respondents were not

currently using any method of contraceptive. Among current users, nearly fifty-nine percent were using a modern method while less than one percent of them were using a traditional method.

Before analyzing Binary Logistic Regression, the relationship between contraceptive use and predictors variables was checked. The results of the Chi-square test were also shown in Table 1. The results of the Chi-square test demonstrated significant related to contractive use and some predictors variables such as children ever born, the experience of child mortality, fertility desire, maternal and husband's education, and place of residence. The summary results of fertility behavior, background factors, and contraceptive use among married youths women included in the Binary Logistic Model were shown in Table 2.

According to the Omnibus test of the model, the coefficient gave Chi-square of 79.21 with a degree of freedom 21, significant beyond 0.000. It had been concluded that the model for contraceptive use among married youths women was significant. Since -2 log-likelihood statistic was -711.6037, it can be said that the existence of a relationship between the outcome variable and explanatory variable was supported. The significant key predictors were the age of husband, age at first married, the number of children ever born, fertility desire, the experience of child mortality, women's education, wealth and employment status, and place of the resident were found in this analysis.

The result pointed out that the odds of contraceptive use significantly increased by 1.19 for respondents who aged were 20-24 years as compared to those respondents aged were 15-19 years. This means that married women aged were 20-24 years were 1.19 times more likely to use contraceptive than those women who aged were 15-19 years. Age at first marriage was a negative effect on contraceptive use. The respondents who age at first marriage were 15-19 years and 20-24 years were 0.73 and 0.59 times less likely to use contraceptive than their counterparts.

Regarding the number of children ever born, the respondents who had the number of children more than two were 0.46 times less likely to use contraceptive than those respondents had no more than two children. For fertility desire, women and their husbands want the same number of children, women whose husbands want more children, and women whose husbands want fewer children were 1.96, 1.29, and 3.12 times more likely to use contraceptive than those women and husband didn't know about desire children. The respondents had the experience of child mortality were 0.44 times less likely to use contraceptive than those women hadn't experience.

Besides, respondents known the family planning were 1.04 times more likely to use contraceptive than those respondents did not know the family planning. The education level of women was a negative related to contractive use. The respondents who had no education were 0.33 times less likely to use contraceptives as compared to those respondents who had higher education. Similarly, those respondents who

had primary education, and those who had secondary education were 0.42 times and 0.55 times less likely to use contraceptive than those who had higher education.

Moreover, wealth status had a positive effect on contractive use. The respondents in the poorer and the middle categories were 1.36 times and 1.10 times more likely to use contraceptive than those respondents in the richer. Working mothers were 1.39 times more likely to use contraceptive than non- working mothers. Furthermore, women who dwelled in the urban area were 1.68 times more likely to use contraceptives as compared to those women who dwelled in the rural area.

This study has been highlighted that nearly 50% of respondents were used contraceptives and the majority of respondents (76%) live in a rural area and 46% of those respondents were used contraceptives. Among those respondents, only a few respondents have used the traditional method. The modern contraceptive method is the most preferred method of contraceptive among youths women, an indication that more women still embrace safe contraception. Husbands' age, age at first married, the number of children a woman has, fertility desire, the experience of child mortality, education level, wealth status, employment, and place of residence highly influenced to use contraceptives. However, the age of women, married duration, family planning, and husband education were not key predictors a woman would consider while deciding to use contraceptives in this study.

IV. Recommendation

Government as well as stakeholders effort of providing contraceptives (modern method) to women especially those with secondary, primary or no education and those in poorer and middle wealth quintiles should be intensified to increase agreement of the World Health Organization (WHO) recommended interpregnancy interval, a key factor in reducing maternal and perinatal mortality.

Initiatives such as mobile health facilities to enhance the education of women on the best choices of contraception (modern method) should be enhanced in rural areas, especially in the far-flung area.

The government as well as non-governmental organizations should create more community awareness on contraceptive usage and family planning.

Acknowledgments

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Table 1 Background Characteristics of Married Youths Women and Bivariate Relationship between Predictors variables and Contraceptive Use

Characteristics	Study Sample		Contraceptive Use				Chi -square	P-value
	number of women	%	no use	%	use	%		
Women's age								
15-19 years	256	21.66	141	23.38	115	19.86		
20-24 years	926	78.34	462	76.62	464	80.14	2.1585	0.142
Age at first marriage								
10-14 years	162	13.71	85	14.10	77	13.3		
15-19 years	692	58.54	354	58.71	338	58.38		
20-24 years	328	27.75	164	27.19	164	28.32	0.2778	0.870
Duration of marriage								
0-4 years	921	77.92	479	79.44	442	76.34		
5-9 years	256	21.66	121	20.07	135	23.32		
10-14 years	5	0.42	3	0.5	2	0.35	1.9656	0.374
Children ever born								
≤ 2	1,137	96.19	573	95.02	564	97.41		
> 2	45	3.81	30	4.98	15	2.59	4.5858	0.032
Mortality experience								
no	1,133	95.85	567	94.03	566	97.75		
yes	49	4.15	36	5.97	13	2.25	10.3137	0.001
Fertility desire								
don't know	143	13.12	80	15.5	63	10.98		
both want same	182	16.7	71	13.76	111	19.34		
husband wants more	755	69.27	362	70.16	393	68.47		
husband wants fewer	10	0.92	3	0.58	7	1.22	10.6289	0.014
Family planning								
unknown	861	72.9	451	74.79	410	70.93		
known	320	27.1	152	25.21	168	29.07	2.2242	0.136
Women's education								
no education	127	10.75	82	13.62	45	7.77		
primary	446	37.76	238	39.53	208	35.92		
secondary	554	46.91	264	43.85	290	50.09		
higher	54	4.57	18	2.99	36	6.22	19.5772	0.000
Husband's education								
no education	173	14.66	118	19.6	55	9.52		
primary	372	31.53	182	30.23	190	32.87		
secondary	586	49.66	280	46.51	306	52.94		
higher	49	4.15	22	3.65	27	4.67	24.2999	0.000
Employment status								
no working	585	49.49	307	50.91	278	48.01		
working	597	50.51	296	49.09	301	51.99	0.9926	0.319
Wealth status								
poor	549	46.45	289	47.93	260	44.91		
middle	247	20.9	127	21.06	120	20.73		
rich	386	32.66	187	31.01	199	34.37	1.6167	0.446
Place of residence								
urban	280	23.69	119	19.73	161	27.81		
rural	902	76.31	484	80.27	418	72.19	10.6463	0.001

Source: Based on calculation using Myanmar Demographic Health Survey (2015/2016)

Table 2. Logistic Regression Analysis of Contraceptive Use and Fertility Behavior,
Background Factors

contraceptive use	coefficient	standard error	Z	p-value	95% confident interval		odds ratio
Women's age							
15-19 years (ref)							
20-24 years	0.1721	0.1916	0.9	0.369	-0.2034	0.5476	1.1878
Husband's age							
15-19 years (ref)							
20-24 years	0.3830*	0.2068	1.85	0.064	-0.0224	0.7884	1.4666
25-29 years	0.2853	0.2260	1.26	0.207	-0.1577	0.7283	1.3301
≥30 years	0.2294	0.2685	0.85	0.393	-0.2968	0.7557	1.2579
Age at first marriage							
10-14 years (ref)							
15-19 years	-0.3178	0.2137	-1.49	0.137	-0.7366	0.1010	0.7277
20-24 years	-0.5258*	0.2721	-1.93	0.053	-1.0592	0.0075	0.5911
Duration of marriage							
0-4 years (ref)							
5-9 years	0.2398	0.2032	1.18	0.238	-0.1585	0.6381	1.2710
10-14 years	0.0027	1.0521	0	0.998	-2.0593	2.0647	1.0027
Children ever born							
≤2 (ref)							
>2	-0.7759*	0.4006	-1.94	0.053	-1.5611	0.0093	0.4603
Fertility desire							
don't know (ref)							
both want same	0.6706**	0.2420	2.77	0.006	0.1962	1.1450	1.9554
husband wants more	0.2571	0.1931	1.33	0.183	-0.1214	0.6354	1.2931
husband wants fewer	1.1390	0.7307	1.56	0.119	-0.2931	2.5711	3.1235
Mortality experience							
no (ref)							
yes	-0.8210**	0.3668	-2.24	0.025	-1.5399	-0.1021	0.44
Family planning							
unknown (ref)							
known	0.0358	0.1522	0.24	0.814	-0.2624	0.3340	1.0365
Women's education							
higher (ref)							
no education	-1.1094**	0.4227	-2.62	0.009	-1.9379	-0.2810	0.3298
primary	-0.8769**	0.3734	-2.35	0.019	-1.6088	-0.1451	0.4161
secondary	-0.5977*	0.3477	-1.72	0.086	-1.2793	0.0838	0.5501
Husband's education							
higher (ref)							
no education	-0.3439	0.3943	-0.87	0.383	-1.1168	0.4290	0.7090
primary	0.3192	0.3574	0.89	0.372	-0.3813	1.0196	1.3760
secondary	0.2494	0.3390	0.74	0.462	-0.4151	0.9140	1.2833
Wealth status							
rich (ref)							
poor	0.3068*	0.1827	1.68	0.093	-0.0513	0.6648	1.3590
middle	0.0941	0.1897	0.5	0.62	-0.2777	0.4659	1.0987
Employment status							
unemployed (ref)							
employed	0.3270**	0.1288	2.54	0.011	0.0747	0.5794	1.3869
Place of residence							
rural(ref)							
urban	0.5169**	0.1723	3	0.003	0.1792	0.8545	1.6768
Constant	-0.1721	0.5385	-0.32	0.749	-1.2276	0.8833	0.8412

Dependent variable : No use(ref) ; Number of observations = 1086; LR chi^2(21) = 79.21; Prob > chi^2 = 0.000, -2 Log likelihood = -711.6037; Pseudo R^2 = 0.0527, *, **, *** are 10%, 5% and 1% .

Source: Based on calculation using Myanmar Demographic Health Survey (2015/2016)

The impact of flooding on socio-economic condition of vulnerable populations in Mandalay Region

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ABSTRACT : The study aimed to examine the impact of flooding on socio-economic status of people in Taungthaman village and Kyauk Thawe Tauk village which are situated in the Mandalay Region of Myanmar. Questionnaires related to socio-economic status such as job, education, health, housing, water and sanitation were used to collect data and secondary data was also collected from general administrative office of the village. A total of 113 people participated in a survey, and the results showed that 95% felt stress during flooding because they could not work properly, getting food was inconvenient and access to drinking water was inadequate. Besides these, the schools were closed, and the children could not go to school. It was also found that their sanitary facilities were affected by flood. Local residents also relocated to the nearby Pagoda and on the side of the street during flood for shelter and accessed to food and water. The study suggests that government and other stakeholders should provide affordable housing, health care services, food and drinking water to victims to mitigate the problems during flooding. They should also promote the development of Smart Cities and allocate adequate fund to disaster management bodies for proper planning of the areas.

Key words : Climate change, Flooding impacts, Myanmar, Socio-economic status,

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I. Introduction

It is widely accepted that humans are exacerbating the harmful impacts of climate change and in turn, climate related disaster such as increased rainfall and flooding are on the rise. Flooding is a natural disaster that could cause not only physical injuries and direct loss of social and economic condition but also psychological injuries including anxiety and fear within families and individuals (R.G.Awopetu, S.O., & M.S.Awopetu, 2013). People face great challenges associated in flooding all over the world (Kwari, Paul, & Sheka, 2015). In Myanmar many floods occur due to heavy rainfall from the southwest monsoons during the months of July to October where the topography of the country is characterized by the central plain (delta), surrounded by steep mountains on the west side and highlands on the east side. Rainfall in the mountains and highlands causes flood damage in the central plain and coastal areas and can last for weeks even months.

Taungthaman village, which is situated in Taungthaman village tract, Amarapura Township in Mandalay Region, is one such community that suffers from increased flooding every four years due to its location between the Ayeyarwady and Myintnge River. In 2004 the water level rose to 1,382 cm, and in 2016 the water level rose to 1325 cm lasting for two weeks affecting 693 people. Kyauk Thawe Tauk village, located in Shwe Kyat Yat village tract of the Mandalay region, is surrounded by Kan Kaw village on the north side, Moe Kaung village on the south side and the Ayeyarwaddy River in the west.

Image 1. Submerged homes in Taungthaman village during flooding in August 2019 (Source: Photo taken during survey)

Image 2. Submerged homes in Kyauk Thawe Tauk village during flooding in August 2019 flooding in (Source: Photo taken during survey

There are 307 households in this village where most are Buddhist and people in this village earn income by weaving cloth. Flooding occurs every year and can last for two months. In Kyauk Thawe Tauk village, people who live in lower land areas suffer flood more often than people who live in higher land areas. The houses in low land areas were often completely submerged underwater for days (Images 1 and 2).

Socio-economic impacts refers to all changes in the way people live, work, relate, organize and how these interactions have direct influence on means of livelihood, purchasing and production power, mass migration and agriculture (R.G.Awopetu, S.O., & M.S.Awopetu, 2013). Social impact is difficult to quantify in monetary terms and economic impacts include disruptions of clean water and electricity supply, transport, communication, education, health care services, reduction in purchasing power and loss of land value in the flood plains which can lead to increased vulnerabilities of communities living in the area. The additional cost of rehabilitation, relocation of flood victims and removal of property from flood-affected areas can divert the capital required for maintaining production.

The purpose of this pilot study was to understand the impact of flooding on socio-economic condition of the people in the two villages and areas in which improvements can be made to prevent harmful impacts of flooding.

II. Methods

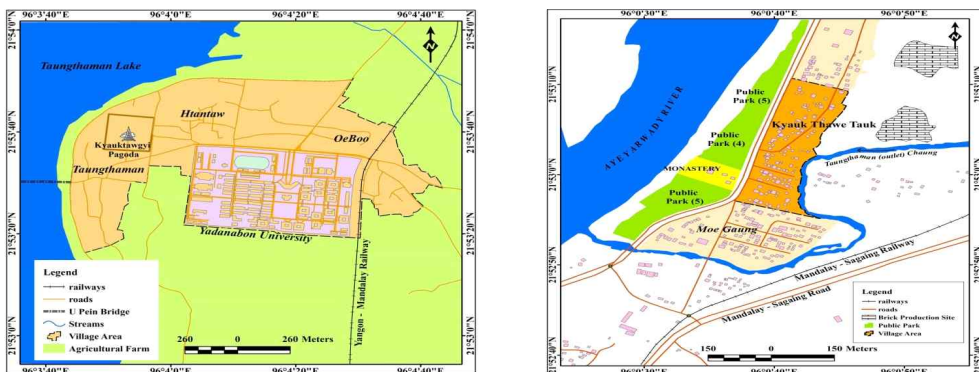
Image 3 & 4. Map of study areas

Taungtaman and Kyauk Thawe Tauk village (Images 3 and 4) were chosen for the study site because people in these areas suffer from flooding every year presenting an opportunity to learn and understand how this frequent natural disaster impacts

their lives.

Surveys related to socio-economic status such as household demographics and the impact of flooding on working conditions, education, health, water and sanitation were used to collect data and secondary data was also collected from general administrative offices of the two villages. Data was collected in August 2019 through individual interviews with 113 conveniently sampled households within Taungtaman village and Kyauk Thawe Tauk village. Simple percentages and frequencies were used in statistical analysis. This study was approved by Myanmar Ministry of Education and Northern Illinois University Institutional Review Board.

III. Results and Discussion

The ages of respondents ranged from 18 to 71 with an average of 42. Regarding their marital status, 85.8% of respondents were married and 69.9% of respondents being women. Monthly household incomes ranged from 100,000 to 500,000 kyats with a median of 180,000 kyats (or 117 USD). The people most affected by flooding were those in the low-income group of which women worked in cloth weaving for their income.

Over a half (59.3%) of respondents could not stay in their homes during flooding and must relocate to the sides of streets or nearby monasteries for shelter for sometimes up to three months. Vehicles go along the street all day and night causing noise and air pollution impacting those who relocate to streets. It should be noted that it costs more than one lakh (100,000 kyats or 65 USD) to build a shelter on the side of the road causing those who cannot work difficulty in not only physical and mental distress but also financial distress.

During flood 79% of respondents could not work and did not earn decent income for food and 77% had food difficulties (Table 1). Respondents borrowed money from others in order to buy food and return the borrowed money after flooding when they can work properly. During flooding 56% of respondents answered that they did not send their children to school because of closures due to flooding (Table 1). 52.2% of respondent's education background is primary education. 77% of respondents did not access health services during flood but 23% of the respondents had access to health services but not sufficient. Related to flood impact on health, most respondents answered that they were not suffering from the diseases such as diarrhea, cough, malaria and measles during flood but they had got flu at the time of post flood because they had to commute in the water to buy food which are sold in high land which are not affected by flood and to go to

somewhere in the village. Some respondents possessed boat and they used the boat for transportation. Although the water level went down, they could not back and stay in their house immediately because the house was in need of cleaning and the sanitary facilities, which were affected by flood, were also in need of rehabilitation.

Eighty-nine and 86% of respondents had access internet and electricity respectively. Although the respondents have access to electricity, they reported that they felt unsafe and had fears of electricity shock. Most of them (95%) shared that they felt stress during flooding. Ninety two percent of respondents reported that the borehole was their most common source of drinking water and 8% reported that unprotected well was their most common source of drinking water. Seventy eight percent of respondents reported that their sources of drinking water are affected by flooding and rely on donated water. Sanitation is also another challenge because the supported hanging latrines are not sufficient for all flood victims although the authorities arrange it for them. Seventy two percent of their sanitation facilities were affected by flood (Table 1) and hanging latrines were not always available each year during flooding.

Table 1. Impacts on housing, education, socio-economic status, water, sanitation and electricity from flooding

Impacts	Frequency	Percentage
Stay at home during flood		
Yes	46	40.7
No	67	59.3
Difficulty finding and buying food		
Yes	87	77
No	26	23
Able to work properly during flood		
Yes	15	13
No	88	79
Dependent	10	8
Children sent to school		
Yes	38	34
No	63	56
No schooling children	12	10
Health services received		
Yes	26	23
No	87	77
Access to Internet		
Yes	101	89
No	12	11
Access to electricity		
Yes	97	86
No	16	14
Stress during flooding		
Yes	107	95
No	6	5
Common source of drinking water		
Borehole	104	92
Unprotected well	9	8
Protected well	0	-
River	-	-
Others	-	-

Source of water affected by flood		
Yes	88	78
No	25	22
Sanitary Facilities affected by flood		
Yes	81	71.7
No	32	28.3

Although flooding usually occurs from July to October, there is no a particular action taken to help the vulnerable populations impacted by flooding. Government intervention is necessary to address these issues and to mitigate the effects of future floods. Lack of access to health services, insufficient sanitary facilities, and the inability to work can cause mental health challenges. The impact of flooding could have been lessened by issuing timely flood warnings and proper preparedness plan, effective evacuation processes, proper access to medication, and a suitable management or rehabilitation plan. The government should develop a comprehensive flood control or prevention plan and pay attention to areas prone to flooding. Stakeholders including governments, NGOs, industries, academia, and individuals should make efforts collaboratively in supporting affordable housing, health care services, food and drinking water to victims to mitigate the problems during flooding and promote the development of Smart Cities and also should allocate adequate fund to disaster management bodies for proper planning of the area.

Due to changing weather patterns and the variability of climate change, limitations exist with this study and its ability to be replicated in subsequent years. It is recommended that further full-scale studies be conducted over the coming years to understand how this variability can impact livelihoods and the communities who are affected by flooding.

IV. Conclusions

The increasing rates of climate related natural disasters will continue to exacerbate the flooding effects on communities and villages in the Mandalay region of Myanmar. Flooding has already been a major issue for many communities and poses serious threat to their livelihood and socio-economic status. This study displays a small amount of impacts that flooding can have on individuals and families such as increased rates of stress, inability to find adequate water, and difficulty finding enough food for themselves and families. Many must relocate and are doing so in unsafe temporary housing structures along the side of major roads and highways posing additional threats of traffic accidents and air pollution. The cycle of flooding that occurs in Myanmar is known and understood at its current state creating a

major opportunity for government officials and non-governmental organizations to step in and facilitate the smooth transition from permanent homes to adequate temporary housing that meets all basic living standards. From the survey it was found that many individuals relocate to monasteries in their villages posing another avenue of assistance. The cross-sectional study shows only one point in time and additional studies would need to be done to understand long-term effects of relocation and flooding on socio-economic status as well as mental health and well-being.

Acknowledgments

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Role of Parental Characteristics on Child's Nutritional Status: Evidence from Myanmar

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ABSTRACT: Child malnutrition remains one of the health challenges that developing countries have to deal with to remain on course to achieve the health-related Sustainable Development Goals (SDGs). This study analyzes the impact of parental characteristics on child's nutritional status in Myanmar, based on data from the 2015-16 Myanmar Demographic and Health Surveys (MDHS), with a sample of 4635 children age under 5 years. Pearson's Chi-square test of independence was used to examine the association of parental characteristics and three measures of child nutrition-stunting, wasting, and underweight. A binary logistic regression was employed to explore the relationship between child's nutritional status and parental characteristics as well as assess the other determinants of the three measures. The results show that mother characteristics such as education level, employment status, BMI, stature, ANC and father' education level are significant for child nutritional status. Among the covariates, age of children, birth order, preceding interval, birth size, diarrhea, source of water, wealth quintile, type of cooking fuel, and place of residence are significant for child nutritional status. Since parental characteristics play a significant role in reducing child malnutrition, parents need to be educated and employed. Furthermore, health related factors of mothers, household and child factors are also crucial. In addition, offering nutritional education programs, continuing free basic education system, provision of basic preventive health care and regional development programs would help to attain better nutritional outcomes for the children in Myanmar.

Key words : *Parental characteristics, Child's nutritional status, Child malnutrition,*

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I. Introduction

Child malnutrition is one of the numerous health challenges. The problem of malnutrition has an impact on health, and education of the affected countries. Malnutrition also impacts the economic growth of a country by causing loss in productivity. Malnutrition is a major single and underlying cause of child morbidity and mortality in many countries. Most countries have committed to achieve the World Health Assembly global nutrition targets by 2025 and the Sustainable Development Goals, ending malnutrition by 2030 (WHO, 2014).

Then nutritional status of children age under 5 years is a significant outcome measure of under 5 years children's health. Research shows that the resistance level of infection for malnourished children is lower than other children, causing high levels of morbidity and mortality (UNICEF, 2001). Moreover, poor nutrition affects the cognitive development of children.

Myanmar is a country with a high burden of malnutrition (UNICEF, 2019). A total of 50.4% of total deaths among children under 5 in the country in 2017 were attributable to potentiating effects of malnutrition (Roth et al., 2018). Myanmar still experiences malnutrition burden among its under-5 population, although it performs relatively well against other developing countries. As of 2016, the national prevalence of under-five overweight is 1.5%, which has decreased slightly from 2.6% in 2009. The national prevalence of under-five stunting is 29.4%, which is greater than the developing country average of 25%. Conversely, Myanmar's under-five wasting prevalence of 6.6% is less than the developing country average of 8.9%. (Development Initiatives Poverty Research Ltd., 2019)

In Myanmar, the significant efforts to address the nutrition are being made. In May 2013, the country joined the global Scaling Up Nutrition (SUN) movement, a global movement led by countries to eliminate all forms of malnutrition in the world by 2030. Based on the guiding principles of the SUN movement that 'everyone has a right to food and good nutrition', the Government formulated the Myanmar National Action Plan for Food and Nutrition Security in 2015. Through it, the government and its partners planned to work together through collective multispectral and multistakeholder action to accelerate the reduction in and eradication of food insecurity and undernutrition (SUN, 2015).

However, important knowledge gaps regarding malnutrition remains in Myanmar, which hamper these efforts. In addition, studies assessing risk factors of malnutrition have used small samples from specific locations and are thus not generalizable to the national population. Especially, the vital role of parental characteristics on child nutritional status should be considered and it is also necessary to investigate in order

to formulate the better outcomes concerning child nutrition.

Hence, the major emphases of this research is to explore the relationship between parental characteristics and child malnutrition, by means of stunting, wasting and underweight as indicators using 2015-16 Myanmar Demographic and Health Survey data and the results of this study could provide policy options and programs with regard to the role of parental characteristics in the promotion of child nutrition in the country.

II. REVIEW ON RELATED STUDIES

Kabubo-Mariara et al. (2009) used DHS data to analyze the evolution and determinants of children nutritional status in Kenya using descriptive and econometric methods. Results suggested that child characteristics were significant determinants of children nutritional status. In addition, share of women in a household and mothers education were found to be important household characteristics. Household assets were also important determinants of children nutrition status but nutrition improves at a decreasing rate with assets. The results also suggested that children in rural were more likely to suffer malnutrition than those in urban, while boys were more likely to be malnourished than girls. Findings suggest that Kenya needs to reduce the current high rates of malnutrition as stipulated in the strategic health objectives and policies and strategies for poverty alleviation, promotion of post-secondary education for women and provision of basic preventive health care are critical issues which need to be pursued because they have a big impact on children nutritional status.

Mgongo et al. (2017) evaluated the prevalence and risk factors associated with nutritional status among children aged 0–24 months in Kilimanjaro region, northern Tanzania. A sample of 1870 children was selected using a multistage sampling method. The prevalence of children underweight, stunning and wasting was 46.0%, 41.9%, and 24.7%, respectively. Almost 33% were both underweight and stunted, and 12% had all three conditions. Results of logistic regression analysis showed child age, child being ill and birth weight were associated with all anthropometric indices. Child being breastfed was associated with being underweight and wasting while mother's education was associated with being underweight and stunting. In Hai district, fathers aged of above 35 years and living was associated with stunting, and being female was associated with wasting and the prevalence of child under nutrition was high in this region.

Amare et al. (2019) examine the determinants of nutritional status among children under age 5 years old in Ethiopia. Child malnutrition is an underlying cause of 45%

of child deaths, particularly in low socioeconomic communities of developing countries. In Ethiopia, the prevalence of stunting was 47% in 2005 but it reduced to 39% in 2016 while the prevalence of wasting changed little over the same time period (from 11 to 10%). Although improvements in declining of the malnutrition prevalence, it is not fast enough to reach the WHO global target of 40% reducing malnutrition by 2025.

Nyein, S. S. (2019) explored the determinants of nutritional status among children 3 to 5 years in Waw Township based on the 363 respondents (caregivers) which were chosen stratified two-stage random sampling. This is study found that the respondents educational status, monthly family income and proper drinking practices of water were less likely to be stunning among children in the family. In addition, underweight among children was less likely to be found for those who took immunization completely. Moreover, the wasting among those children was lower for those who took vitamin A compare to those who did not take it.

Win, Z. and Cashin, J. (2016) explored risk factors for child under nutrition and contributing factors to adequate dietary diversity, based on Livelihoods and Food Security Trust Fund (LIFT) 2013 Household Survey Data. Their study found that children in wealthier households with better educated caregivers and more land for cultivation have better dietary diversity than children in poor households with less land and less educated caregivers. In Chin and Rakhine States, children appear to have particularly poor dietary diversity.

III. OBJECTIVES

This analysis uses the most recent DHS data from Myanmar to understand how children's nutritional status varies by parental characteristics in the country. The main objective of this study is to assess how children's nutritional status varies by parental characteristics.

The study addresses the following specific objectives:

(i) To determine the child nutritional status and

(ii) To investigate the association between parental characteristics and child nutrition in Myanmar.

IV. CONCEPTUAL FRAMEWORK

The conceptual framework guiding this study is based on the linkage between

parental characteristics and child nutritional outcomes. Figure 1 shows the possible linkages between parental characteristics and child nutrition that this study explores. The possible pathway through which parental characteristics can affect the nutritional outcomes of children is through skill acquisition that leads to improved knowledge about health care and nutritional knowledge. It is therefore expected that parents with more education, employed parents and mother's decision making power are more likely to practice immunizing children against diseases, taking children to health clinics, feeding children in the right quantities and at the appropriate times and preventing child illnesses. Hence, these practices could improve child nutrition and health.

Parental Characteristics
- Mother's education level
- Mother's employment status
- Mother's own decision on well-being of children
- Mother's own decision on her health care
- Mother's BMI
- Mother's stature
- Marital status of mother
- Mother's age at birth
- ANC visits
- Father's education level
- Father's occupation

Child Nutritional Status
- Stunting
- Wasting
- Underweight

Covariates
- Age of child
- Birth order
- Preceding birth interval for children
- Birth size
- Sex of children
- Diarrhea
- Availability of toilet facility
- Source of water
- Wealth quintile
- Type of cooking fuel
- Region

Figure 1. Conceptual Framework

V. METHODOLOGY

1. Data

In this study, data from the 2015-2016 Myanmar Demographic and Health Survey (MDHS), which was conducted by Myanmar Ministry of Health and Sports, with technical support from ICF, was used. The authors have got permission from ICF-DHS program to use the data and accessed through https://www.dhsprogram.com/data/dataset. The MDHS is a population-based household survey designed to provide representative data for the whole country and for 15 states and regions. The data analysis of this study focuses only on 4635 live children age of under 5.

2. Variables

1) Dependent variables

The three anthropometric indicators mostly used for monitoring malnutrition among children are: stunting (low height-for-age), wasting (low weight-for height) and underweight (low weight-for-age). Stunting, wasting and underweight were coded as binary variables based on the standard definitions of WHO child growth.

The 2015-2016 MDHS defined height-for-age is a measure of linear growth retardation and cumulative growth deficits. WHO defines children whose height-for-age Z-score is less than minus two standard deviations (-2 SD) from the median of the reference population are considered as short for their age (stunted), or chronically undernourished.

In 2015-2016 MDHS, the weight-for-height index was defined as it measures body mass in relation to body height or length and describes current nutritional status. WHO defines children whose weight-for height Z-score is less than minus two standard deviations (-2 SD) from the median of the reference population are categorized as thin (wasted), or acutely undernourished.

The 2015-2016 MDHS defined weight-for-age is a composite index of height-for-age and weight-for-height. It takes into account both acute and chronic under nutrition. WHO defines children whose weight-for-age Z-score is less than minus two standard deviations (-2 SD) from the median of the reference population are classified as underweight.

2) Independent variables

To analyze the nutritional status among children under age 5, the study considered the following characteristics as independent variables: (1) parental characteristics, including marital status of mother (married, widowed/divorced/separated), mother's age at birth (15-19, 20-39, 40-49 years), mother's BMI (underweight, normal), mother's stature (short stature, normal stature), mother's education (no education, primary, secondary and above), mother's employment status (unemployed, employed not for cash, employed for cash), ANC visits (no visit, 1-4 visits, 5 visits and above), mother's own decision on well-being of children (mother alone or mother and father, father alone or others), mother's own decision on her health care (mother alone or mother and father, father alone or others), father's education (no education, primary, secondary and above), father's occupation (unskilled manual, skilled manual, professional or technical or managerial or others, agricultural) (2) covariate, including age of child (less than 6 months, 6–11 months, 12– 17 months, 18–23 months, 24–59 months), birth order (first, 2–4, 5 or higher), preceding birth interval for children (less than 24 months, 24-47 months, 48 months or more), birth size (very small or smaller than average, average, very large or larger than average), sex of children (male, female), diarrhea (no/don't know, yes last two week), availability of toilet type (unimproved toilet, improved toilet), source of water (unimproved, improved), household's wealth quintile (poor, middle, rich), type of cooking fuel (modern fuel, traditional fuel) and states/regions (seven regions, seven states, one union territory).

3) Statistical analysis

Descriptive statistics were used to illustrate the nutritional status of children age under 5. The study applied Pearson's chi-square test for bivariate analysis. In addition, binary logistic regression was used to determine the determinants of nutritional status among children age 0-59 months in Myanmar. Multicollinearity among independent variables was checked using variance inflation factors (VIF). Due to multicollinearity, mother's marital status was removed from the analysis. STATA 15.1 version was used in the data analysis. Sample weights were applied in all analysis because of the two stage cluster sampling design in the MDHS dataset.

VI. RESULTS AND FINDINGS

1. Descriptive Analysis

In Southeast Asia, Myanmar is still the third-most malnourished country after Timor-Leste and Cambodia. There's no reason for it. It's a country that's rich in resources. It's just access to these resources, education and behavioral issues, and sometimes cultural practices that need to change to promote better nutrition. Nutrition problems reveal many knowledge gaps within families about adequate nutrition and care during a critical time in life - a child's first 1,000 days.

In Myanmar, the border areas and the central dry zone are the most food insecure areas. The border with Bangladesh in the northern part of Rakhine State is the worst malnutrition in Myanmar. The movement restriction and lack of access to job opportunities and land in Rakhine, in Chin State, it's remoteness and isolation and lack of job opportunities and arable land, for the central dry zone, it's poor soil and agriculture techniques are the major causes of malnutrition.

The nutritional status among 4635 live children age under 5 years old was found as follows.

Table 1. Nutritional status of children

Nutritional status	No of children	Percent
Stunning	1013	21.8
Wasting	233	5.0
Underweight	992	21.4

Among children under 5 included in this study, the percentage of stunted children (low height-for-age), wasted children (low weight-for height) and underweight children (low weight-for-age) were 21.8%, 5% and 21.4%, respectively. In addition, it is observed that 31% (1422) of children had one type of malnutrition conditions, 16% (757) of children had two types of malnutrition conditions and 1.2% (59) of children had all three.

2. Bivariate Analysis

The bivariate analysis was performed using chi-square test and the results of stunting, wasting and underweight by parental characteristics and covariates are shown in Appendix Table 1.

Mother's age at birth, mother's stature, mother's education level, mother's employment status, ANC visits, father's education, father's occupation, age of children, birth order, preceding birth interval for children, birth size, and availability of toilet facility, household's wealth quintile, and type of cooking fuel and states/regions are significantly associated with stunting among children.

It is found that mother's BMI, mother's education level, mother's employment status, father's occupation, age of children, preceding birth interval for children, birth size, diarrhea and states/regions are significantly associated with wasting among children.

In addition, mother's education level, mother's age at birth, mother's BMI, mother's stature, ANC visits, father's education level, father's occupation, age of children, birth order, preceding birth interval for children, birth size, diarrhea, availability of toilet facility, household's wealth quintile, type of cooking fuel and states/regions are significantly associated with underweight among children.

3. Binary Logistic Regression Analysis

Appendix Table 2 shows the results of binary logistic regression for stunning, wasting and underweight among children under 5 years in Myanmar.

1) Determinants of Stunning

Regarding parental characteristics, mother's normal stature was about 0.53 times less likely to be stunted compared to short stature mother. Mother's five ANV visits and above was about 0.27 times less likely to be stunted compared to no visit for ANC. Father's education levels of primary, and secondary and above were about 0.23 and 0.29 times less likely to be stunted compared to father with no education.

Among the covariates, children age of 6-11 months, 12-17 months, 18-23 months and 24-59 months were about 3.54, 8.41, 23.6 and 19.06 times more likely to be stunted compared to children age of less than 6 months. Birth order of five or higher was about 1.52 times more likely to be stunted compared to first birth order. Children's birth interval of less than 24 months and 24-47 months were about 1.76 and 1.50 times more likely to be stunted compared to children's birth interval of 48-59 months. Children's birth size of average, and smaller than average were about 1.57 and 2.8 times more likely to be stunted compared to children with larger birth size. Households using improved water were about 0.17 times less likely to be stunted compared to using unimproved water. Children from rich households were about 0.28 times less likely to be stunted compared to children from poor households. Children from Kayah, Sagaing, Taninthayi, Bago, Magway, Yangon, Shan and Naypyitaw were about 0.58, 0.37, 0.61, 0.6, 0.48, 0.47, 0.37 and 0.66 times less likely to be stunted compared to Rakhine.

2) Determinants of Wasting

Relating to the parental characteristics, children of mothers with normal (BMI) were about 0.41 times less likely to be wasted compared to children of underweight mothers. Mother's education levels of primary, and secondary and above were about 0.35 and 0.2 times less likely to be wasted compared to mother with no education. If mother was unemployed, children were about 1.74 times more likely to be wasted compared to mother employed for cash.

Among the covariates, children age of 6-11 months, 12-17 months, 18-23 months and 24-59 months were about 4.2, 11.12, 12.72 and 6.06 times more likely to be wasted compared to those of less than 6 months. Children's birth size of average, and smaller than average were about 1.9 and 2.76 times more likely to be wasted compared to those of larger birth size. Children who had diarrhea were about 1.55 times more likely to be wasted compared to children who did not have diarrhea. Children from Kachin, Kayah, Kayin, Chin, Sagaing and Shan were about 0.56, 0.58, 0.52, 0.83, 0.79 and 0.74 times less likely to be wasted compared to Rakhine.

3) Determinants of Underweight

Concerning the parental characteristics, children of mothers with normal (BMI) were about 0.37 times less likely to be underweight compared to children of underweight mothers. Mother's normal stature was about 0.44 times less likely to be children underweight compared to mother's short stature. If mother was unemployed, children were about 1.3 times more likely to be underweight compared to mother employed for cash. Father's education levels of primary, and secondary and above were about 0.15 times and 0.3 times less likely to be children underweight compared to no education.

Among the covariates, children age of 6-11 months, 12-17 months, 18-23 months and 24-59 months were about 11.28 times, 27.21 times, 34.92 times and 41.22 times more likely to be underweight compared to those of less than 6 months. Birth order of five or higher was about 1.4 times more likely to be underweight compared to first birth order. Children's birth interval of less than 24 months was about 1.36 times more likely to be underweight compared to children's birth interval of 48-59 months. Children's birth size of average and smaller than average were about 1.81 times and 4.16 times more likely to be underweight compared to children with larger birth size. Children in households with traditional cooking fuel type were about 1.35 times more likely to be underweight compared to those with modern fuel type. Children from Kachin, Kayah, Kayin, Chin, Sagaing, Taninthayi, Bago, Magway, Mandalay, Yangon, Shan and Naypyitaw were about 0.58 times, 0.5 times, 0.62 times, 0.65 times, 0.54 times, 0.44 times, 0.47 times, 0.39 times, 0.46 times, 0.52 times and 0.45 times less likely to be underweight compared to Rakhine.

VII. CONCLUSION

This study assessed the association between parental characteristics and nutritional status among children under 5 years in Myanmar. Findings of the study show that stunting had significant associations with mother's stature, ANC visits, father's education, age of children, birth order, preceding birth interval for children, birth size, source of water, wealth quintile and states/regions. Wasting had significant associations with mother's BMI, mother's education, mother's employment status, age of children, birth size, diarrhea and states/regions. Underweight had significant associations with mother's BMI and stature, mother's employment status, father's education, age of children, birth order, preceding birth interval for children, birth size, type of cooking fuel and states/regions.

Parental education reduced a child to be stunted, wasted and underweight. Parental education is reported by other researchers to have a protective effect against child malnutrition. Parental education might be an essential factor in proper infant feeding practices and optimal child care practices. Educated mothers and fathers might also have a better income. Hence, the results of this study are logical with findings of Kabubo-Mariara et al. (2009) and Amare et al. (2019).

Mother's employment status reduced the risk of wasting and underweight among children. Employed mothers would more take child care than unemployed mothers. However, the results of this study are inconsistent with the findings of Amare et al. (2019).

The results study of the reported the children of mothers with normal BMI were less likely to be wasted and underweight due to adequacy of protein and energy intakes of mothers during pregnancy. This result is in line with Amare et al. (2019) finding of there was a reduction in children's stunting and wasting as maternal BMI increased.

This study found that children of short stature mothers were more likely to be stunted and underweight. This result is analogous to Kabubo-Mariara et al. (2009) and Amare et al. (2019). This association reflects the fact that women are more likely to give birth to stunted children if they were stunted during their own childhood.

This study shows that the risk of stunting, wasting and underweight increased with age of child. Previous studies of Mgongo et al. (2017), Kabubo-Mariara et al. (2009) and Amare et al. (2019) showed similar results with this study. The reason might be that children have greater energy needs when they grow older. Moreover, stunting reveals chronic malnutrition that can be showed after long-term nutritional deficiency, whereas wasting reflects severe undernutrition. As children's age increase, there is the possibility that they will receive childhood vaccinations, which reduce exposure to

disease. Regarding our findings on perceived weight of child at birth, the risks of stunting, wasting and underweight were higher among children perceived to have low birth weight. These findings are consistent with previous studies of Mgongo et al. (2017) and Amare et al. (2019) and may be due to the poor nutrition of mothers during pregnancy.

The study also found that children from the rich household wealth quintiles were less likely to be stunted compared with children from the poor wealth quintiles. Children in households with unimproved water were more likely to be stunted and children in households with traditional fuel types were more likely to be underweight. Environmental factors such as biomass fuel and unimproved water and sanitation are the second largest global attributable burden as cause of child stunting (Danaei et al., 2016). The majorities of Myanmar households use traditional fuels such as wood, charcoal, and dung cake to meet their daily needs, and most households cook food outside. Indoor air pollution and smoking are causes of low birth weight and could possibly impact underweight.

This study found regional variation in stunting, wasting and underweight in Myanmar. Compared with Rakhine, the reference region, children from Kayin, Sagaing and Shan were less likely to be stunted, wasted and underweight. Children from Kachin, Kayah and Chin were less likely to be both wasted and underweight, while children in Taninthayi, Bago, Yangon and Naypyitaw were less likely to be both stunted and underweight. This result is in line with Amare et al. (2019) and they show the association between malnutrition varied across regions due to variation in cultivated area. Regional variations in nutritional status has mostly been seen in the countries where universal health coverage (UHC) has not yet been achieved (WHO, 2014). Myanmar is one of the countries that has not yet fully achieved UHC, and the healthcare services coverage is still approximately 50%–80% (Han et al., 2018). In terms of national nutrition actions coverage, only 3 out of 20 actions attained 80 percent of targeted population such as salt iodisation, deworming, and health, nutrition and hygiene education in school (SUN, 2017). Low coverage was mostly seen in remote and civil conflict affected areas like Kachin, Chin and Rakhine. Another explanation for regional variations in nutritional status is that even though heath sector decentralization has been introduced since 1965, regional governments do not have full authority to handle the nutritional issues within their regions (Sein et al., 2014). Most decisions are still made by the central government; this may complicate effective interventions tailored for each region (Sein et al., 2014).

This study tried to explore the significant associated factors of stunting, wasting and underweight among of children under age 5 years. Despite the Myanmar government has made various efforts to reduce malnutrition, the exposure of stunting, wasting and underweight still exists. The consequences of child malnutrition

are critical and low adult economic productivity and include poor performance in school. The findings imply that a multi-sectorial and multidimensional approach is important to address malnutrition in Myanmar. The maternal education and policies to reduce cultural and gender barriers should be promoted by education sector and health education to families to encourage positive behaviors toward childcare and infant feeding practices should be provided by health sector. In addition, the health and human services sectors should promote the use of improved toilets. The energy sector should help households to access clean energy to reduce underweight due to traditional fuel usage in households.

Further research is suggested to explore the impact of seasonal food insecurity and climatic events on stunting, wasting and underweight, and to examine the associated factors affecting nutritional status among children over time, using decomposition analysis as well as the consequences of malnutrition.

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Causal Analysis of Public Education Expenditure and Economic Growth in Myanmar (1980/81 – 2019/20)

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ABSTRACT: This study investigated the causal relationship between economic growth and public education expenditure of Myanmar Economy based on the sample period from 1980/81 to 2019/20.   Time Series Analysis, Unrestricted Vector Auto- Regressive (VAR) estimation and VAR Granger Causality Test are applied as statistical analytical tools in this study. It is observed that economic growth and public education expenditure is not integrated in the long run. This implies that overtime an increase the value of GDP does not always cause an increase in education expenditure. In addition, this study found out that there is bidirectional causal relationship between economic growth and education expenditure of Myanmar Economy.   The result sheds light that economic growth leads to education expenditure and education expenditure as well leads to economic growth.   Therefore, based on the finding, it is recommended that smaller allocation of resources in education sector could be retarding a nation's economic growth especially in the long run. Since human resources are valuable, it should be transformed these resources into productive people by providing effective education system with the use of sufficient expenditure on education. Thus, policy maker should primarily center to allocate sufficient expenses on education from primary to higher level as a mission and target to build qualified human resources as well as to develop productive labor force to the fundamental of education system in order to boost the economic growth of Myanmar.

Key words : *Economic Growth, Education, Myanmar, Unrestricted Vector Auto Regressive (VAR),*

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I. Introduction

Education as a source of human capital has been playing a key role in economic development especially for developing and underdeveloped countries. However, having smaller allocation of resources in education sector, it could be retarding a nation's economic growth especially in the long-run. In fact, education has an important effect on economic growth.

II. Brief Information of Education Expenditure in Myanmar and Rationale for the Study

In Myanmar, as for quality of education, efforts have been made to enhance it by shifting the emphasis from "subject-centred" to a "childcentred" approach and from an exam-oriented to a continuous assessment and progression system (CAPS) under the military governments of SLORC and SPDC since from 1987/88 to 2010/11. Moreover, in implementing the development of the education sector, the government undertook activities mentioned in the MDGs as to achieve universal primary education and inclusive education was encouraged. The government of SLORC & SPDC[1] took all possible measures for to uplift educational standard of the people with better educational qualification in the nation in those period. One other positive development in those years was the introduction of computer literacy education at the basic education level and higher education level.

Even though the government has been made rapid gains in expanding the educational development in those periods, there has been made considerably less funding on education sector. In real term, the budgetary expenditures had been declining since 1990. The budgetary expenditure on education in term of both the ratio of GDP and the ratio of total expenditure during 1988-89 to 199-92 was slightly over 2%, on average, respectively. This budgetary expenditure in real term on education fell throughout the years from 2.56 % of GDP in 1990 and 1991. After that, it had been gradually declining from at around 2 % of GDP to 0.57% of GDP in 1998-99. Again only in the year 2000-01 the budgetary expenditure in real term on education had paramount at 5.05% of GDP. Due to the government policy that had favored on all round economic and social development among regions and States, the investment in education sector had paramount in 2000-01. Education

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1) State Law and Order Restoration Council & State Peace and Development Council

expenditure especially capital expenditure invested in the establishment of the infrastructures such as new universities, institutes, degree colleges, and colleges and an increase in the number of faculty members, colleges, and colleges at the tertiary education level, the budgetary expenditure in terms of capital expenditure had jumped up significantly in 2000-01. Even though the government had made rapid gains in expanding the educational development, there has been made considerably less funding on this sector. After that, the budgetary expenditure in real term on education has been decreasing over time at less than 1% of GDP until 2010-11.

Again, as Myanmar transited its economy toward democracy in 2011 under the government of USDP. It is essential for all sectors to be upgraded to meet the standards required of a democratic system. With the aim of developing human resources, Myanmar's education reform began in 2011 when the country's government system changed from a military government to a democracy. Further, spending on education had been increasing in the period of a transition and reform toward Parliamentary Democracy with the new government after 2011. Since the government intended to promote the nation's education standard to meet the international level and to encourage human resource development, the government raises the budgetary allocation on education substantially at a nearly 2% of real GDP in 2012 and in 2013, respectively.

Presently, the new government of Myanmar leads by National league for Democracy Party (NLDP) has also made education reform as a national priority. Under the new government,   significant achievements of the major education reforms until now include an increase in the budget for education, the publication of a new education law and the removal of public school fees. Starting from the school year 2015- 2016, education enrolment is free for high school students. Enrolment in primary schools was made free in 2010-2011 and middle schools followed in 2013-14. In addition, policies and laws have been laid down as part of the process of the education system reform. The most recently enacted laws are the National Education Law in 2014 and the Amendment of the National Education Law in 2015.

 Given much effort by government on educational development to be successfully accomplished, many challenges are still to be addressed. One challenge being facing is limited availability of budget on education. With respect to Expenditure on education as percentage of total government expenditure, it was higher than before at 10.6% in 2013 but it was still low compared with neighboring countries such as Indonesia at 17.6%, Thailand 18.86%, and Singapore at 19.96% of government expenditure respectively[2].   In term of percentage of GDP, after 2015-16 education expenditure has been gradually increasingly used as compare to the previous years at

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2) UNESCO, Expenditure on education as % of total government expenditure,2013

around 3% of GDP in real term.

    As shown in the following figure (1), it can be observed the public education expenditure in term of the ratio of GDP over the years from 1980 to 2019, which includes four successive periods with different ruling of the governments. They are namely the near end of socialist government (1980/81-1987/88), the military government namely (SLORC& SPDC from 1987/88-2010/11), the transition toward democracy under USDP government (2011/12 – 2015/16) and the National League Democracy -NLDP (2015/16- up to date 2019/20).
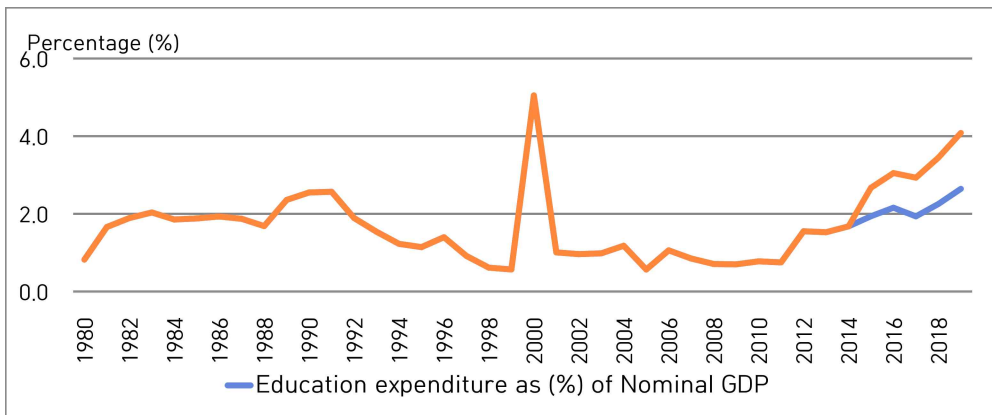
Figure 1. Public Education Expenditure as a percentage of Nominal and Real GDP
(Base year is 2010)
Source: Author calculation based on sample (1980- 2019)
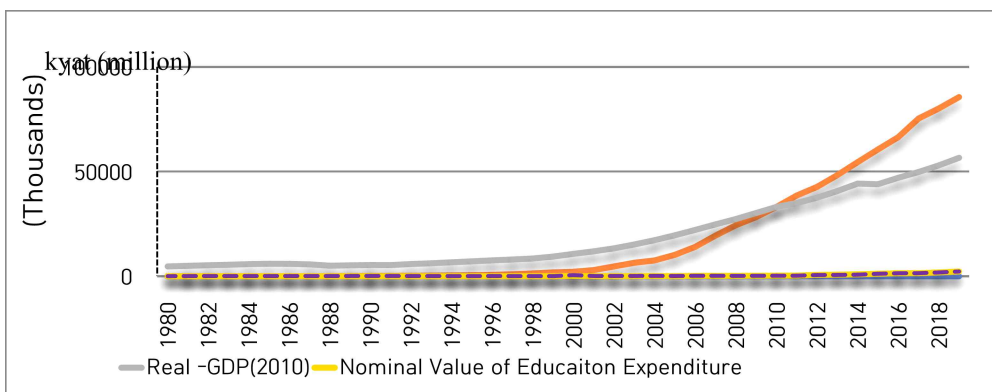
Figure 2. Real GDP and Public Education Expenditure of Myanmar (1980 -2019)
Source: Author calculation based on sample (1980-2019)

    As shown in Figure (2), it can be examined the real GDP and education expenditure in term of kyat in million from the year 1980 to 2019. Figure (1) and (2)

reflect that over the year the share of education expenditure is relatively small and even the government had been made   effort to gain in   educational development, there has been made considerably less funding on this sector.

Thus, this fact makes the researcher highly interested to explore whether education expenditure and economic growth are associated or whether they support to each other in the development process of Myanmar.

III. Objective of the Study

Based on the above rationale, the main objectives of this study are to investigate whether there is a causal relationship between economic growth and public education expenditure, and to provide appropriate suggestion and policy recommendation in order to improve education sector in Myanmar.

IV. Empirical Analysis

1. Data Source

In order to analyze the causal relationship between public education expenditure and economic growth, this study uses macroeconomic data set that is released from Ministry of National Planning and Economic Development (MNPED) and Ministry of Planning and Finance (MOPF).   Data covering is from 1980-81 to 2019-20 Fiscal Years.

2. Variables

In order to elaborate the objectives, the two main variables are utilized in this study. The Real Gross Domestic Product which is used as a proxy of economic growth; and Total Public Education Expenditure which is assumed as a proxy of status of education in Myanmar. In terms of symbols, RGDP uses for the real gross domestic product that is converted to the real value by using 2010 as a base year. REDUEXP indicates the total public expenditure to education, which is transposed into the real value in order to reflect the real situation and to be consistent with the value of real GDP. All variables are transformed into natural logarithm.

3. Theoretical Model

With respect to the theoretical concept of causality relationship between public spending and economic growth, this study based on the Feedback Hypothesis which is accepted that "there is an existence of a bi-directional causality running between GDP and Public Education Expenditure" and it was documented by Singh and Sahni (1984), Thornton (1999), Chow, Cotsomitis, and Kwan (2002), Abu-Bader and Abu-Qarn (2003), Ghorbani and Zarea (2009), and Yay and Tastan (2009).

4. Methodology

With respect to methodology, Time Series Analysis, Unrestricted Vector Autoregressive (VAR) estimation, co-integration test and Vector Auto-Regression Granger Causality Test are applied as the main statistical tools in this study. The Vector auto-regression (VAR) model for Causality Test is constructed as follows.

$$\Delta Y_t = a_1 + \sum_{i=1}^{m} b1i \, \Delta X_{t-1} + \sum_{j=1}^{m} c1j \, \Delta Y_{t-1} + \epsilon_{1t}$$

$$\Delta X_t = a_2 + \sum_{i=1}^{m} b2i \, \Delta X_{t-i} + \sum_{j=1}^{m} c2j \, \Delta Y_{t-j} + \epsilon_{2t}$$

Where   and   represent the intercept terms; b and c represent the estimated coefficients; and m represents the optimal lag order. The null hypothesis is that X cannot strictly Granger cause Y in equation (1) and Y cannot strictly Granger cause X in equation (2), which is represented by =0 and = (i= 1,2 ,......, m ; j=1,2,..m).

5. Testing and Estimation Procedures

To examine the causal effect of these two variables, firstly, the Augmented Dickey Fuller (ADF) unit root test was implemented to check whether the two variables have stationary level of series. Secondly, the length criteria were carried out for deciding the appropriate lag length for the analysis. In the third, to make sure the whether the two variables are integrated, Johansen Cointegration test is utilized and finally, unrestricted VAR estimation and VAR Granger causality test are employed to explore the causal effect of economic growth and education expenditure.

1) Unit Root Test Results

As can be observed in Table 1, Augmentd Dickey Fuller (ADF) unit root test

reported that the two main variables namely (LNRGDP) and public education expenditure (LOGREDU-EXP) are stationary at the first difference with 5 % and 1% significant level respectively.

Table 1. The Results of Unit Root Testing for RGDP and Public Education Expenditure [ADF Test with Automatic Selection at Maxi-lag (p-value)]

Sr. no	Variables	ADF (t-Statistic)	ADF (p-value)	ADF (t- Critical Value)			
				1%	5%	10%	= Non-Stationary
1	LOGRGDP	-8.558537	(0.0000)	-3.621023	-2.943427	-2.610263	Reject :
2	LOGREDUEXP	- 8.414910	(0.0000)	-3.653730	-2.957110	-2.617434	Reject :

Note: ***, **,* represent the p-values are significant at 1%, 5% and 10% level, respectively
Source: Author's calculation based on sample (1980-2019)

Moreover, the two variables are integrated of order I (1) with the lower value of ADF t- statistics than the ADF (t- critical value) at 1%, 5% and 10% respectively. According to the results of ADF unit root test, it is confident that the two variables are appropriate to proceed for the analysis.

2) VAR Lag Order Selection Criteria Result

As shown in Table (2), all VAR Lag length criterions such as Final prediction error (FPE), Akaike information criterion (AIC), Schwarz information criterion (SC) and Hannan-Quinn information criterion (HQ) examined that the lag length for this analysis is one with smallest value for each criterion. Therefore, there is no doubt that lag length two is the optimum lag length as selected by VAR Lag length criterions. Hence, this study uses lag length two for both cointegration test.

Table 2. The Results of VAR Lag Length for Cointegration test

Lag	LR	FPE	AIC	SC	HQ
0	NA	0.008828	0.945938	1.033015	0.976637
1	214.7076	1.98e-05	-5.152775	- 4.891545	-5.060680
2	15.25529*	1.53e-05*	-5.413287*	- 4.977904*	-5.259794*
3	4.761947	1.63e-05	-5.355802	-4.746266	-5.140912

Source: Author calculation based on sample (1980-2019)

3) Cointegration Test Result

After determining the lag length as stated from the above Table (2), Johansen Cointegration test is carried out to evaluate the whether the two variables are

cointegrated. The results of the Johansen's Trace and Max Eigenvalue tests are shown in Table (3).

Table 3. The Results of Unrestricted Cointegration Rank Test

Trace Test				Max-eigenvalue Test		
Hypothesized No. of CE(s)	Trace Statistic	Critical value	p-value (0.05)	Max-Eigen Statistic	Critical value	p-value (0.05)
None	9.880120	15.49471	0.2901	9.866434	14.26460	0.2208
At most 1	0.013687	3.841466	0.9067	0.013687	3.841466	0.9067

Note: ***, **,* represent the p-values are significant at 1%, 5% and 10% level, respectively
Source: Author calculation based on sample (1980-2019)

As stated in table (3), both trace and Max-eigenvalue tests confirm that there is no long-run cointergration between the two variables since the p value of both tests are not significant at any levels such as 1%, 5% and 10% respectively. Thus, the null hypothesis cannot be rejected instead it must be accepted that LOGRGDP and LOGREDU-EXP are not integrated. According to the result, it can be concluded that public education expenditure and economic growth are not associated in the long-run in the case of Myanmar economy. It means that they do not move together in the long-run. That is an increase in the value of GDP does not always cause increase in education expenditure.

4) VAR Granger Causality Test Result

As reported from table (3), it is found that there is no existence of long run relationship between the two variables namely LOGRGDP and LOGREDU-EXP; thus the Unrestricted Vector Auto Regressive Model (VAR) is comprehensive to apply in the test of causality. Finally, the computed results of the VAR Granger Causality are reported in the following Table (4).

Table 4. The Result of VAR Granger Causality Test

Equation	Variable Name		Chi-sq	Prob.	Direction of Causality
	Dependent variable	Independent variable			
I	LOGRGDP	LOGREDU-EXP	7.247769	0.0071***	(Bidirectional) Causality flows between Real GDP and Education Expenditure (LOGRGDP ⇔ LOGREDU-EXP)
II	LOGREDU-EXP	LOGRGDP	10.17125	0.0014***	

Note: ***, **,* represent the p-values are significant at 1%, 5% and 10% level, respectively
Source: Author calculation based on sample (1985-2018)

The results of VAR Granger Causality test illustrated that there is bidirectional relationship between the two variables. It can be seen in the first equation that LNRGDP is dependent variable and LOGEDU-EXP is independent variable. The p-value of the first equation is very significant at 5 % level since the p-value is 0.0071. Similarly, it can be observed in the second equation that LOGRGDP is dependent variable and LOGEDU-EXP is independent variable. The p-value of the first equation is very significant at 1% level since the p-value is 0.0014. According to the result, it is certain that economic growth causes or supports the public education expenditure, on the other hand, education expenditure does cause and support economic growth for the case of Myanmar.

V. Finding and Recommendation

To create a better education system that can abreast with those of other neighboring countries, Myanmar has long been put much effort and implementing pragmatic reforms on education sector. The most significant education reform of recent time has been alteration of the school structure of 5-4-2 to KG+12(5-4-2) starting from AY 2016-17 under the government of NLDP. Although the government is maintaining a focus on the education sector and trying to upgrade it, there are many challenges and barriers to overcome in the process of education forms. Amongst, the budget allocation is one of the main challenges for education sector and budget allocation on this sector is still small over the course of the years. On the other hand, it is observed that even though the GDP of Myanmar has shown that it has been increasing over the year, a budget share on education sector has been relative very low as compare to other sectors. Noticeably, even the government expenditure on education has increased in the recent years; it is more required to improve the education expenditure to meet the needs of education.

As this study surprisingly found out that there is a strong relationship between economic growth and education, it should take the opportunity to upgrade education in order to support economic growth. Thus, sufficient investment in education or allocation of budget on education is more important in budget sharing to upgrade the performance of education level. In addition, Myanmar is still standing as a middle low-income country as well as labor-intensive economy. Thus, having an abundant human capital is the most advantage and valuable opportunity for Myanmar to drive its economy to the path of economic development. However, it should keep in mind that having an abundant human capital is not large enough for development of a nation instead having capacity to transforming these human capitals into the

well-educated and qualified labor lead to the rapid change in increasing both labor productivity and the capacity of knowledge production of an economy.

Therefore, based on the finding, this study would like to provide the recommendation is that smaller allocation of resources in education sector; it could be retarding a nation's economic growth especially in the long run. Since human resources are valuable, it should be transformed these resources into productive people by providing effective education system with the use of sufficient expenditure on education. Thus, policy maker should not be overlooked education expenditure in the budget allocation; instead the policy makers should pay more attention to improve allocation of budget on education. In other words, policy makers should primarily center enough expenses on education from primary to higher level as a mission and target to build qualified and to develop productive labor force to the fundamental of education system to boost and sustain the economic growth of Myanmar.

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Non-alignment Movement (NAM) and India in the Globalisation

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ABSTRACT : Non-alignment movement (NAM) has been the most intriguing question about Indian foreign policies over the decades. Often, the end of Cold War and the process of globalisation seems has questioned the relevance of NAM today, though its legitimacy was not beyond doubt even during Cold War, but the same globalisation demands a new role for NAM. In the era of globalisation, NAM can be more effective in realising its positive spirit if implemented with the changed strategy and objectives. The paper is divided into three main parts. The first part traces the genesis of NAM during the Cold War, while, the second one explains the factors responsible for the legitimacy crisis of NAM in the post-Cold War era. At last, the third one pitches for a strong role for NAM in the era of globalisation.

Key words : *Non-alignment (NAM), India, Cold War, post-Cold War, Globalisation,*

I. INTRODUCTION

There is serious disagreement over the role of ideology in foreign policy-making. Realists argue that ideology is very much a manifestation of the national interest. According to them, a particular country follows a particular ideology only if it suits its interest. Whenever there is a conflict between interest and ideology, preference is

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always given to the interest. While opponents of this view like Brzezinski asserts that 'no country acts in a vacuum and every country has its own philosophical preference and value system which is shaped by its history and cultural-political legacy, and its acts follow the framework laid down by this value context.'[1] It is not only the matter of liberal economy, free trade, individualism, and parliamentarianism of the United States and the socialism, collectivism, and command economy of the Soviet Union but also the ideals of non-alignment, decolonization, and equal status of the third world countries matter in the international relations.

The last century has been the 'age of extremes'[2] as far as the ideologies matter in international relations. With the start of the century, the whole of Europe was almost divided among three ideological influences of capitalism (the Right), communism (the Left), and fascism (the far Right). The spearheads of a particular ideology tried to expand their influence at the cost of others. During the World War II, the Left and Right joined hand to defeat the far-Right but once the fear of far-Right was over, the two remaining ideologies themselves locked horn with each other to establish their own particular ideology all over the world. However, in the post-WWII era, to counter the extremes of these ideologies and their hegemonistic tendency, a new ideology of Non-alignment emerged in the third world. Just after the end of the Cold War when the Non-aligned movement (NAM) found no significance in international conduct, capitalism was projected as the only viable ideology before the world. However, after the short triumph of the socio-economic model of capitalism, Islamic ideology emerged as the most complicating value system in the international relations and Iran claimed to lead this ideological value since the Islamic revolution in Iran. 'Islamism' (or 'political Islam') has engaged everywhere around the globe to fight the atrocities of the West. This is the most stubborn ideology today challenging the values of capitalism.

Whatever be the contentions, we cannot deny the significance of ideology in foreign policy. First, once a state declares a particular ideology as its official one it can't deny its compulsion in its acts from time-to-time. It becomes its compulsion to show concern towards that particular ideology because it is linked to the very legitimacy of the regime. Secondly, the linking of the acts to a particular ideology strengthens the mobilization of mass in favour of a particular orientation as well as in favour of state itself. Once declared, it becomes tough for the regime to deny it bluntly because a pervasive ideology remains present in the life of common man and any defiance may risk mass ire. In many cases, by advocating a particular ideology a

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1) Väÿrynen, R. (1979). East-West Relations And Global Change: The Foreign Policy Ideology Of Zbigniew Brzezinski. Current Research on Peace and Violence, 2(1), 20-37. Retrieved July 23, 2020.

2) Thompson, W. (2011). Ideologies in the Age of Extremes: Liberalism, Conservatism, Communism, Fascism 1914-1991. London; New York: Pluto Press. doi:10.2307/j.ctt183pcxs

state tries to garner supports from the wider populace across the border and successfully projects itself as the leader of that part world.

II. The Genesis of NAM

The ideology of NAM promises to resist the domination, subjugation, and exploitation by the Superpowers either by their direct political, economic, and military presence in the region or through the very regimes which have clients of the bloc power. The ideology NAM draws the clear line between exploiter and exploited in international relations. In global terms, NAM has been the staunchest challenge to the hegemonic ideals of bloc system emerged after the end of WWII. Non-alignment locked horn with bloc dominance and India was its ceremonial commander.

However, in term of NAM, we must accept that it was more a strategy, rather than an in-built theory, which was adopted by the most of newly decolonized nations to counter the specific international challenges.[3] The dynamic nature of NAM, adopted in the foreign policies of its driver countries, proves the strategic elements contained in it. Though initially, it was approved in relative terms to counter the compulsion imposed by the military blocs, over the time it was manipulated to meet the economic and other social needs faced by the newly emerged weaker nations in the society of states. NAM was adopted to counter the bloc hegemony in international state-system but later it became a bloc independently based on the interests of Non-aligned countries. Initially, they avoided any kind of grouping or institutionalization of Non-aligned states. Logically, it has been a desire to promote the democratisation of international relationships and courage to stand against the very polarisation of bloc-system. However, later they got sucked into the process greater institutionalization to make their co-operation more effective. Institutionalization can be seen in the context of Co-ordinating Bureau and Permanent Representative at UN with the desired procedure to channelized the interests of third world countries in a bloc manner.[4]

India's policy of Non-alignment can be said to have been framed during its freedom struggle itself. During its freedom struggle, it had constantly supported the freedom movements in other parts of Asia and Africa. By doing so it recognised the global nature of the struggle against colonialism and projected its own independence struggle as part of the global struggle against colonialism. India opposed all forms of

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3) Rajan, M. (1980). Non-Alignment: The Dichotomy Between Theory And Practice In Perspective. India Quarterly, 36(1), 43-67. Retrieved July 13, 2020.
4) Harshe, R. (1990). India's Non-Alignment: An Attempt at Conceptual Reconstruction. *Economic and Political Weekly, 25*(7/8), 399-405. Retrieved July 22, 2020.

colonial oppression and supported the freedom struggle going outside its border. The Indian freedom movement was not inward in perspective rather advocated a foreign policy based on universal democratization and peace**.** C. Sankaran Nair president of Indian National Congress in 1897 stated:

> *Our true policy is a peaceful policy...With such capacity for internal development as our country possesses, with such a crying need to carry out the reforms absolutely necessary for our well-being, we want a period of prolonged peace.*[5]

The two main strands- anti-colonialism and the economic rationale behind the imperialism- constituted the main ingredients of Indian National Congress' external outlook.[6] Leaders of Indian freedom-struggle opposed the 1878-80 Afghan war and termed it as purely colonial greed. Similarly, the attack on Burma in 1885 and on Tibet in 1903 seemed like efforts to strengthen the interests of colonial power. In these instances, Indian leaders did oppose the expansionist policy of British India not only because of the economic burden that India would go to bear but also because it was politically immoral. The real test to Indian policy comes when fascist forces, which were the main opponents of Britain, attacked Ethiopia and Czechoslovakia. Jawaharlal Nehru refused to meet Mussolini despite his consistent request. Similarly, he refused the official invitation to go to Germany and saw its aggregation as merely another form of colonialism. India's opposition to Japanese aggression against China showed that its pro-Asia identity was not blind to the real content of foreign conduct but was very much open to the scrutiny of merit and demerit of a particular action. Congress which was the vanguard of freedom struggle developed its anti-colonialism and pro-Asian identity in more rigorous terms of 'international economic imperialism' and 'threat to global peace'.[7] By establishing the Department of Foreign affairs in Congress and by participating in the International Congress of Oppressed Nationalities held in Brussels in 1927, India strengthened its identity with Asia and Africa in a more institutionalist way.[8]

Newly independent India continued with this ideological context in its foreign policy. It initiated Non-alignment, both in spirit and letter, in its foreign orientation.

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5) "Nehru and Non-alignment", https://www.mainstreamweekly.net/article1399.html (accessed on 20 June, 2020)

6) Dalmia, T., & Malone, D. (2012). Historical influences on India's foreign policy. *International Journal, 67*(4), 1029-1049. Retrieved May 11, 2020.

7) Stokes, E. (1969). Late Nineteenth-Century Colonial Expansion and the Attack on the Theory of Economic Imperialism: A Case of Mistaken Identity? *The Historical Journal, 12*(2), 285-301. Retrieved April 23, 2020.

8) Gopal, S. (2004). Jawaharlal Nehru: Europe 1926-1927. *Indian Literature, 48*(1 (219)), 61-74. Retrieved May 20, 2020.

India spearheaded the anti-colonialism rationale against the neo-imperialism. During this period, Indian foreign policy, both at bilateral as well as global level, was largely shaped by the pursuit of this global goal. The ongoing development of Indian freedom struggle imparted a great impetus to the freedom movements going on elsewhere. Riding on these sentiments Nehru, the builder of modern India, convened the Asian Relations Conference in March 1947. At this event Nehru shared his sentiments:

> *For too long, we of Asia have been petitioners in the Western courts of the Chancellories. That story must now belong to the past. We propose to stand on our own feet and to co-operate with all others who are prepared to co-operate with us. We do not intend to be a plaything of others.*[9]

The policy of Non-alignment shaped by Nehru was contagious and so the proponents of the movement increased in number for the same reason and motivation. Nehru's support to convene a conference in Delhi in January 1949 to support Indonesian cause was a turning point in the history of Non-alignment.[10] It meant a new alignment was imminent in reaction to the atrocities of bloc hegemons. He added: "We do not want to form a new bloc but inevitably the countries of Asia will come closer together and India will play a leading part in this."[11] Similarly, Bandung Conference of Afro-Asia relations held in Jakarta in 1955 and India's enthusiastic participation in it showed that now India was a strong supporter of solitary of Asia and Africa.

India did not show the spirit of Non-alignment only at conference and summit level but also pursued its commitment in acts. India was the first Asian country to recognize China and gave concrete shape to the principle of Panchsheel.[12] Nehru gave due importance to the idea of NAM to decide every issue in foreign policy. He declined to sign the Japanese Peace Treaty in San Fransisco in 1951 because he considered some of its clauses as limiting the sovereignty and independence of Japan.[13] India also showed its guanine concern on Korean issue when it was appointed chairman of the Neutral Nations Relations commissions.[14] The fact that

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9) "Pt. Jawaharlal Nehru's speech at Asian Relations Conference 1947",
   https://www.tibetsun.com/news/1947/03/24/pt-jawaharlal-nehrus-speech-at-asian-relations-confer
   ence-1947 (accessed on 20 July, 2020)
10) Suryanarayan, V. (1981). Presidential Address: India And The Indonesian Revolution.
    Proceedings of the Indian History Congress, 42, 549-562. Retrieved June 18, 2020.
11) Ibid.
12) Verma, D. (1989). Jawaharlal Nehru: Panchsheel And Indian's Constitutional Vision Of
    International Order. *India Quarterly, 45*(4), 301-323. Retrieved June 21, 2020.
13) Leng, S. (1952). India and China. *Far Eastern Survey, 21*(8), 73-78. doi:10.2307/3023737

both sides accused India of partiality indeed proved India's independent and bipartisan approach.

India, under Nehru, cemented a close relationship with the neighbouring countries with the exposition of Non-alignment. India was naturally as well as politically in a position of hegemon in South Asian region In term of geography, demography, economy, and military strength India was able to far outshine all its regional counterparts. However, India never let this sense of dominance to come in the way of initiating relations based on mutually acceptable terms. This shows India's inherent commitment to the value of NAM. Treaties of Friendship were concluded with Bhutan (in 1949) and with Nepal (in 1950). India went for similar treaties with both Indonesia (1951) and Philippines (1954) and also preferred the same terms of relations with Afghanistan, Egypt, Iran, Syria, Turkey, and Muscat. Independent India's approach to Sri Lanka was based on the principle of mutual respect and equality of Ashoka's Dhamma in foreign affairs rather than ingredients of British patron-client approach.[15]

III. Indian Dilemma in the post-Cold War Era

However, despite India's commitment to the larger values of NAM, we can't deny a shift in Indian foreign policy after the Cold War. In a unipolar world, when the international conducts have been largely shaped by the economic stimuli, Indian foreign policy has been increasingly moving towards a path of de-idealization and reciprocal in orientation. This shift can be seen when Indian foreign policy, in a less abstract sense, has shifted towards the US' ambit of influence away from Russia which it used to see as the natural guardian of the third world countries, given its state ideology of socialism, anti-colonialism, and co-operation with Non-aligned countries.

In a unipolar world when the US came out in a position of single superpower to reshape the international relations and set the norms and values of inter-state conduct, Indian policy-makers were taken aback. On the issue of change in its international orientation India was left with two options- either to go with the earlier policies of opposition to any unilateral dominance of any country and face the same fate as Iran, Iraq and North Korea did face later or to reshuffle its policies according to the demands of new system-maker. Given the demography and the political

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14) Warner, G. (1980). The Korean War. *International Affairs (Royal Institute of International Affairs 1944-), 56*(1), 98-107. doi:10.2307/2615722

15) Winichakul, T. (2015). Buddhist Apologetics and a Genealogy of Comparative Religion in Siam. *Numen, 62*(1), 76-99. Retrieved July 23, 2020.

system of the country, it was not possible to go for the first alternative. India is a democratic country and the political corridor is accountable to the mass that gives them mandate at regular interval to conduct state affairs. The population of India was still in a backward position and needed continuous stimulus to accelerate social and economic growth which is the first aspiration in a democratically elected political system. This was the criteria which set the Indian approach different from Iran, Iraq, and North Korea to choose the path of reorientation rather than confrontation. Secondly, in a unipolar world when Russia was no more in a position to back India in its efforts to safeguard its national interest, India was left in the lurch to look for a strong partner which could guard it against any threat to its national interests. Given the strained relations with its neighbours, the second exposition was given priority. The way Soviets consistently backed India on the issues like Kashmir, it needed another big brother with which it could guard its territorial integrity.[16]

Similarly, in the case of West Asia, Indian foreign policies saw a drastic change. Countries like Iraq and Palestine which were at the ideological core of Indian foreign policy suddenly got marginalised to the periphery, while, the counties like Israel and Iran which were once at the periphery came to the core-site.[17] Another point which is quite significant while addressing the shift in India's International orientation was is the growing economic rationale in the post-Cold War era.

With the demise of the communist bloc, the socio-economic path of the third world countries got compelled to move towards a capitalist and liberalized directions. India's long experience of the controlled model of economic development failed to produce the desired result and the majority of its populations continued to suffer from extreme poverty. This calculations forced India to reorient its economic model and went for globalization, privatization and liberalization in a big way. The compulsion of this new change demanded Indian policymakers to emphasize economic consideration while conducting inter-state affairs. ASEAN remained neglected for Indian policymakers as it was seen an extension of American extraterritorial influence, while, in the post-Cold War era the regional significance has forced India to calibrate an ASEAN-centric 'Look East' policy.[18] This change in the Indian approach can be seen driven by the economic consideration of globalization rather than a strategic element.

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16) Naik, J. (1968). Soviet Policy On Kashmir. *India Quarterly, 24*(1), 50-61. Retrieved Jan 14, 2020.
17) Pradhan, B. (2004). Changing Dynamics of India's West Asia Policy. *International Studies*, 41(1), 1–88. https://doi.org/10.1177/002088170404100101
18) Bajpaee, C. (2017). Dephasing India's Look East/Act East Policy. *Contemporary Southeast Asia, 39*(2), 348-372. Retrieved May 13, 2020.

IV. Positive Spirit in the Globalisation Era

Given the idealistic evolution of NAM around India's external outlook, it can't be claimed that the Indian foreign policy was completely bereft of pragmatism during the cold war. Though India showed the inherent compulsion of NAM in the friendship treaty with Nepal (1949) and SL (1954) but its intervention in Bangladesh Mukti Andolan and Sri Lanka on the issue of Tamils was seen as part of power-politics in Indian foreign policy. Similarly, India's refrain from taking a strong and vocal stand over Soviet involvement in Afghanistan also tarnished its image of the leader of NAM.[19] India's stand on these issues was at complete variance with the spirit of NAM which it claimed to nourish to make it a voice in international relations. However, India chose to safeguard its national interest despite the loss of credibility among Non-alignment nations.

Jawaharlal Nehru, the architecture of NAM, has clarified at many times that "our policy is not a negative policy and that ultimately foreign policy is the outcome of economic policy."[20] Newly decolonized countries were not satisfied with political independence only but wanted to promote NAM in such way that would reverse the skewed social-economic trajectory of the colonial era. Of course, it is quite natural that when the cold war was quite intense the 'negativism' was the priority. But 'negativism' and 'prohibition' are not the appropriate phrases to explain NAM. Now, when the cold war is over it is the time to realise NAM in its positive spirit.

The mixed bag of ideology and pragmatism proves that Indian foreign policymakers never lost the sight of national interest. The contention is not to deny the consciousness of Indian history and traditions as a determining factor in the Indian foreign policy but to advocate a strong pitch for NAM with a changed strategy. The way NAM was pursued in good faith during the cold war asks for the relevance of NAM as a strategy even today. During the cold war, NAM was pursued not only negatively to refrain from military blocs but also positively to encourage global peace, universal disarmament, and the socioeconomic cause of perpetual conflict.[21] Today, NAM can reset the global platform to counter the challenges the world is facing today. Today, the world system has been divided into haves and have-nots based on the terms of trade, climate change, and the structurings of major

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19) Khan, A. (1997). Asian Approach To The Settlement Of Regional Disputes: The Case Of Afghanistan. *Strategic Studies, 19*(2/3), 136-156. doi:10.2307/45182233

20) "Nehru as the Sole Arbiter of Indian Foreign Policy: An Analytical Review of the Years 1947-64", UOSJSSH. Volume, 2. No. 2 (Winter 2013), https://www.researchgate.net/publication/331021802_Nehru_as_the_Sole_Arbiter_of_Indian_Foreign_Policy_An_Analytical_Review_of_the_Years_1947-64 (accessed on 22 May, 2020)

21) Misra, K., & Mishra, K. (1993). NAM Comes Through. *World Affairs: The Journal of International Issues, 2*(1), 9-16.

international forums.

The era of the cold war when the only option was either to choose me or to choose enemy is over, and the galvanization of nations is now taking place on these new emerging challenges. The world has unanimously accepted the importance of trade as the source of prosperity and any clandestine grouping on political lines would pose a hindrance in achieving this universal goal. However, the world is today looks more divided, while the developed countries want undeveloped countries open their market by doing away with tariff and other non-tariff barriers, they refuse to cut their subsidy level making their market inaccessible for undeveloped countries.[22] The current logjam over the new terms of trade at WTO has left the undeveloped countries to seek their interest together.[23] In sum, the world is divided on the issue of trade between the pro-free and the pro-fair group. Similarly, on the climate issue, the developed countries backtrack to take up their historical responsibility and are putting the onus to save green globe on the developing countries who are in dire need to accelerate their economic growth to uplift their masses from massive poverty. The polarization of the world community on the issue of the reshuffle of the major international forum also reminds the logic of the cold war and the NAM. While the hegemonic countries refuse to concede place for the accommodation of new developing countries and are unwilling to change the status quo, the developing countries are divided on the question of representation-quota in these international bodies on the lines of region and national priorities. In this scenario, NAM reminds the spirit and rationale behind it to get developing countries together and make concerted efforts to secure their interest in the long-term.

NAM is the single overarching umbrella under which global south can get together and make conscious to counter the global North's efforts to do away the term on these issues unilaterally without taking account the concern of their counterparts. India shares the same concerns on the issues along with other South nation and can lead the global south. India led the concern and approaches of newly independent countries during the cold war era and today international community demands the same from India but with a changed perception of concern and challenges. Today when India is projected as a natural partner of the US and other western powers it must be cleared in mind that, given its size, skewed demography, and limited resources, India is a natural antithesis to the US and its allies on the issues of climate, trade, and reforms in the international organisations.[24]

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22) Sharma, S (2006). *WTO: THE HONG KONG MINISTERIAL*. Institute of Peace and Conflict Studies, www.jstor.org/stable/resrep09379 (accessed 23 July. 2020)

23) Sen, A. (2010). The World Trade Organisation and Preferential Agreements. *Economic and Political Weekly, 45*(28), 24-26. Retrieved May 23, 2020.

24) Kamdar, M. (2006). The Real Prize in India-U.S. Relations. *World Policy Journal, 23*(4), 60-63. Retrieved June 23, 2020.

While the US is the largest subsidy-provider to its agriculture sector, India has been pressurised unfairly to do away with the livelihood of millions of its farmers by reducing the market support. The US is the largest polluter in the recent history, while, tactically it has been pressurising India to cut emission level and leave its population in the constant state of extreme deprivation. Similarly, the US is going to be the major loser if reforms take place in the structure and function of the international organisations as it has been playing with these as diplomatic tools. The revelations by Wikileaks show how the US has been blocking India's effects to get into these organisations.[25] Terrorism has been the most talked about the issues of cooperation between India and the US in recent times but it must be kept in mind that even at this grave threat to humanity both are on the opposite sides. Terrorism has acquired an unbridled dimension after its reckless military intervention in the West Asian region. While the sponsor of terrorism which India faces is the partner with the US in its 'war on terror' and gets silent support to continue with it. So, India must stop being fooled by its western counterparts and seek where its real interest lies in the long-term.

V. Conclusion

Nehruvian concept of NAM was an affirmative agenda. The goal of NAM was not just to refrain from military blocs but also to democratize international relations and to achieve national interests of newly decolonised countries including India. The perception of India's interest different from the global South would be short-sighted and the pursuit of India's national interest in the context of global South will be in India's long-term interests. When the era of colonialism, militarism, and the classical cold war era is over, NAM has acquired the new relevance. The dynamic course of NAM adopted by the Indian policymakers during cold war suggests the same.

Scholars who reject the utility of NAM in Indian foreign policy usually forget that India is still diametrically opposite to the global power in term of political and economic potential and its alternatives in foreign policy are limited, and when your options are limited you can't ignore any alternative available to you. India's is not like US or Rusia which are capable to push their interest unilaterally. When the NAM was able to create so much diplomatic reshuffle at the time of classical militarism why can't it do the same today? Today's call for south-to-south co-operation is just a reverberation of the cooperation that NAM once showed. The

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25) Writer, S. (30 November 2010). "WikiLeaks: Hillary Called India 'Self-Appointed Frontrunner for Permanent UNSC Seat'". NDTV. Retrieved 30 November 2010.

need is just to readjust it according to the needs of the time. After the demise of communism, Islamic zeal has emerged as the most stubborn challenge to capitalism and westernisation. However, given the violent nature, it has limited diplomatic potential. So, the NAM promises the single most effective tool to produce the result for the global South under the leadership of India. Despite all value systems and cultural identities, the very political system and decision-making institutions of a state play an important part in deciding the external orientations of that particular state. These are the mechanism through which external stimuli are filtered and the responses are made out. In the same way, NAM provides an opportunity which has to be filtered through a conscious and informed mind before it is put to realise one's interests. Now it is up to us whether to strangulate NAM in an ideological box or to make it a strategy in good faith to secure our long-term interests.

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A Study on the Role of Human Resource Development in China-Myanmar Economic Corridor

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ABSTRACT : The purpose of the paper is to examine the role and importance of Human Resource Development (HRD) of Myanmar with focus on China-Myanmar Economic Corridor. Generally, it seems like Economic corridors have economic benefits to host country. Myanmar can take incredible advantages if it can handle the resources including human resources brilliantly. In 2030 demand for skilled labors will increase to millions. So the policy makers should pay attentions to HRD to supply the market needs. In this paper, a number of recommendations have been made. The research method of the paper is secondary research.

Key Words : *Human Resource Development, China-Myanmar Economic Corridor, economic benefits,*

I. Introduction

Belt and Road Initiative (BRI) known as One Belt One Road (OBOR) in China is a strategic goal of Chinese Government initiated by President Xi Jinping in 2013. The aim is to expand land infrastructures – Belt and land maritime routes – Road network connecting China through Asia, Africa and Europe (Kuo & Kommenda, 2018). There are over seventy participating countries in BRI and the final list of participants still doesn't come out. As part of BRI, China planned to invest and implemented 70 economic corridors amounted to US$575 billion and will reduce poverty for 7.6

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million people after complete it (World Bank, 2019). Myanmar, the neighbor of large two countries China and India is naturally regarded as the most important role for power play ground and economic corridors. Having geographical advantages such as the East – West Economic corridors that connected five ASEAN countries and the Greater Mekong Sub region ever makes China interests in Myanmar.

After a landslide victory of National League for Democracy Party in 2015 general election, the political situation simulated more and more international interests to invest in Myanmar. Unfortunately at this movement Northern Rakahine conflicts happened and Europe and western countries postponed their investments. Hence, this pushed Myanmar more closed to China. In 2017, Myanmar State counselor and China's President met to start a new China – Myanmar Economic Corridor that connected between Kyaukpyu and Kunming (Nitta, 2017). The shape of CMEC is Y shape that runs from Kunming in Yunnan province, China to Mandalay, Central Myanmar then turns east to Yangon and south to Kyaukphyu.

This CMEC includes three core parts; first the Kyaukphyu Special Economic Zone (SEZ), second the China – Myanmar Border Economic Corporation Zone and finally an urban development plan for Yangon (Lwin, 2020). Among them the most prominent one is Kyaukphyu Special Economic Zone (SEZ). This result formed from the negotiating of Myanmar government with China International Trust and Investment corporation (CITIC). Earnings from the Kyaukphyu SEZ will be shared Myanmar 30 percent and China 70 percent respectively that is different from previous Union solidity Development Party (USDP) government agreement; Myanmar will get only 15 percent from that project.

Kyaukphyu SEZ is a strategic important plan in CMEC. This maritime gateway can give landlocked Yunnan province to access to Indian Ocean which can shorten the route from South and West Asia and Africa to China there by reducing the transporting and communication costs enormously. Hence, 1,060 km long pipelines that carry gas and oil had been built between Kunming and Myanmar since 2013-15 as a strategic component of one of the CMEC core parts. On the other hand, Myanmar expects to gain numerous economic benefits from CMEC by serving like a host for transported products and services. If Myanmar can make right decisions and catch the right time opportunities, CMEC will become the important root for regional socio-economic development and it would lift the country from lower level soonest.

1. Problem of the Study

In order to obtain full benefits from CMEC, Myanmar needs to consider many aspects such as well-structured supply chain management, standard operation system, and qualified human resources and so on for fulfilling the demand. Thus Human

Resource Development (HRD) is a key driving force and component of the process of country economic development (Castleman, 2016). However, isolation lasting couples of decade causes huge gap in Myanmar not only infrastructures but also in people quality. Considering in term of both skilled labors e.g. professional, executive level, chief officer and common labors in mass productions must be a necessary for Myanmar in CMEC workplace.

For the China – Pakistan Economic Corridor, it is renamed as China – Pakistan Economic and Knowledge Corridor for the sake of highlighting the important role of human resource development (Rahman, 2016). Likewise in Myanmar, the knowledge based human resource development function is not possible to neglect to crop the opportunities arising from CMEC. Singapore, a small country and Hong Kong for example Special Administrative Region owned a limited natural resources became a global player through strategic human resource development programs (Stone, 1995; Maitra, 2016). Therefore to get success in such CMEC projects, Myanmar should start to focus on effective and efficient human resources development plan for the whole country and especially for local people in conflict region, Rakhine which in turn will make country economic development along with the CMEC.

2. Research Question

The followings research question has been identified for this study;
(i) Is there an adequate HRD in Myanmar to address the CMEC activities?
(ii) How does Myanmar overcome the CMEC mega projects through a HRD lens?

II. Method of the Study

The method of the study employed in this paper is secondary research method.
This paper is completely based on prevailing literature on Human Resource Development, Economic growth and China Myanmar Economic Corridor. It also has made an attempt to use secondary data such as World Bank document relevant to this study.

III. Literature Review

1. Brief Formation of HRD

Many literatures attempt to explain the role of HRD as a mean employed by any organization to achieve their aims. The steam of HRD comes from human capital. Human capital is defined as the stock of skills that the whole labor force possesses (Schultz, 1961). It can also be termed as "people, their performance and their potential in the organization." (Thomas et al, 2016). The important finding is that human capital concept can explain the various economic anomalies (Goldin, 2014). Later human capital concept evolved into Human Resource Development (HRD). The term HRD can be divided in to Human Resource and Development in which Human Resource refers to at any organization the people and their characteristics and Development refers to the attached capacity and employability in current job or next future job position. HRD consists of training, career and organizational development. This approach rests on the fact that it may attempt to teach special skills to labors to include difficult strategic systems for answering the complex workplace in order to meet the competitive advantages when compare with others. It is said that HRD is to enhance and widen the employee skills by training so that they grow within the organization when letting them to better use of their capacities (Armstrong, 1966). In fact when HRD in one's country get improved, it may lead to greater social and economic developments such as increase living standard, better quality of life and better living standard etc.

2. HRD for Economic Growth

Economic Development and HRD are mutually interdepends. HRD plays a decisive role for economic growth (Wu, 2015). Hong Kong, Taiwan, South Korea, Singapore are the significant examples in East Asia for rapid economic growth by investing hug amounts in HRD (Olaniyan & Okemakinde, 2008). Fig. 1 shows that the formation of economic development of a country macroeconomics system. In this model the fundamental decision comes from the HRD factors in all stakeholders such as government, organizations and individuals.

Investing in people in developing countries is the decisive factor to economic development rather than investing in other physical properties such as space, energy, cropland etc. (Zidan, 2001). Thus, HRD lies in the heart of social, economic and environment development. Global labor markets shape the occupational frame of the global economy. The demand for new and emerging labor sector and the supply for required skill must be adjusted by strategic HRD. This balance must be done especially in developing countries where the foreseeable needs to enhance abilities, skills and capacities for twenty first century-emerging sectors i.e., artificial intelligent, green growth, supply chain system, knowledge economy, etc. has become essential.

3. Myanmar HRD for CMEC

Myanmar should enjoy CMEC opportunity to tackle the unemployment and brain drain issues. In accordance with Human Capital Index 2017/2018, Myanmar's HDI is 0.584 that is 145 out of 189 countries which means Myanmar is in medium human resource development category. Within 28 years (1990-2018), HDI value for Myanmar increased from 0.349 to 0.584, a 67.2 percent in total. The main measures in HDI consist of health, education and GNI per capita. Though Myanmar growth rate seems like sound good, it still needs to improve the index especially in the education as this paper focuses on education for HRD growth.

As reported by ASEAN Youth Development Index (YDI), Myanmar's overall score for YDI was 0.560 and stood at 5th among ASEAN countries and this is an above average in employment and opportunity (First ASEAN Youth Development Index-ASEAN, 2017). However, country within itself the share of youth who did not get education employment or training was 13.6% of youth population in 2018 (World Bank, 2018).

It is estimated that the demand for semiskilled and skilled labor would increase double from 6 million to 12 million (2010-2030) and high skilled labors will be around 26 million in 2030 (Chhor et al., 2013). Again in 2017 and 2018.the second big obstacle for doing business in Myanmar is lack of quailed labor. When compared to last two years, this obstacle decreased to fourth out of five obstacles (Eurocham-Myanmar, 2019).

The human capital model can be used to determine that the supply and demand of skilled educated people influence earning inequality in a community. It also explained the correlation between the distributions of schooling and earnings (Becker and Chiswick, 1966).

Let the following human capital theory model be (De Gregorio and Lee 2002):

$$\log_s Y = \log_o Y + \Sigma_j^S \log(1 + rj) + u$$

Where,

Ys = the level of earning

S = the level of schooling

rj = the rate of return

u = non-school related factors

Then,

$$\log_s Y = \log_o Y + rS + u$$

Finally the distribution of earning function can be expressed as follow,

$$Var(\log_s Y) = \bar{r}^2 Var(S) + \bar{S}^2 Var(r) + 2\bar{r}\,\bar{S}\, Cov(r,S) + Var(u)$$

The above function states that income inequality and educational inequality move in the same direction. If the S increases, there will be more inequality in income distribution because "S" and "r" are independent. However in most cases if the supply for higher education is high, the income inequality and wage premium are low. That is because of negative covariance between level of education and return on education. Therefore the result is that expansions in education can lower income inequality.

Based on the function, getting both formal education and vocational training is crucial for Myanmar HRD as well as for fulfilling the demand for HRD for CMEC. The number of Myanmar students at professional universities rose from 121,369 to 131,074 in 2017-18 when compared to last year (Myanmar Statistics Year book, 2018). Though the numbers have seen to be large, there is a significant difference in total number of students from non-professional universities as they have a huge amount of students (786,306).

Moreover, Technical Vocational Education and Training (TVET) take part in strategic role for fulfilling the market demand. The national Center for Human Resource Development was formed since 1998 and Center for Human Resource Development was existed at every higher education institution under Ministry of Education and other 13 respective Ministries. These centers identify the community needs, manage and operate the vocational training. The policy is to value the vocational training as an educational path in order to meet the needs of transforming the nation into a developed country. Myanmar State Counselor called to focus on making vocational education citizens to realize as it is first class education which can meet personal interest and can enhance one live. Currently there are 247 technical and vocational schools being opened in 13 union ministries, including Ministry of Education. On the other hand, the private sector has opened around 210 courses in 16 types of TVET in implications of TVET.

IV. Conclusion and Recommendations

Each country has its own unique strengths and weakness, challenges and opportunities. The only thing to do for the best of the country is to use its resources both natural and human effectively and efficiently in time and on time. China is getting structural reform to make the great economy and OBOR is one of the key reforms and developments. For Myanmar, in the past Myanmar had to rely heavily on natural resources but now this model should not be valid. Human resource might be the success engine for long run sustainability of the nation. In the

context of OBOR and CMEC, Myanmar has the right economic viability if HRD is adequate. Based on the literature reviews, the following recommendations are set for Myanmar HRD to address the labor demand for upcoming CMEC;

(i) The policy makers should pay attention first on Rakhine, the conflict-affected region where is one of the main CMEC core parts for developing the capacity of local Rakhine ethnic. HRD policy should align with the situations in Rakhine about how to promote the lives in Rakhine by implementing the workable HRD policy for CMEC aspect.

(ii) Government should increase professional universities as fast as possible as to catch the CMEC developing stage. The problem is that there are huge amount of unnecessary non-professional graduates and even after they got the degree, they have to take other professional causes (such as LCCI, IT causes etc.) to get a job. This makes double wastes. Mismatch between degrees and market demand is always high.

(iii) Government should have to promote TVET sector to fulfill the demand gaps. Private Public Partnerships is a way to address the high expenses of TVET. Current TVET schools are not enough for CMEC and more TVET schools should have to open in order to train skilled work force and continue studies.

(iv) For improving HRD, Government should account other factors e.g. health, poverty, politics, civil war apart from considering education sector. Implementing the well HRD policy can lead to the achievement of CMEC and this journey requires careful and patient concentration from respective government, institution, academics and last not least the citizens their selves.

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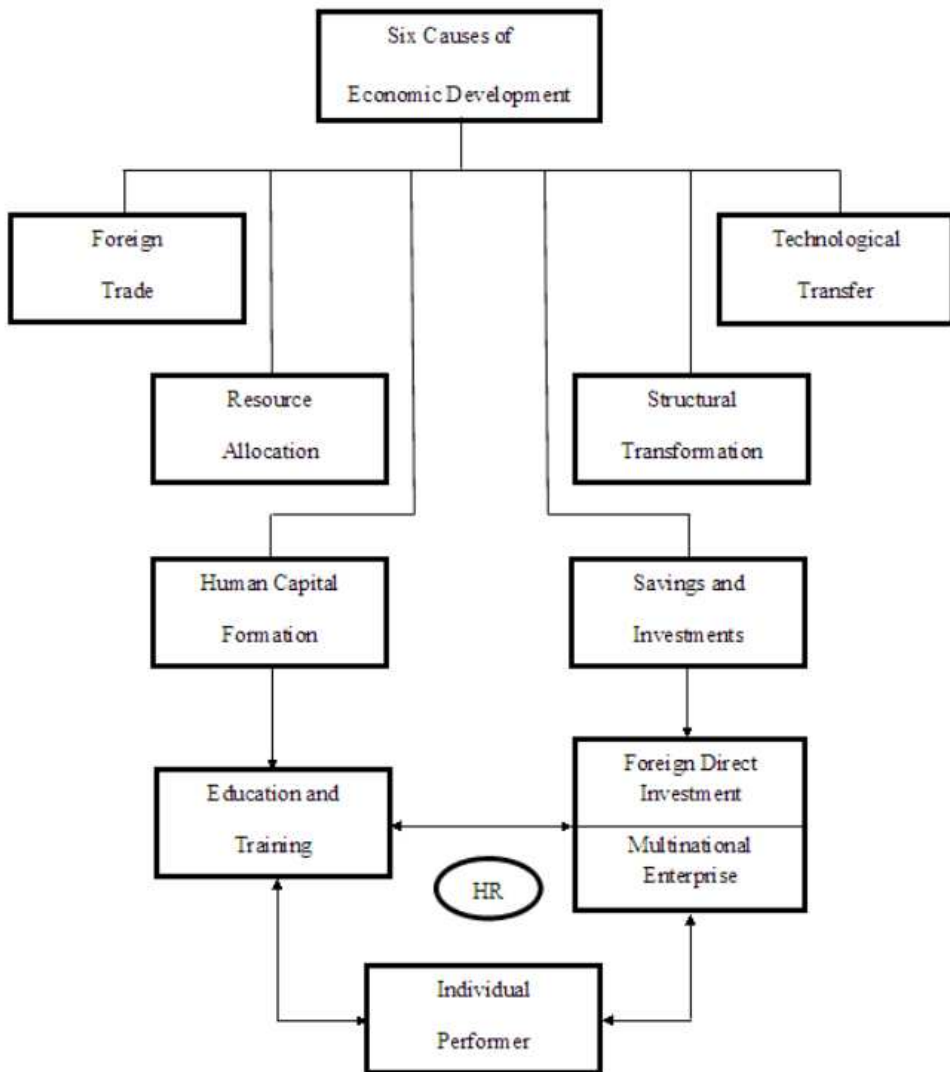
Figure1. Confluence of HRD and Economic Development
Source: Zidan's (2001)

Tourist Attraction Manufacturing Activities in Ywalut, Chaungzon Township, Mon State

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ABSTRACT : Ywalut village tract, study area, is one of the 43 village tracts of Chaungzon Township. There are only one town and 43 village tracts in Chaungzon Township, Bilukyun. The surrounding Island is Hintha Island, it has only one village tract. Chaungzon Township, Bilukyun, Island Township is one of the ten Townships in Mon State. It lies at the mouth of Thanlwin River and it touches the Gulf of Mottama. Most of the Manufacturing Industries in Ywalut village tract are smoking pipes, walking sticks, rubber rings, rice mills and saw mills, furniture, blacksmith, goldsmith, steel and ironsmith, brick kilns, concrete, and handicrafts industries. But, Ywalut village is tourist attraction site for its smoking pipe, walking stick and handicrafts industries. These activities provide jobs and income to the local people living in the study area. This research is that to provide the role of domestic manufacturing activities especially these three famous industries in the development of the study area and to discuss the activities which play a significant role in the economic sector of the Ywalut village tract.

Key words : Ywalut, smoking pipes, walking sticks, handicraft, tourist attraction,

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I. Introduction

The manufacturing activities reflect spatial variations in the cost of production factors and markets and different activities of production. In addition to these economic forces, manufacturing patterns are influenced by environmental, cultural and political considerations. Many geographers and economists use industrial location theory to interpret spatial patterns of manufacturing by using only one quality space-distance - as locationally significant. Six primary components for the successful operation of any manufacturing endeavor must be considered: (i) raw materials, (ii) labour, (iii) power and fuel, (iv) market, (v) transportation and (vi) capital.

The predominantly agricultural economy is being transformed into agro-based industrial economy in Myanmar. For the emergence of a modern and industrialized nation, co-ordinations were being made for systematic development of industries throughout the times. Measures were taken with the aim to realize the industrial development objectives, namely, developing the heavy industries, extending the agro-based and agro-supportive industries, ensuring self-sufficient promoting of export and enhancing the production of the value-added products.

According to the classification of manufacturing industries in Chaungzon Township are divided into fifteen types including 713 workshops in 2019. Ywalut village tract has thirteen types of manufacturing activities including 42 workshops of which 16 workshops are tourist attraction types (smoking smoking smoking pipes, walking sticks and handicrafts activities). Existing manufacturing activities, these activities provide jobs and income to the local people living in the study area. This research is that to provide the role of manufacturing activities in the development of Ywalut village tract and to discuss the domestic manufacturing activities as tourist attraction which plays a significant role in the economic sector of the study area.

1. Study Area

Ywalut village tract is situated in the north central part of Chaungzon Township. It coordinate point (Landmark of Big Smoking Smoking smoking pipe: see Plate 1 and 2.) is 16° 26' 7.14" north latitude and 97° 30' 51.46" east longitude. Ywalut village tract is east-west elongated shape.

Plate 1 and 2. Landmark of Ywalut Village
Note: (1) Three Brahminy ducks and big smoking pipe at junction point of Ywalut.
    (2) Name of "Ywalut" was engraved on big smoking pipe.

2. Aim and Objectives

The main aim of the research is to analyze the role of tourist attraction domestic manufacturing activities in the development of Ywalut village tract from the geographical point of view.

(i) to observe spatial distribution of manufacturing activities in Ywalut

(ii) to examine and analyse the facts which are supporting manufacturing activities

(iii) to predict the trend of these three activities in the future of the study area.

3. Methodology

The following methodologies have been undertaken in this study. Primary data was collected by field observation, questionnaires and open talks in the study area. Secondary data was obtained from the various departments such as respective Departments, Immigration and Manpower Department, Meteorology and Hydrology Department, Land Records Department and documents such as books from Library of Geography Department Mawlamyine University Library. Moreover, graphs, tables, figures and photographs of the study area are also used.

II. Background of the Study Area

Chaungzon Township (called Bilukyun = Bilu Island) is one of the ten Townships in Mon State. It is located in the western part of Mawlamyine City. It lies between 16° 8' and 16° 32' north latitudes and also between 97° 21' and 97° 38' east longitudes. It has an area of 658.13 square kilometres. There are 3 wards and 43

village tracts in this township. The shape of the township resembles a wedge shape. It is surrounded by the Gulf of Mottama in the south and west, Paung Township in the north, and Mawlamyine and Mudon townships in the east separated by the mouth of Thanlwin River. There are also strengths and weaknesses of the location for the development of Chaungzon Township. The required raw materials for manufacturing activities are available within the region. It is quite near to the Mawlamyine market place. Therefore, there are many opportunities to run these industries. Study area, Ywalut village tract is one of the village tracts in Chungzon township and it has an area of 8.38 sq:km. It is bordered by Nyaunglan village tract in north, Kanyaw village tract in the east, Hneemote village tract in the south and Kwanyike in the west. Figure (1).

Number of Wards and Village Tracts in Chaungzon Township			
1	Daye	24	Hpanpha
2	Kabwe	25	Zekone
3	Taungzon	26	Tawpon
4	Daungyaik West	27	Tagupan
5	Daungyaik East	28	Mayntgyi
6	Kaukmupon	29	Kalardoe
7	Kanyaw	30	Kayin Win Sein
8	Bonet	31	Mukwe
9	Thetkaw	32	Kalaw
10	Natmaw	33	Kamanin
11	Khayaikthit	34	Hsaemote
12	Kwanthe	35	Ywalut
13	Mayan	36	Nraunglan
14	Kalabe	37	Kamanmo
15	Wallan	38	Daung Ou
16	Mayaikalay	39	Tawkanat
17	Kaukadaik	40	Kwanyaik
18	Abit	41	Mudu
19	Kwanhlar	42	Sawke
20	Kamurkay	43	Hintharkyun
21	Khayaikhnedu	44	Chaungzon East
22	Sabalar	45	Chaungzon Extension
23	Khamaidu	46	Chaungzon West

Figure 1. Location of Ywalut Village Tract, Chaungzon Township
Source: Based on Map of Myanmar Survey Department

Climate is an important factor which influences economic activities and human settlement. As Chaungzon is situated at the mouth of Thanlwin River touched by the Gulf of Mottama, is influenced by the sea. Chaungzon Township has no meteorology station. Thus, climatic data are obtained from Mawlamyine Meteorology Station. It lies within the seasonally monsoon wind belt, it experiences Tropical Monsoon (Am) climate. Temperature is high all the year round. The hottest month is April. It is characterized by high temperature and extremely small amount of rainfall. The monthly mean temperature and rainfall recorded in Mawlamyine (1988-2018) are presented in table (1 and 2) and figure (2 and 3). The average mean temperature is 27.50°C. The mean monthly maximum temperature in April is 30.17°C. In 1988-2018, the total annual rainfall was 4966.48 mm. The whole Township enjoys abundant rainfall from the southwest monsoon winds. During the rainy months from May to September may rainfall continuously for a week or more.

Table 1. Rainfall and Temperature of Chaungzon Township (1988-2018)

Month	Temperature (°C)			Rainfall (mm)	Rainy days
	Maximum	Minimum	Mean		
January	34.48	16.55	25.52	7.01	0
February	36.34	18.03	27.19	4.46	0
March	37.09	20.00	28.55	18.63	1
April	37.30	23.04	30.17	73.51	3
May	34.61	23.06	28.84	545.29	16
June	31.64	23.05	27.35	981.63	24
July	30.64	22.85	26.75	1236.82	25
August	30.62	22.87	26.74	1164.50	23
September	32.06	22.91	27.49	677.58	19
October	33.97	22.81	28.39	211.19	10
November	34.23	19.99	27.11	32.41	2
December	34.03	17.81	25.92	13.45	2
Avg./Total	33.92	21.08	27.50	4966.48	125

Source: Meteorology and Hydrology Department, Mawlamyine.
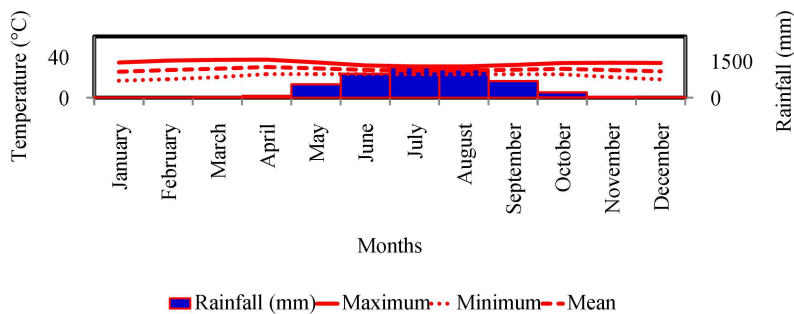
Figure 2. Climograph of Chaungzon Township (1988-2018)
Source: Based on Table (1).

Table 2. Monthly Relative Humidity of Chaungzon Township (2018)

Month	09:30 R-H (%)	18:30 R-H (%)
January	64	63
February	64	57
March	63	59
April	64	59
May	80	77
June	87	88
July	94	94
August	92	95
September	84	86
October	76	81
November	71	75
December	69	68
Total	908	902

Source: Meteorology and Hydrology Department, Mawlamyine.
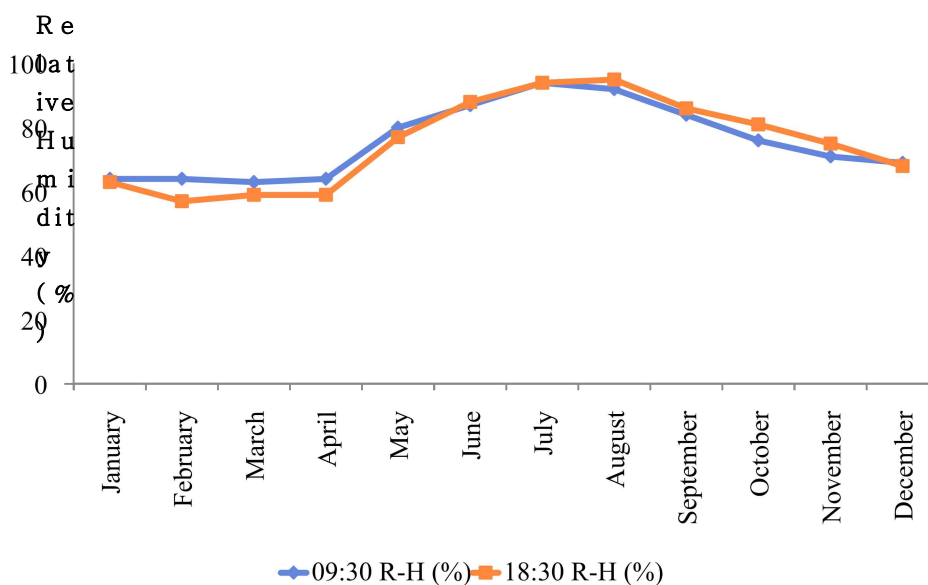
Figure 3. Monthly Relative Humidity of Chaungzon Township (2018)
Source: Based on Table (2).

Population of Ywalut is 7466 persons and density of population is 891 persons per square kilometer in 2019. Agriculture is the chief economy and most of the population is agricultural workers in Ywalut. Others are engaged in services and

manufacturing sectors. Population number plays an important role not only in labour force but also demand side. Most of the industries such as smoking pipes, walking sticks, rubber rings, furniture, goldsmith and handcraft industries require skilled labours. Most of the workers are daily wage earners. It needs at least nearly 5 labours at each work site. Some labours are from other regions and some are from this township. Fifteen of which eleven industries can be seen in Ywalut alone. Skilled labour is one of the important factors for the development of manufacturing activities. Three types of manufacturing activities chiefly depend on the use of manual skilled labours.

III. Controlling Factors of Manufacturing Activities

Among physical feature, relief and climate mainly affect the spatial distribution of manufacturing activities. Nearness to the Mawlamyine is one of the factors that support the establishment of manufacturing activities because any products from manufacturing activities are sent to Mawlamyine and other regions of Myanmar. In this study area, the other influencing factors are raw materials, power (electricity and fuel), market, labour, transportation and capital.

1. Raw Materials

The required raw materials for manufacturing industries can be obtained within the Bilu Island. The requirement of materials is also a main factor. Timber and polished timber, the main raw materials for smoking pipe, walking stick and handicraft industries are available from Bilu Island (Chaungzon Township), Bago Region and Kayin State. These industries are domestic and traditional industries only. In general, an industry locates the place where can get raw materials easily by shipping.

2. Power (Electricity and Fuel)

The availability of continuous power or electricity supply is one of the determinants and factor for the establishment and existence of many types of manufacturing activities. Electricity is supplied by Mawlamyine Electric Power Station. The electricity for nearly all villages within Chaungzon Township is sufficient.

In the study area, most of the manufacturing industries demand only a low amount of electricity. The electricity can be used as a power supply of these small

domestic industries and the cost of manufacturing products are generally lower. As a locational factor in manufacturing, use of fuels vary greatly in importance from industry to industry. In those industries where large quantities of fuel are used as a basic raw material, the manufacturing processes are frequently oriented to the fuel source.

3. Market

Any manufacturer, whatever his product and whatever his size of production, must have a market to sell his goods. A market usually means people who have need for those goods and the ability to purchase. The market as a locative factor in manufacturing is increasingly important. The market is also important localizing factor in basic industry. Some of the required raw materials are imported from Mawlamyine, Yangon, Mudon, Kayin State and Thanintharyi Region.

In the study area, manufacturing industries have ready market. These markets supply finished goods and make the growth of manufacturing industries in the area. The finished products are mainly distributed in local and the surplus is transported to Mawlamyine, Thaton, Kyaikhto, Bago, Hpa-an, Myawaddy, Thanbyuzayat, Mudon, Dawei, Myeik, Yangon, Mandalay, Sittway and Bagan and also exported to foreign countries such as Bangladesh and China.

4. Labour

The cost, availability, stability and productivity of labour are vital factors in every manufacturing enterprise. Labours need unskilled, semi-skilled and highly skilled for all manufacturing activities. Smoking pipe, walking stick and handicraft industries are contributed from generation to generation. These industries are based on skill and family members or relatives.

The labour force depends on the size of the industry. The labour cost depends on the level of skill of the workers. Some workers are paid per day and some workers are paid per month. The labour cost differs from 3000 to 12000 Kyats per day. The average number of labour needed is from 3 to 6. The majority of labours are male and few female. Beside labour costs, the availability and stability of different types of labour are important localizing factors.

5. Transportation

The location of manufacturing is greatly influenced by accessibility of

transportation facilities. The location of the industry in any given area may depend directly on the type of transportation present. Transportation is an important factor to import and export raw materials and to distribute finished products. In Chaungzon Township, Island Township connects with Mawlamyine City across Thanlwin River Bridge. This bridge connected from Chaungzon and other areas via Mawlamyine.

Mawlamyine-Chaungzon Bridge is 5203 feet long and was opened 9th May, 2017. This bridge connects with Mupon ward (Mawlamyine City) and Kaukmupon village tract (Chaungzon Township). Therefore, Ywalut village tract easily access to Mawlamyine City and others.

6. Capital Investment

The availability of capital within a given region was a major factor in the growth of manufacturing. In study area, manufacturing industries are relatively small and limited. Most of the manufacturing industries are small scale industries and owned by privates. The initial investment involves costs for manufacturing industry such as suitable land plot, building, machines and buying raw materials, hiring labours, electric power and vehicles for transportation.

IV. Analyse on the Tourist Attraction Manufacturing Activities

Myanmar cottage industry such as weaving, lacquerware, gold and silver products, pottery, blacksmith had been undertaken since the period of Myanmar Kings. Owing to the adverse effect of the colonial policy practiced by British, Myanmar cottage industries could not be upgraded to the status of advanced industries. The cottage industries under the capitalist British regime become less and less in number.

Since 1901, the island of Bilukyun has become known as Chaungzon Township. In Chaungzon Township, manufacturing activities such as smoking pipe industry, slate and slate pencils industry, blacksmith industry has been undertaken since the period of British Era. Manufacturing activities can be found in residential area as a small-scale industries as family livelihood. The development of manufacturing industries in Ywalut village tract largely depends on the skill of employees, particularly within the local area. Most of the local people are handicraft labours, which are one of the primary factors for the development of manufacturing activities. The manufacturing activities of Chaungzon Township have gradually developed during the period from 1972 to 1980. At this time, most of the products of manufacturing industries in Chaungzon Township are known as Made in Ywalut. At present, some of

the manufacturing activities such as smoking pipes, walking sticks, slates, blacksmiths, and goldsmiths in Chaungzon Township have gradually declined due to the fact that there is a small need for the market, less use of products, reduction of number of skilled worker, the others had gone into agricultural activities.

Production can be classified as primary, secondary and tertiary production. The primary production includes the primitive activities, involved in extracting of materials from natural environment. In secondary production, man increases the value of an already existing item by changing its form. Such activities are called manufacturing. In tertiary production, man does not harvest substance from nature; he does not upgrade their values or worth by changing their forms. In tertiary production, servicing activities such as packing, shipping and transporting are pronounced. Therefore, the manufacturing activities are included into the secondary production characterized by using 10 labours and handicraft without limit in labours.

Ywalut village tract has eleven types of manufacturing such as smoking pipe, walking stick, rubber ring, rice mill, saw mill, furniture, blacksmith, steel and ironsmith, goldsmith, brick kilns, concrete, purified drinking water and handicraft industries. This research paper detail observes on three industries such as smoking pipe, walking stick and handicraft industries. There are about 37 percent of Ywalut village industries. Table (3).

Table 3. Types of Manufacturing Industries in Ywalut Village Tract

Sr.no.	Types of Manufacturing	Number of workshops	%
1.	Smoking pipe industry	7	17
2.	Walking stick industry	3	7
3.	Handicraft industry	6	15
4.	Rubber ring industry	3	7
5.	Rice mill industry	3	7
6.	Saw mill industry	2	5
7.	Furniture industry	2	5
8.	Blacksmith industry	4	10
9.	Steel and ironsmith industry	3	7
10.	Goldsmith industry	4	10
11.	Brick kilns and concrete industry	4	10
	Total	41	100%

Source: Field Observation, 2018-2019.

1. Smoking Pipe Industry

Ywalut village's Smoking pipe industries are popular industries in Mon State, Myanmar. The smoking pipe for smoking is combined with the art of handicraft. So the fascinating smoking pipe industries are becoming popular. There are different smoking pipe designs and they are not only distributed to the whole Myanmar but also exported to foreign countries.

The first person of the smoking pipe-making industry is U Nyunt. He started this industry since January, 1920. U Aung Soe substituted rubber stem for bamboo stem in 1935. Then rubber stem was replaced with fiber stem by U Yin Pe in 1942.

There are three parts in the production process of smoking pipe: tobacco bowl making, tube (or) stem making and filter making. The smoking pipes are mainly produced for tobacco smoking. In 2019, there are 7 producers of smoking pipe in Ywalut village tract. Smoking pipe industry needs from 3 to 6 workers. The production is nearly 50000 smoking pipes per month or nearly 600000 smoking pipes per year.

Producing smoking pipes need timber as the raw material. The best type of timber for making smoking pipes are Teak (Tectona grandis), Pyinkadeo (Xylia dolabriformis), Pinle Ohn (Xylocarpus graralum), Padauk (Plerocarpus meroepus) and Yinkhet (Gardenia coronaria) (Plate 3,4,5 and 6). The raw material is available not only from Chaungzon Township but also Bago Region, Kayin State and Mon State. Other raw materials are polish and brush, from Mawlamyine.

The types of smoking pipe are (1) Padauk (Plerocarpus meroeapus) Kyipaung (Bulbous growth), (2) Teak (Tectona grandis) Kyipaung (Bulbous growth) and (3) Yinkhet (Gardenia coronaria) Kyipaung (Bulbous growth). The ten-heads Ogre smoking pipe ('ó*D&d acgif;q,fvHk;yg aq;wH) is made of teak and is created the attraction of foreigners. The smoking pipes of Ywalut village tract are sent to Mawlamyine, Bago, Yangon, Mandalay, Hpa-an, Ye, Dawei and Myeik. Various prices of smoking pipe depend on the quality of the smoking pipe and export to aboard especially Bangladesh and China. The cheapest smoking pipes are made of Yinkhet (Gardenia coronaria). The price of the smoking pipes varies from 300 kyats to 5000 kyats. The smoking pipes make of teak and Padauk are combined with fascinating handicraft, and selling price varies from 10,000 kyats to 35,000 kyats. The price of ten-heads of Ogre design smoking smoking pipe is over 150,000 kyats. This is the most popular cultural design for foreigners.

Plate 3 and 4. Different Design Smoking Pipes in Ywalut

Notes: Simple design and cheap price of smoking pipes

Plate 5, 6 and 7. Different Design Smoking Pipes in Ywalut

Notes: Ten-heads of Ogre design smoking pipe in plate 7.

2. Walking Stick Industry

Walking stick industry was started by U Kon Kalay in British colonial era. Nowadays, there are three walking stick industries. Walking sticks are exported not only to local market but also to foreign countries. Walking stick industry produces colourful designs, and patterns for tourist attraction.

Walking sticks also needs timber as a raw material. There are two kinds of timber- Yinkhat (Gardenia coronaria) and Padauk (Plerocarpus meroeapus). There are three segments of wood in making walking stick. First, there are moulding the wood with suitable machines to acquire the designs. Next, carving like a screw to link the segments. Then, brushing, afterwards setting up the head of the walking stick and finally dying with polish. Labour for making walking stick requires from 3 to 5

persons in each industry. The labour force of walking stick industries is 10 persons in all walking stick industries. Only skilled workers are used in the industry. Yinkhat and Patauk wood is available within Chaungzon Township. Walking sticks are distributed not only to Chaungzon Township but also to Bago, Mandalay, China and India. There are various designs of walking sticks such as birds, egrets, tigers, snake, dragons. It is estimated that 6000 walking sticks are produced per year. Prices for walking stick ranges from 5,000 to 25,000 kyats because of quality and design. (Plate 8 and 9).

Plate 8 and 9. Walking Stick Industry of Ywalut
Notes: Moulding the wood with suitable machines, Displaying Different design and colour walking sticks

3. Handicraft Industries

In the handicraft industry of Ywalut, there are 6 handicraft industries such as paper toys and plaster toys. Paper and Plaster toys are shown in Plates. Most of the toys are created by animals. All Plaster toys are marked by text especially "Made in Ywalut". These products were famous for the whole Myanmar last 60-70 years. Some plaster toys were used as saving boxes.

The required material for plaster toy, plaster powder is available from Mawlamyine. The required material for paper toy industry is available within Chaungzon Township. The required workers are 1 to 3 workers are needed for plaster toy and paper toy industries, the labour cost is from 5000 to 8000 kyats for per worker. All industries used skilled labour only. The products from these industries are used not only in Chaungzon Township but also exported to Mawlamyine, Ye, Dawei, Myeik, Bago, Mandalay, Pyin Oo Lwin, Pyay, Mudon and Myawady.

Plate 10, 11 and 12. Processing Paper Toys in Ywalut
Note: Mould with pulp paper, drying and painting oil colours

Plate 13, 14 and 15. Processing Plaster Toys in Ywalut
Note: Mould with plaster power, drying and painting with oil colours

V. Conclusion

Manufacturing activities of Ywalut village tract is primarily supplied by local raw material. However a new handicraft was conducted at Bagan, ancient city of Myanmar, one of the popular places of the Myanmar.

Smoking pipe, walking sticks, paper toys and plaster toys industries were found to be declining since 2006. The cause is that these industries are handed from generation to generation and nowadays, the youths are not very interested in these industries and the less demand of market. Most local and foreign visitors interested in these domestic industries. Visitors or tourists can enjoy customizing and buying handicrafts for presents. These three industries are handicraft industries. Design, idea and pattern are created by skilled labours. These products are mostly with handmade. Most of the manufacturing activities in Ywalut, Chaungzon Township are based on Myanmar traditional cultures.

Since 1901, the Island of Bilukyun has become known as Chaungzon Township. In Chaungzon Township, manufacturing activities such as smoking pipe industry, slate and slate pencils industry, blacksmith industry has been undertaken since the period of British Era. Because of this reason, the basic infrastructure and economy, education, social conditions, health, transportation and administration of the township have increased within the region.

Manufacturing activities can be found in residential area as a small-scale industries as family livelihood. The development of manufacturing industries in Chaungzon Township largely depends on the skill of employees, particularly within the local area.

In Chaungzon Township, most of the dwellers are handicraft labours, which are one of the primary factors for the development of manufacturing activities. The manufacturing activities of Chaungzon Township have gradually developed during the period from 1972 to 1980. At present, some of the manufacturing activities such as smoking smoking pipes, walking sticks, slates, blacksmiths, goldsmiths in Chaungzon Township have gradually declined due to the fact that there is a small need for the market, reduction of number of skilled worker, the others had gone into agricultural activities.

Manufacturing activities, wholly or partly carried out by family members. In Chaungzon Township, raw materials are changed to semi-finished and finished products and distributed to market place such as Bago, Mawlamyine, Dawei, Rakhine Regioin and others.

Last three year, all visitors and local people depend on waterway transportation. Bogyoke Aungsan Bridge (Mawlamyine-Chaungzon) was opened at 9th May, 2017. Many pilgrims from local and foreign countries easily access and observe to

handicraft industries of Ywalut, Chaungzon Township. These three handmade products are included in artistic ideas and attraction to people of outside areas of Ywalut, Chaungzon Township and foreign countries.

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Effect of KBZ Pay Agent on financial Inclusion Performance

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ABSTRACT: This study has focused the effect of KBZ Pay Agent on financial inclusion performance. The objective of the study is to determine the effect of KBZ Pay Agent characteristics towards the financial inclusion performance and to analyze the relationship between the factors and effect of KBZ Pay agent network characteristics. The theoretical framework is designed the relationship between two types of variables: the independent variable (Agent attitude, Agent experience and Agent core business) and the dependent variable (Customer base and Transaction volume). The primary data are gathered by interviewing and meeting from 150 KBZ Pay Agents from Yangon West Region. Data gathering is conducted during the month of November 2019. The finding from the survey result is most of agent business types are retail shops. The agent attitude at the KBZ Pay Agent Banking has high positive perception upon KBZ Pay service providers' products and services. Agents' opinion on KBZ Pay network is the best network among other agent banking providers. Agents can provide KBZ Pay service can 24/7. The good internet network is essential to provide service to the main agent banking operations. That is positive related to the financial inclusion performance. Also, there is a relationship between agent experience and performance of financial inclusion is fair and positively related. Moreover, the results of multiple regression analysis provide that agent experience and agent attitude were significant and positive relationship with financial inclusion performance.

Key words : Pay Agent, Financial inclusion performance, Agent attitude, Agent experience and Agent core business, Customer base and Transaction volume,

I. INTRODUCTION

Banks are essential for each country's economy, since no development can be accomplished unless reserve funds are proficiently directed into speculation. In this respect, the lack of a full-fledged banking system has often been identified as a major weakness of the centrally planned economies. Banking, considered as mirror of economic growth, can contribute to economic development in at least two ways: can add to monetary improvement in no less than two courses: straightforwardly, by expanding asset report things, and in a roundabout way, through financing. Banks likewise make occupations for their groups and produce returns for their investors, in this manner adding to the financial development of neighborhood groups and the country overall. Today, commercial banks in Myanmar are trying to improve their services and productivity. However, banks in Myanmar are now facing many challenges in a highly competitive financial market. The role of the market in the banking system continues to change.

Agent banking has become one of the most promising strategies for offering financial services in emerging markets. This approach can be particularly capable when serving the unbanked poor as a result of its capacity to decrease banks' cost-to-serve and achieve low-pay specialists. Agent banking is a branchless banking service offered by banking institutions whereby the bank appoints existing businesses to offer a variety of banking services, on its behalf to its clients who are not reached by traditional bank networks, especially those living in remote and rural areas. Agents could have a dramatic impact on improving access to financial services, especially in rural areas.

Myanmar is in the early stages of financial reform which has made the government an economic priority. Myanmar's current financial system is still one of the least developed in the world. Myanmar is a cash- oriented economy. In Myanmar, banking system consists of Central Myanmar (CBM), established in the Central Bank of Myanmar Act in 1990, (4) state-run banks, (10) semi-government banks and (14) domestic commercial private banks and (13) foreign banks. Nowadays commercial banks of Myanmar are starting their agent banking system as a first step to reach out to all banked and unbanked population not only for financial inclusion but also for reducing crowded customers in banking hours at branches.

II. Problem Statement of the Study

The utilization of agent banking   network   is now becoming the   first priory   in

the financial institution in Myanmar on serving the customer who is far from the traditional bank or in a remote area. It is a challenge in recruiting the agents. Therefore, the characteristics of the agent are essential. Present literature on retailing industry and marketing have revealed that customers' contentment has been influenced directly by reliability and trust. Once the customers are fulfilled and satisfied with the services and content experience using the agents, no doubt willingness and perspective being long-term customers will be retention.

Competent co-operation from the agent, together with efficiency and effectiveness of the system, can build the trust level of the consumer and the stakeholders. A trust may be the degree of disposition and proficiency to support, escalate, and facilitate others. In the industrial network, collaboration level should be assigned by making confirmatory environments, policy style and practices monitoring. The customers' consideration concerning safety, genuineness, and trustworthiness of using the system are inferred.

Simplify customers by saving their time, quickly cash and withdraw money via agent delivered as a substitute of visiting any branch nearby customer place. Revealed that, the transaction allows by making the transmitting, save and collecting the cash by electronically via agents as the mediators rather than visiting traditional banks.

III. Objectives of the Study

The objectives of the study are as follows
(1) To explore KBZ Pay agent banking characteristics and financial inclusion performance of agents.
(2) To analyze the relationship between agent banking characteristics and financial inclusion performance.

IV. Scope and Method of the study

This study investigates the determinants of agent banking network characteristics that have a contract with KBZ Bank and their existing agents. Addressing on reflected customer fulfillment and confidence end route them doing the services on behalf of the bank. Descriptive method is used and the analysis of the study is constructed with the quantitative data collected. The effectiveness levels of the characteristics of KBZ bank agent banking were analyzed using the primary data gathered from the

KBZ Pay agents. The secondary data were gathered from the relevant research works, the news, KBZ pay website and their application. The study population was sample from 150 KBZ Pay agents in Yangon west region townships which are Latha Township, Pabedan Township, Lanmadaw Twonship and Kyauktada Township.

V. Conceptual Framework of the Study

Independent Variable   **Dependent Variable**

Agent Attitude

Agent Experience

Agent Core Business

Financial Inclusion Performance
- Customer Base
- Transaction Volume
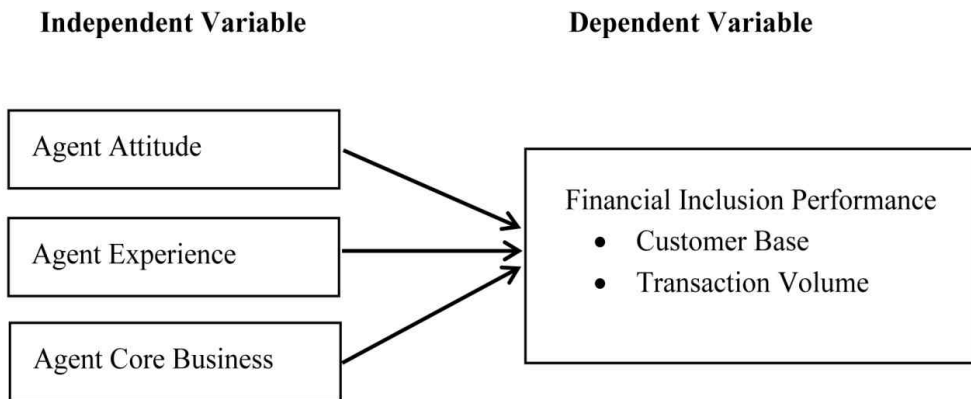
Figure 1. Conceptual Framework of the Study
Source   Baru, P.A., Malek,B.A., Mohtar, S., Shabudin, A., (2017)

Base on the conceptual framework, there are three independent variables (agent attitude, agent experience, and agent core business) and dependent variable as financial inclusion performance. Agent attitude was examined with total seven statements, agent experience was examined with total six statements and agent core business was examined with total six statements. For dependent variable, financial inclusion performance was examined by customer-based and transaction volume. Financial inclusion performance was examined with four statements. The independent variables (agent attitude, agent experience and agent core business) were measured to explore the effect of financial inclusion performance, and used descriptive research method for profiles of respondent.

VI. Analysis and Findings

1. Research Design

The purpose of the study was to explore the effect of agent banking characteristics of KBZ Pay towards the financial inclusion performance. To sustain quantitative measurement and analysis, analytical descriptive method has been used. The study population was sampled from 150 KBZ pay agents in Yangon west region townships which are Latha Township, Pabedan Township, Lanmadaw Township and Kyauktada Township.

The questionnaire comprised four main components – agent attitude, agent experience, agent core business and financial inclusion performance. To describe and analyze independent and dependent variables, Statistical Package for Social Science (SPSS) program was used. Regression was used to specify the significant levels. Five-point Likert Scale is used with strongly dissatisfied for 1, dissatisfied for 2, undecided or natural for 3, satisfied for 4, and strongly satisfied for 5.

2. Demographic Characteristics of Respondents

The profiles of respondents were categorized by gender, age, education level, monthly income, type of their business doing as a KBZ Pay Agent.

3. Number of Respondents by Gender

This table describes on gender of respondents. Table (4.1) presents the respondents by gender.

Table 1. Number of Respondents by Gender

Gender	Frequency	Percentage
Male	71	47.3
Female	79	52.7
Total	**150**	**100.0**

Source: Survey data, (2019)

From the result of the survey, it was found that survey included 71 numbers of male and 79 numbers of female. Regarding to the Participant rate, female includes highest portion with 52.7% in the study.

2. Number of Respondents by Marital Status

Table 2. Number of Respondents by Marital Status

Marital Status	Frequency	Percentage
Married	55	36.7
Single	95	63.3
Total	**150**	**100.0**

Source: Survey data, (2019)

From the result of the survey, it was found that survey included 55 numbers of marriage and 95 numbers of single. Regarding to the Participant rate, single is the highest portion with 63.3% in the study.

3. Number of Respondents by Age

This table is described the respondents by age. Ages of respondents are classified into five groups: under 21 years, 21-30 years, 31-40 years, 41-50 years, above 51 years.

Table 3. Number of Respondents by Age

Age	Frequency	Percentage
Under 21	13	8.7
21 – 30	52	34.7
31 – 40	49	32.7
41 – 50	28	18.7
Above 51	8	5.3
Total	150	100.0

Source: Survey Data, (2019)

According to these age groups, age group of 21-30 years is the largest with 34.7%, followed by age group of 31-40 years with 32.7%, 41-50 years with 18.7%, under 21 years with 8.7% and above 51 years with 5.3%.

4. Number of Respondents by Education

In this part, the studies conduct the education level of the respondent. Table described their education level.

Table 4. Number of Respondents by Education

Level of Education	Frequency	Percentage
High School	2	1.3
Undergraduate	61	40.7
Graduate	82	54.7
Master	5	3.3

Total	**150**	**100.0**

Source: Survey Data, (2019)

According to the result of the survey, it was found that 2 numbers of the respondents are high school, 61 numbers of the respondents are under graduate, 82 numbers of respondents are graduated and 5 numbers of respondents hold Master degree among the customers.

5. Number of Respondents by Income

The following table (4.6) states the result of annual income of respondents is classified into five levels.

Table 5. Number of Respondents by Income

Income	Frequency	Percentage
500,000 or last	12	8.0
500,001 – 1,000,000	52	34.7
1,000,001 – 1,500,000	55	36.7
1,500,001 – 2,000,000	19	12.7
More than 2,000,001	12	8.0
Total	**150**	**100.0**

Source: Survey Data, (2019)

According to table, respondents in the annual income between MMK 500,000 or last is 8% and more than MMK 2,000,001 is 8% which are the smallest group of all replies, the annual income group between MMK 1,000,001– 1,500,000   at 36.7% is the largest group. The annual income group between MMK 500,001-1,000,000 is 34.7% and respondents between MMK 1,500,001-2,000,000 is 12.7%.

6. Number of Respondents by Experience

Table 6. Number of Respondents by Experience

Experience	Frequency	Percentage
Less than 3 months	9	6.0
3 to 6 months	45	30.0
6 months to 1 year	54	36.0
1 year to 2 years	39	26.0
Don't Know	3	2.0
Total	**150**	**100.0**

Source: Survey Data, (2019)

From the analysis of the study, 6% of agents are less than 3 months as KBZ pay agent, 30% of agents are 3 to 6 months as KBZ pay agent, 36% of agents are 6 months to 1 year as KBZ pay agent, 26% of agents are 1 year to 2 years as KBZ pay agent and 2% of agents are don't know how long they have been an agent.

7. Number of Respondents by Agent Service

In this part, there was conducted time and agent services of the respondent, subscribes in Table.

Table 7. Number of Respondents by Agent Service

Agent Service Number	Frequency	Percentage
1	24	16.0
2	42	28.0
3	33	22.0
4	32	21.3
5	15	10.0
More than 5	4	2.7
Total	**150**	**100.0**

Source: Survey Data, (2019)

From the analysis of the study, 16% of agents provide only 1 agent service, 28% of agents provide 2 agent services, 22% of agents provide 3 agent services, 21.3% of agents provide 4 agent services, 10% of agents provide 5 agent services and 2.7% of agents provide more than agent services.

8. Number of Respondents by Source about Knowing KBZ Pay

In table represents the results of source about knowing KBZ Pay.

Table 8. Number of Respondents by Source about Knowing KBZ Pay

Source	Frequency	Percentage
Social Network	22	14.7
Newspaper	13	8.7
Friends/Colleges	17	11.3
Billboard/broachers	28	18.7
Personal Marketing	58	38.7
Events	12	8.0
Total	**150**	**100.0**

Source: Survey Data, (2019)

From the analysis of the data, known from personal marketing is highest with 38.7%, from social network 22%, from newspaper 8.7%, from friends/colleges 11.3%, from billboard/broachers 18.7% and from events 8%.

9. Correlation of Financial Inclusion Performance and Agent Banking Characteristics

The correlation coefficient is measured by the relationship between two variables. The correlations are regarded as significant if P value is less than or equal to 0.01(p≤0.01). The relationship between the variables are regarded as r is such that (-1≤ r ≤ +1). The plus (+) and minus (-) signs are used for positive correlations and negative linear correlations, respectively. The correlation is weak if r is less than or equal to 0.1 (r ≤ 0.1); modest if r is less than or equal to 0.3(r ≤ 0.3); moderate if r is less than or equal to 0.5 (r ≤ 0.5); strong if r is less than or equal to 0.8 (r ≤ 0.8) and very if r is greater than 0.8 (r > 0.8).

The correlations of the independent variables (agent attitude, agent experience, and agent core business) were measured to explore their correlation with dependent variable (financial inclusions performance of KBZ Pay).

Table 9. Relationship between Financial Inclusion Performance and
Agent Banking Characteristics

Sr. No.	Service Criteria	Pearson Correlation Coefficient	P- value
1	Agent Attitude	0.293**	0.000
2	Agent Experience	0.584**	0.000
3	Core Business	0.088	0.141

**Correlation is Significant at the 0.01 level (2-tailed)
*Correlation is Significant at the 0.05 level (1-tailed)
Source: Survey Result,(2019)

According to Table, agent attitude and agent experience are significant at two-tailed with 0.01 levels. Agent attitude is weak and positive relationship and agent experience is fair and positive relationship with financial inclusion. The correlation results highlight that attitude and experience are essential to achieve financial inclusion.

Table 10. Estimated Values of Agent Banking Characteristics on the Financial
Inclusion Performance

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF
	B	Std.	Beta			

		Error					
(Constant)	.303	.483		.683	.531	
Agent Attitude	.197	.082	.163	2.415	.017	1.064
Experience	.570	.070	.548	8.136	.000	1.064
Core Business	.129	.076	.110	1.689	.093	1.002
N	150					
Adjusted R2	0.365					
F value	29.518** (.000)					
Durbin Watson	2.020					

P < 0.01, P < 0.05, P < 0.1: Dependent Variable: Performance of Financial Inclusion
Source: Survey Result, (2019)

The results of multiple regression analysis provide that agent experience and agent attitude are significant and positive relationship with performance of financial inclusion (β=0.163, t=2.415, p<0.05) and (β=0.070, t=8.136, p<0.01) but the result do not support the significant agent core business as shown in Table (4.18).

According to the results, agent experience and agent attitude affected at 1% and 5% significant level. Among the significant agent banking characters, agent experience is the most significant factor to influence on customer satisfaction. One additional unit of agent experience increase 0.570 in performance of financial inclusion. One additional unit of agent attitude increase 0.197 in performance of financial inclusion. The model can explain 36.5% about the variance of independent variables and dependent variable. The value of VIF value 1 is less than 10, thus there is no substantial multi-collinearity problems in this case.

VII. Suggestions

According to the result of observation, although agents are providing same service quality while banks are closing, KBZ Pay provider should give 24/7 services and helpful to their agent. The management of KBZ pay team should give competitive incentive and offers to their agent because the agent banking is one of business units of the agents.

Additions, the management of KBZ pay team should reduce risk and fraud at any transaction and situations although the technology was easy to use the client and agent. KBZ pay team should do public awareness and sharing the knowledge of cyber security. And then, they should share the consistence knowledge and information about services at the efficient manners.

Moreover, the management of KBZ team should be aware their agent transaction fees and performance incentive is not a competitive pricing for their agents. The

management team should consider the agent cash flow and their working capital because most of agents are open retail shops and travel and tours agents. Also for agents side, they should prepare and alarm their internet network is well conditions.

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Korea Investment in Myanmar

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ABSTRACT: This study aims to examine the opportunities and challenges of Korea and Myanmar's current investment status. Applying descriptive approach in the analysis, based on DICA statistics (2014), Singapore is at the top of the country's list of foreign investors, followed by China, Hong Kong and countries inside the European Union (EU). Myanmar's highest foreign investment is the transportation and communication sector, with the lowest being the oil and gas sector. Singapore is Myanmar's largest investor, and Switzerland being the Myanmar's lowest investment. Likewise, the highest sector in Myanmar that Korea has invested is the oil and gas sector and the lowest sector is the real estate development sector as many industries made their doors open to foreign investors. Nevertheless, entry into Myanmar remains difficult, and everything from the physical infrastructure to the legal environment poses obstacles for foreign investment, that has dampened some enthusiasm from optimistic foreign firms. Liberalization efforts will also have strong positive impacts on Myanmar's economy, and simplifying import and export conditions will promote growth of Myanmar's small and medium-sized enterprises (SMEs) as well as encourage foreign direct investment in Myanmar.

Key words : Myanmar, Korea, FDI, Investment policy,

I. Introduction

Being one of Asia and the Pacific's 13 least developed countries (LDCs), Myanmar, like other resource rich countries, is relatively rich in natural resources with the abundant young labour force. On the other hand, the nation is closely tied to the world's most dynamic economies, including China, India and Republic of Korea (ROK).

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Endeavoring an appropriate policy mix, advanced business environment and stable political system, the country is predicted to fulfill its widespread capability and move forward to achieve economic development. However, Decades of poor economic management and a heavily controlled economy lead to cause the current weak private sector and undeveloped financial market. This has been exacerbated through misallocation of public resources with notably small public spending on basic services and economic isolation from most of developed economies.

The economic growth rate of Myanmar has steadily increased at approximately 7 percent since 2012. Myanmar's overall growth strategy builds on a complementary policy mix that allows industrial, agricultural and infrastructure modernization, export-based diversification and value-added production expansion for domestic and international markets. To stimulate economic growth, the Myanmar government has created three economic zones – in Thilawa, Kyautphyu, and Dawei. They provide investment-intensive and more efficient processes for investors, anticipating that the new Myanmar will become development engines for these international-standard industrial facilities. (DICA)

Over the past seven years, Myanmar has made great strides and the transition has been both impressive and commendable. The policy is strongly pro-business and open to investment from outside. Few developing countries have made as many radical reforms as Myanmar has made restless efforts to open their economies. In 2012, the Myanmar Foreign Investment Law was enacted to facilitate and govern foreign investment. This was replaced in 2016 by the Myanmar Investment Act to regulate foreign as well as domestic investments under one set of legislation. The century-old Company Act was completely overhauled in 2017. Under the current Myanmar Companies Act, foreigners can hold up to 35 percent ownership interest in local companies, thereby opening many more sectors to foreign investment and competition. In 2018, it was also announced that foreigners will be allowed to conduct wholesale, retail and educational businesses, opening three sectors that traditionally seek to protect the developing economies. Although the Republic of Korea is geographically thousands of miles apart from Southeast Asia in northeast Asia, there has been a closely historic mutual interaction between Korea and Southeast Asia and the economic relationship between Korea and ASEAN dates far back for both trade and investment. Being an ASEAN dialog-partner since July 1991, however, the Republic of Korea has shown greater interest in improving relations with the Southeast Asian countries in recent year due to the facts that 1) The region is the second-largest trading partner of South Korea after China, and 2) it is South Korea's second-largest Foreign Direct Investment outflow investment destination after the European Union.

II. Relationship between Korea and Myanmar Investment

Since the establishment of bilateral diplomatic relations in 1975, the Republic of Korea (ROK) has been a diplomatically, economically, socially and friendly country with our nation. In Myanmar, just as other Asian countries like China, Singapore and Japan, the Korea businesses and enterprises are expanding and channeling more FDI into the country. They have invested mainly in Myanmar's manufacturing and infrastructure sector. ROK's investment flows in Myanmar have been gradually increased year after year due to the development of the private sector and its cooperation with the state sector. According to the Myanmar Investment Commission, based on statistics until July 2019, Myanmar had approved US$ 81 billion worth of 1,779 companies from 50 countries. In addition, the ROK had already invested $3.9 billion in 177 investment projects, being in sixth place among foreign investor countries.

If one were to look at the economic linkages Myanmar has with Asian countries, South Korea is one nation with which it has close ties. South Korea was the fifth largest investor in Myanmar as of November 2018 (investments were valued at US$ 254 million). The industries in which it has invested are oil and gas, telecommunications, retail, and immovables invested by big Korean companies such as Posco, Daewoo, Daewoo motors, and Lotte group.

A new Korean industrial complex is being built in Hlegu township by Korea Land and Housing Corporation. Another South Korean company, GS Engineering and Construction, has begun building a 4.3-kilometer bridge linking downtown Yangon with the township of Dala. The project's estimated cost is well over 150 million US$). The bridge is expected to be completed by 2022, and the travel time for Dala residents to Yangon CBD will be significantly reduced. Wooree Company from South Korea signed a MoU with the regional government of Yangon to establish an Industrial Township area around Dala Bridge. In addition, in January 2018, HUBS MK Co Ltd of South Korea and the Myanmar Trade Promotion Organization signed a MoU to build a global standard logistics hub at the Shwe Lin Ban Industrial Zone (Hlaing Thar Yar Township, Yangon region).

Recently, there has been significant improvement in bilateral relations between Myanmar and South Korea. They agreed to dispatch government employees from Myanmar to South Korea for training in the trade-related information field, technical support for setting up a database to incorporate e-commerce, and implementation of already signed trade and investment promotion and security agreements. Myanmar tried to adopt global best practices, like other countries in the world, including members of ASEAN, in order to attract foreign investment, and address all the state's obstacles.

Myanmar's biggest shopping mall has an area dedicated to Korean franchises, enabling Myanmar customers to learn more about Korea and its history. The Government of the Yangon Region and the KB Kookmin Bank have signed a Memorandum of Understanding on financial cooperation in the real estate sector. The Regional Government and the Korea Land Housing Corporation have also signed a MoU for the Dala New City Plan preliminary survey. The UMFCCI and the Woori Financial Group have also signed a Memorandum of Understanding on Economic Development Cooperation, holding daily economic forum and exchanging economic information between the two countries. Myanmar and Korea have fostered close ties which enable them to build stronger economic cooperation through shared culture and emotion.

III. Foreign direct investment policies

Although FDI in Myanmar has been allowed under the Union of Myanmar Foreign Investment Law since 1988 (JETRO, 2007), investment has been restricted. Foreign-investment sectors include manufacturing, oil and gas exploration, mining (except gold and precious stones), jewelry production, and agriculture.

Three areas were of major concern within the investor community: (a) Foreign entities were unable to own land in Myanmar; (b) adherence by the government to an official domestic currency exchange rate, the kyat, which was overvalued by some 60 times its unofficial (black market) value. By the beginning of 2002 this gap had reached around 100 to 1, constituting a major obstacle to foreign investment; (c) Foreign investors had to face potential domestic (i.e. Western) criticism for investing in a nation with a long record of military rule and suspected violations of human rights. Myanmar's recent economic and political transformation has led to hopes within the international community that the above-mentioned issues would eventually dissipate. Beginning in 1988, when a Foreign Investment Law (FIL) was first enacted, the Myanmar government began pursuing foreign investment. The Government's post-2011 reform plan was primarily intended to draw more FDI, and an updated FIL was implemented in 2012. Foreign investors were given the right to lease land for 50 years (renewable up to 70 years) and to remit capital and income (PWC, 2015).

The government began working on a new investment law in 2014, seeking not only to further liberalize the investment system but also to resolve the inconsistency of two distinct investment laws. In October 2016, the new investment law was finally approved and will come into force on April 1, 2017, replacing the 2012 FIL and the Myanmar Citizen Investment Law. The new law aims to simplify the process of

investment screening and approval and liberalize the entry requirements, both for attracting more foreign investment and encouraging domestic investment.

The new investment law moves well beyond the 2012 FIL to reinforce investment protection standards with the aim of meeting national treatment levels that are ' internationally acceptable ' (meaning foreign investors will be treated equally with domestic investors); for ' most favored nation ' treatment (meaning foreign investors from all home countries will be treated equally); for fair and equitable treatment (that means no arbitrary modification of the circumstances of the investment after entry); for expropriation (only for good cause and with appropriate compensation); and for mechanisms for dispute resolution. The law allows the repatriation of earnings (dividends) and of accumulated assets through the capital account, as well as tax payments to parent companies such as sales through the current account, and licensing or management fees.

The implementation of the latest and final edition of the Myanmar Foreign Investment Law was delayed several times and was subject to major changes in Parliament. The final version of the law, as follows, covers many areas of special interest for foreign investors.

> "1. It will grant a five-year income-tax exemption to a foreign company with a permit issued by MIC for an investment project. In addition to that, preferential tax treatments for the reinvestment of profits or deduction for taxable income are available to foreign companies holding a MIC permit.
>
> 2. The new law purportedly allows foreigners and foreign companies to obtain leasehold for real estate for 50 years, with two extensions of 10 years each, depending upon the size of the investment. Moreover, foreign investors will be allowed to lease privately-owned land, while the 1988 law only allowed leases of land owned by the Government (Thidar Kyaw and Shwe Gaung, 2012).
>
> 3. It sets out the obligation for foreign companies to employ local workforce in skilled positions on the basis of increasing the share of local employees: in the first two years, Myanmar nationals must constitute at least 25% of the workforce; in the second two years, at least 50%; and in the third two years, at least 75%. Regarding unskilled position, the law requires that only Myanmar citizens may be employed (Archibald, J. S. and others, 2012).
>
> 4. The new law gives investors the opportunity to negotiate the foreign investment ratio, which has been set to a minimum of 35% and a maximum of 50% in 13 restricted areas since 1988, Now investors can negotiate these ratios with local partners, under the control of the MIC, making the foreign entry into restricted areas more likely than it was in the past.
>
> 5. Foreign investment activities will not be exposed to the danger of termination during the contract period any longer. The law of 1988 could only issue a

guarantee against nationalization with "sufficient cause", which gave the state of Myanmar great power over foreign investors."

Finally, all foreign investors are given hope by the new FIL as it not only imposes duties but also gives them privileges. General approval procedures for foreign investment projects include three steps:
  (a) obtaining a permit issued for a foreign investment project by the Myanmar Investment Commission (MIC);
  (b) obtaining a "trading permit;" and
  (c) completing formalities with the Companies Registration Office.

Such procedures are necessary conditions for a foreign investment project to qualify for preferential tax treatment in Myanmar and will remain in place under the new foreign investment legislation.

IV. Foreign Direct Investment Condition and Performance in Myanmar

FDI is of utmost importance to a country's development, particularly for a developing economy. Myanmar, as one of the developing countries in the region of South-East Asia, recognizes the importance of FDIs in its economic development path. There is an urgent need for FDI inflows into the country to narrow the development gap and fund projects that are essential for Myanmar's further growth. FDI inflows will successfully integrate Myanmar with developed countries ' economies and expand the benefits of technology transfer and human resource enhancement. In addition, FDI can create business opportunities for local SMEs too. Though it may have its own implications on developing countries; in a country like Myanmar, FDI is an appropriate tool for growth.

FDI is important for economic and industrial growth in Myanmar. Even Myanmar has attractive opportunities to lure potential foreign investors: plentiful natural and human resources; vast, cultivable land; long coastlines; navigable river systems; abundant materials, gems, forests and low-cost labor. Given these incentives, In FY 1996 and 2005, Myanmar attracted a large amount of FDI inflows although FDI inflow in FY 2005 was due to a single power sector project contracting with Thailand. Overall, FDI inflows were typically stable or rising outside of those two years. The reason for this pattern is twofold: FDI's fall after 1996 was due to the 1997 Asian financial crisis and US and European Union economic sanctions against Myanmar limited FDI inflows from 1997 to the present.

It appears that the FDI pattern was heavily affected by the sanctions imposed on the country. After 1997, the year in which US sanctions were imposed on FDI, Myanmar witnessed a steady decline in FDI inflows until 2006, with the only exception of 2003. In the late 2000s, ASEAN and China investments made a significant contribution to Myanmar's growth in FDI inflows. Nevertheless, with the global economic crisis setting in, the country encountered a new downturn in FDI in 2009 and 2010, although the contraction could also be attributed to the FDI sanctions imposed in 2007 by Canada and in 2008 by the EU. As a result, western-country FDI inflows to Myanmar fell sharply, while Asian-country demand gradually increased.

Highlighting the growth of FDI inflows after Myanmar's new government started political and economic reform process, in fiscal year 2010/11, FDI in Myanmar amounted to nearly US$ 20 billion, primarily from neighboring countries, as most of the sanctions from other countries were still in effect. However, a slower growth in FDI inflows is resulted for 2011/12, probably due to uncertainties about the long-awaited implementation of the new foreign investment law.

Foreign Direct Investment (FDI) in Myanmar rose by USD 109.0 million in Dec 2018 compared to a rise of USD 364.0 million in the preceding year. The data hit an all-time high of 1.8 billion dollars in Dec 2017, whereas a record low of 0.0 million dollars in Sep 1989. The International Monetary Fund provides quarterly Foreign Direct Investment in USD. The current account recorded a deficit of USD 138.2 million in Dec 2018 in Myanmar's most recent reports. (DEIC data)

1. Foreign Direct Investment (FDI) in Myanmar

Myanmar's Foreign Direct Investment (FDI) increased by 109.0 USD million in Dec 2018, compared with an increase of 364.0 USD million in the previous quarter. Myanmar's Foreign Direct Investment: USD million net flows data is updated quarterly, available from Mar 1976 to Dec 2018. The data reached an all-time high of 1.8 USD billion in Dec 2017 and a record low of 0.0 USD million in Sep 1989. The International Monetary Fund provides quarterly Foreign Direct Investment in USD. In the latest reports of Myanmar, Current Account recorded a deficit of 138.2 USD million in Dec 2018. The country's Nominal GDP was reported at 66.7 USD billion in Mar 2018. (DEIC)
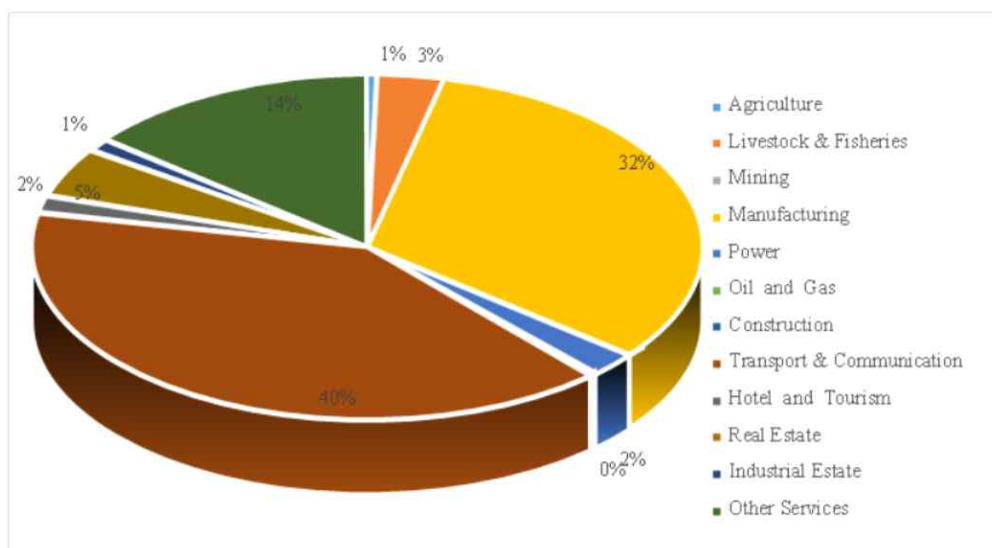
Figure 1. FDI in Myanmar by Sectoral Contribution as of 31/8/2019
Source: DICA

Figure (1) illustrated foreign investment in Myanmar which focus on transport, communication and manufacturing sectors. As of 31 August 2019, the transport and communications sector contributed 39.69 percent and the manufacturing sector accounted for 32.08 per cent of the total investment share. Other Services sector ranked third at 14.26 percent. With 4.74 per cent of the total investment share, the real estate sector ranked fourth. Livestock and fisheries, power, hotels and tourism also have received tangible investment amounts of about 3.2%, 2.41% and 1.62% respectively. The amount invested in other sectors is small, however, and only 0.49 percent of total foreign investment has been earned by the primary economic sector in Myanmar.

2. Foreign Direct Investment (FDI) by Country

In regards of the total amount of investment by top countries in terms of the value of FDI inflows into Myanmar, since 1988-89 to 2010-11, China substantially leads all other countries with around 28.72 percent. Thailand is second with about 28.63 percent of its spending. It is followed by Hong Kong with about 18.88 percent and in those periods the Republic of Korea ranked fourth.

Singapore is the highest cumulative total investor (43.84 per cent) from 2011-12 to 2014-15. The second- and third-largest investors were China and the UK. The Republic of Korea placed sixth overall (2.78 per cent). Singapore-listed companies accounted for more than half of the amount of investment in 2014-2015 and the UK

was the second biggest investor in that year. The third-largest investors were companies based in Hong Kong. Two ASEAN countries are among the top ten investor countries, three are from the EU and three are from other parts of Asia.

As of 31/8/2019, Singapore was the biggest investor in the cumulative total of existing companies (61.99 per cent). The second and third-largest investors were China and Hong Kong respectively. Netherlands was the fourth investor and fifth in the cumulative total was the Republic of Korea (2.24 percent).

The aggregate amount of FDI inflows into Myanmar by countries is illustrated in Figure-3. Foreign investment mainly has flowed from the Asia countries China, Hong Kong, Singapore, Republic of Korea and Japan. China was leading investor among other nations accounting 28.72% during the period from 1988-89 to 2010-11. Thailand was second with 28.63% while Hong Kong with about 18.88% and Republic of South Korea ranked fourth in these periods. However, from 2011-12 to 2014-15, Singapore became the top investor in cumulative total (43.84%) followed by China and UK, whereas Republic of Korea ranked sixth in aggregate amount of (2.78%).

During 2014-2015, Singapore-listed companies included more than half of investment volume while UK ranked largest investors in that period and Hong Kong-based firms were the third-largest investors. Among the leading investor nations, two are from ASEAN member countries, three are from European Union and the rest are from other parts of Asia.
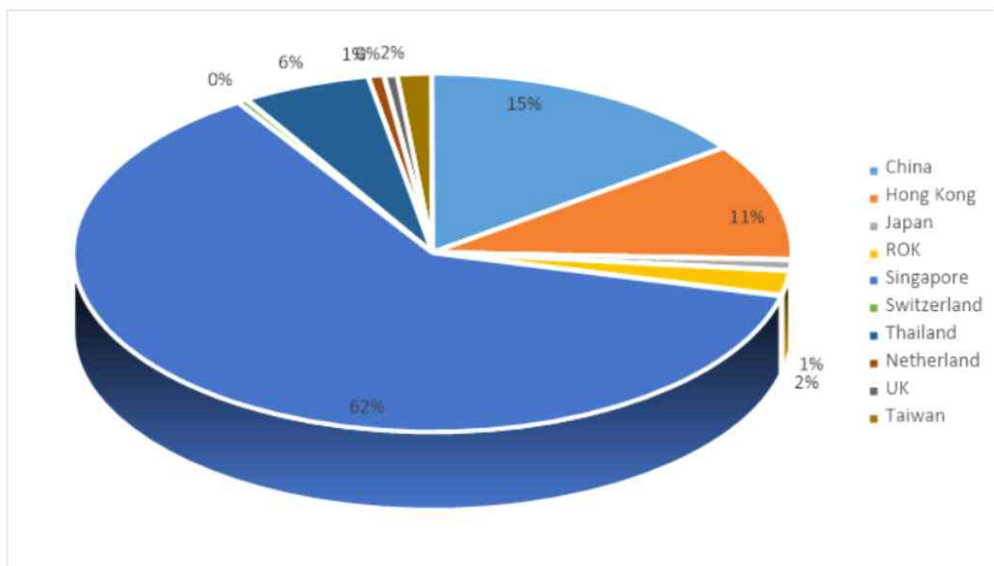
Figure 2. FDI in Myanmar by Country as of 31/8/2019

Source: DICA

As of 31/8/2019, Singapore was the largest in foreign investment of existing enterprises in cumulative total (61.99%) whereas China and Hong Kong were the second and third. Fourthly, Netherland and Republic of Korea ranked fifth in the cumulative total (2.24%).

3. Republic of Korea FDI in Myanmar

Between Myanmar and Republic of Korea, the Diplomatic relation has been set up between since 1957 whereas trading has begun since 1960s. The government of Korea is providing its grants and technical supports related to agriculture, education, forestry, water and sanitation and so on. Thus, the co-operation and collaboration between Myanmar and Republic of Korea have become stronger and flourished over the years, ranging from economic relations to cultural activities. Hence, foreign investment inflows from Korea have expended in various sectors and Korean companies and entrepreneurs have become to play as a vital role in Myanmar's business community.
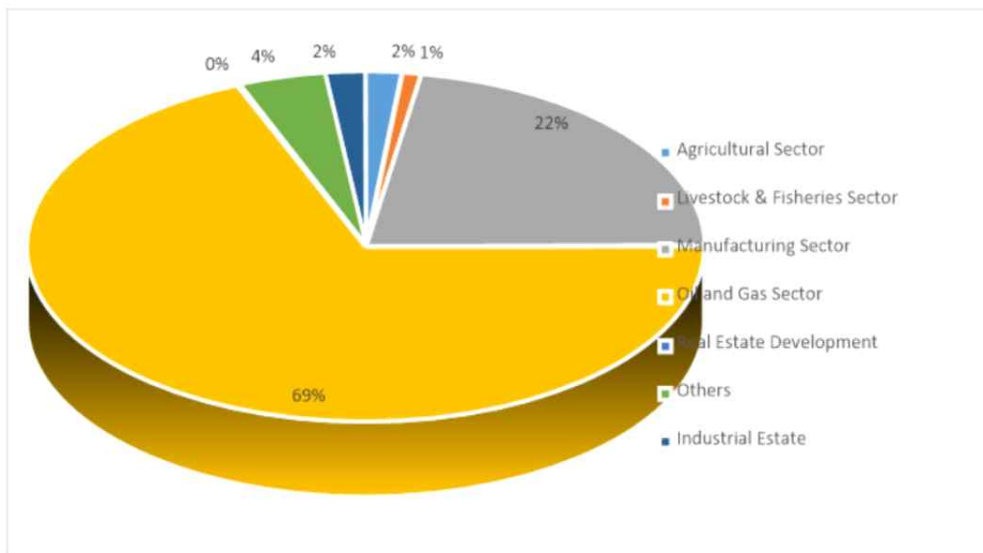
Figure (3) Foreign Investment by Sectorial Contribution of Permitted Enterprises for Republic of Korea (As of August 31, 2019)
Source: DICA

According to official statistics, FDI inflows from Republic of Korea in Myanmar permitted amount 3972.172 million US$. Besides, there are 218 companies in total registration permitted enterprises companies as of 31 August 2019, most of them are operating in manufacturing sector regarding to the DICA statistics. Majority of Korea

investment has flown into Oil and gas sector amounted to US$ 2733.88 million accounting for 68.82% of total FDI inflow. As the second, manufacturing sector which amounted US$ 888.265 million and accounted 22.36% of aggregate FDI.
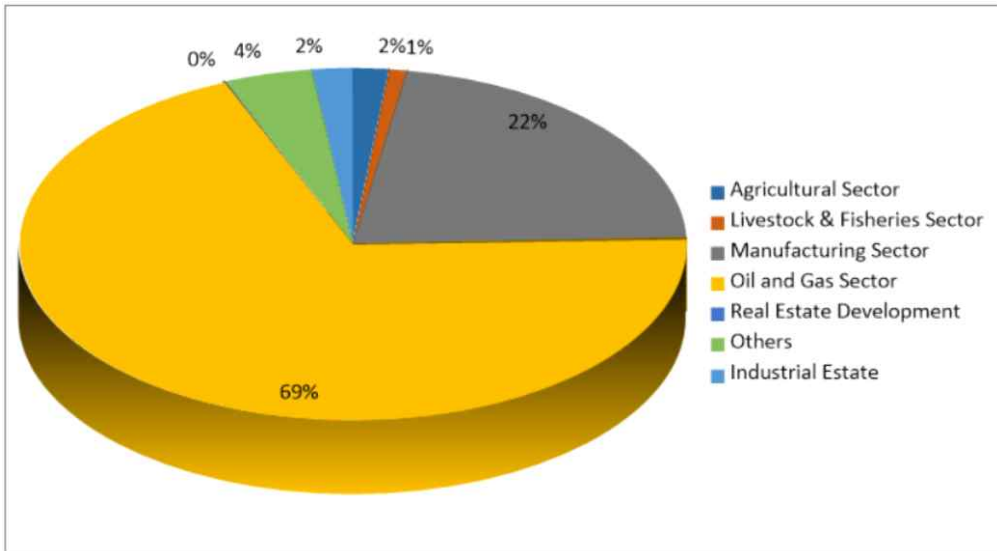
Figure 4. Foreign Investment by Sectorial Contribution of Existing Enterprises for Republic of Korea (As of August 31, 2019)
Source: DICA

The above figure demonstrates Korea investment of existing enterprises by sector. As of 31 August 2019, there are 162 in total registration of existing enterprises companies from Korea. Most of foreign investment enterprises flown into the Oil and gas sector amounted to US$ 2695.188 million (69.14%), secondly to manufacturing sector which amounted US$ 855.64 million (21.95%) whereas agriculture sector (1.96%) and real estate development sector (1.78%).

4. Overall evaluation of Myanmar's Business Environment

Myanmar is regarded as least developed country even in ASEAN member nations and every sector of the economy remain underdeveloped. However, GDP growth rate has reached 6.8% in year of 2018 relative to the previous year growth rate of 5.9%. From 2012 to 2018, Myanmar's economy is growing with the average growth rate of 7%, has reached highest growth rate of 8.4% in 2014.

In this section, the SWOT analysis is done in order to identify the overall level of Myanmar's business environment.

1) Strengths of Myanmar

As a destination for investment, the major strengths of Myanmar can be regarded as follows: first and foremost, strategic geographical location and economic position neighboring China, India, Thailand and other Asia's most significant economies. Secondly, abundant natural resources, most importantly Myanmar has motivated and young population and 54 million of consumers. Thirdly, abundant labor force is generally well educated with a high literacy rate of 93% and basic competence in English along with the lower wage rate. Finally, opportunities are increasingly arising in the fast-moving consumer goods (FMCG) industry for potential domestic market.

2) Weaknesses of Myanmar

Foreign Investors could face following limitations while doing business in Myanmar. Firstly, political instability of the regime could lessen investor's confidence in Myanmar as a business destination. As the second, Myanmar's economic foundation is still fragile due to the weak macroeconomic conditions. Thirdly, uncertainty of rules and regulation, problems in enforcement and complicated procedures, especially, undeveloped business regulatory systems are unclear. Besides, restrictions on foreign investment and uncertainty procedures of investment approval between relevant ministries' policies can be hindrance for investment promotion. Moreover, poor infrastructure such as availability of electricity supplies, electricity shortages and low-quality transportation infrastructures.

3) Opportunities of Myanmar

The economy of Myanmar is trying to catch up to the world doing a consecutive policy reform and ease rules and regulation. For investment destination, one of opportunities is comparative advantage of lower production cost compared to neighboring nations such as China and other advanced ASEAN nations. As the second, foreign investors can gain benefits from its economic integration in trading and investment in light of formation of the ASEAN economic community. Thirdly, the local entrepreneurs are growing their business opportunities, helped by the increasing ease of start-up process with the progress of ICT and globalization.

4) Challenges of Myanmar

For foreign investment promotion in Myanmar, one of challenges of Myanmar is uncertainty of global political conditions may have impact on FDI and trading in

Myanmar. Moreover, Myanmar has become competitive among ASEAN member countries in attracting investment with progress across the AEC. Lastly, the economy of Myanmar may be affected by global economic trends and political tensions between powerful countries such as US, China and EU.

5. SWOT Analysis of Investment Environment of Myanmar

The Summery of advantages and disadvantages as a business destination are presented in the following SWOT matrix.

Table 1. SWOT analysis matrix for investment environment of Myanmar

Internal Factors	
Strengths (+)	Weaknesses (-)
- Strategic position in geographically and economically - Rich in natural resources - Abundant labor force and good quality of young population - High potential with fresh domestic market	- political instability of the regime - Fragile macroeconomic conditions - Complicated business regulatory systems - Uncertainty procedures of investment approval - poor infrastructure
External factors	
Opportunities (+)	Threats (-)
- High production cost in neighboring countries - Establishment of the AEC - Development of ICT and globalization	- Instability of global political situation - Competition among ASEAN member nations - Global economic conditions an instability of demand

V. Difficulties and Challenges for Korea Investment in Myanmar

The perspectives of Republic of Korea in order to induce more investment and use as an effective instrument for the development process in Myanmar. Firstly, exact and appropriate information is needed to know and be available in hand over opportunities of foreign investment. Because of the individual sector of Myanmar's economy is very fresh as each still need to improve, Korean business man considered

Myanmar as an eye-catching place to do business in. However, difficulties are found such as poor access of necessary information and connecting to the relevant authorities. Thus, the government of Myanmar is needed to consider this situation which could be a barrier for the promotion of foreign investment and implement a mechanism in order to provide reliable information, most preferably a one-stop service.

As the second, these difficulties could hinder for investment decision making. This is the reason why many nations attempt to ensure that equitable treatment is given to foreign investors such as administrative service, utilities and tax fees, and right to buy vehicles and properties. It is also important that free transfer of invested capital and returns should be assured, both legally and practically. Foreign investors would hesitate to move in if there are unnecessary restrictions over entry and exit of capital and returns. This highlights that foreign investment law of Myanmar and relevant rules & regulations should be reviewed.

Third, between government of Korea and Myanmar, an investment promotion and protection agreement is essential to be established. This agreement will be an important legal instrument between two states preventing investors from non-commercial risks such as arbitrary nationalization and most-favored-nation treatment among other things. Moreover, it would develop positive conditions for Korean investors and encourage individual business initiatives.

Finally, infrastructure plays vital role for all economic activities. For that reason, in order to induce foreign investment, special consideration needs to be given in such areas as electricity, railway, roads, telecommunications, water supply and drainage, ports and airports. The development of infrastructure will further help attracting more investment especially in industries that Myanmar deems most essential, including agriculture, manufacturing and tourism sector.

All the efforts expressed below must be supported by the relevant economic policies: an intimidating challenge that must be addressed sooner rather than later. Firstly, the procedures for investment need to be updated. Under the current system, one year long for establishment of a foreign business to review by various ministries as well as company registration and trading permits, while local business can start within three to six months after application. It is important to note that foreign investors are with different interests in various areas, thus every single sector should be widely opened to welcome FDI.

Second, high rate of land cost and inadequate institutional framework have become hindrance for investors to lease appropriate land for industries and offices. The Myanmar government can ease out this situation, for example, by establishing industrial complexes specially earmarked for foreign investors and further extending lease-periods elsewhere. In addition, procedures for land permits and factory

construction permits are still deemed to take too long to accommodate concerns of foreign investors.

Third, an economy works best when money can flow freely. This is why an exchange rate system and financial transactions are critical. The Myanmar currency (kyat) has long experienced unstable movement against the US dollar, mainly being overvalued, which impacts many export-oriented companies and importers as well. In this sense, we welcome the recent introduction of a managed floating exchange rate system and hope to see more stability with the help of a strengthened monetary policy, especially after the circulation of new 10,000ks note.

Fourth, foreigners face a problem in opening and maintaining bank account, both for local currency and foreign currency, which must be addressed urgently in order to facilitate financial transactions.

Lastly, there are the social issues as well. We have recently witnessed a number of labour disputes involving wage rises, in particular at labour-intensive industries. As the Myanmar economy grows, due consideration must be taken for worker's rights and better welfare. Against this background, the Myanmar government has enacted a new labour organization law and other relevant regulations. It is true that a labour issue is a tricky one but must be addressed in a cooperative and consultative manner, rather than stand-offs, between employers and workers, if needed, with the help of mediation by the government. Small misunderstandings from each other often causes dragged out disputes which are to no one's benefit and must be avoided through candid and frank dialogue.

Korean investors with an interest in Myanmar are advised to understand the different business environment between the two countries, making more efforts than they do in Korea. They try to familiar with tradition, culture, customary practices and way of life here. They must gather necessary information and analyze it in detail; expand human networking with their potential local partners; and closely consult government officials whenever such need arises. Moreover, they also need to better grasp the nature and meaning of changes and rapid transformation currently underway in Myanmar. While they could pose challenges, many suggest that they will also provide a window of opportunity wider than ever. I wish to call on potential Korean investors to follow closely the developments made in Myanmar and, to this end, positively consider opening offices here to feel what is happening on the ground first.

VI. Suggestions

Numerous economists and analysts are of the view that Myanmar will climb to a fast-developing nation in South East Asia. To this end, obviously, Myanmar must proceed with its progressing change and actualize viable economic improvement practices handling comprehensive issues. To become Myanmar as an easy-to-do-business nation to induce foreign investors, the government should establish a systematic database system relating to investment policies, rules and regulations, most preferred, one-stop service as it remains difficult to get reliable information and an easy access to government authorities.

Additionally, challenges encountered by foreign businesses will discourage them to inject financial or technical investment in the country. That is the reason numerous nations endeavor to guarantee that fair (or better at times) treatment be given to them in different ways such as removing barriers, regulations, custom duties and revised tax systems. Hence, in accordance with attracting Korea's businesses to invest in Myanmar, government-to-government agreement aimed at investment promotion and protection should be upgraded. In this way, it is undeniable that this bilateral agreement will protect investors from non-commercial risks such as arbitrary nationalization and expropriation. The mutual understanding will undoubtedly make positive conditions for foreigners and invigorate business activities.

Finally, infrastructure as a backbone for all economic activities, transportation and communication sectors such as electricity, railway, roads, telecommunications, water supply and drainage, ports and airports must be modernized. Consequently, concrete progress in infrastructure areas will contribute inviting more investment in other industries that Myanmar deems most essential, including agriculture, manufacturing and tourism.

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A study on the current status and major issues in the agricultural sector in Myanmar

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ABSTRACT: Currently, Myanmar is an agricultural country, and the agricultural sector is playing a pivotal role in the economy. One of Myanmar's main economic goals is to "progress based on agriculture and develop comprehensively for other sectors of the economy." On the other hand, the development and growth of the agricultural and forestry sector and the creation of high added value are contributing to reducing poverty, improving income and quality of life for the majority of Myanmar farmers. It can also greatly contribute to national peace and stability by promoting the development of ethnic minorities and mountainous regions. The main issues emerging in Myanmar agriculture are as follows. Lack of agricultural skills, lack of fertilizer use, increased natural disasters, lack of infrastructure and losses from high financial costs are reducing agricultural productivity. Currently, the Myanmar government is promoting the development of the agricultural sector with the aim of strengthening governance, productivity, and competitiveness by utilizing the Agricultural Development Strategy (ADS 2018 ~ 2022), taking into account the role and importance of agriculture and forestry. In this paper, the current state of Myanmar agriculture and major issues were reviewed, and through this, the implications for the development of Myanmar's agricultural development and improvement of mutual cooperation with Korea were examined.

Key words : Agricultural sector, infrastructure, ADS, productivity, poverty,

I. Introduction

Myanmar switched to reform and open lines with the inauguration of a new

government in 2011 with President Thein Sein. Since then, in the November 2015 general election, Aung San Suu Kyi won the National Democratic Union (NLD), and the current civil election government was launched.

Currently, Myanmar is an agricultural country, and the agricultural sector is playing a pivotal role in the economy. As of 2018, agriculture accounts for 21.35% of gross domestic product (GDP), 25-30% of total exports and employs 70% of the labor force. One of Myanmar's main economic goals is to "develop on the basis of agriculture and develop comprehensively for other sectors of the economy".

On the other hand, the development and growth of the agricultural and forestry sector and the creation of high added value are contributing to the reduction of poverty, income improvement and quality of life for Myanmar farmers, who dominate the vast majority. It can also contribute greatly to national peace and stability by promoting the development of ethnic minorities and mountainous regions.

Myanmar has a land that is three times the size of the Korean peninsula, and has been growing at an annual average of more than 7% since its opening in 2011. However, Myanmar's percentage of the population with livelihoods below the national poverty line declined to 48.2% in 2005, 32.1% in 2015, and 24.8% in 2017, but it is still at a high level (World Bank, 2019). The population of poverty is 2.7 times more in rural areas (30.2%) than in urban areas (11.3%), and the number of poor people is 6.7 times more in rural areas than in urban areas.[1]

Currently, the Myanmar government is promoting the development of the agricultural sector with the aim of enhancing governance, productivity, and competitiveness by using the Agricultural Development Strategy (ADS 2018~2022), taking into account the role and importance of the agriculture and forestry industry in economic, industrial and social development. (Kim Tae-yoon et al., 2018).

In this paper, the current state of Myanmar agriculture and major issues were reviewed, and through this, implications for the development of Myanmar's agricultural development and improvement of mutual cooperation with Korea were explored.

II. Myanmar Agricultural Status

In fiscal year 2017-2018, Myanmar's agriculture, forestry and fishing sectors accounted for 26.18% of gross domestic product (GDP). Agricultural exports

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1) The poverty line in 2017 was 1,590 kyats per adult per day. People with a consumption level of less than 1,590 kyat per day are considered poor (1,590 kyat costs about 1,300 Korea won).

amounted to $2.8 billion in fiscal 2017-2018, an increase of 6.5% compared to fiscal 2016-2017.

In 2018, the proportion of agricultural GDP was 21.3%, accounting for a large proportion after manufacturing (23.9%) and wholesale and retail (20.8%). In particular, agriculture is a key industry that accounts for 70% of the Myanmar working population.

Myanmar has more than 60 varieties, and farmland accounts for 19% of Myanmar's total land. About 70% of the population lives in rural areas, most of which are cultivated by small-scale farmers, and about 80% of the farmhouses cultivate less than 1-4 ha. In addition, productivity is low due to outdated agricultural machinery and production technology (KOTRA, 2019).

Table 1. Myanmar's Agricultural and Forestry GDP Composition and Growth Rate(Unit: Billion Dollars, %)

Division		2010	2011	2012	2013	2014	2015
GDP (billions of dollars)		49.54	52.31	56.15	60.88	65.74	70.54
Share of agriculture and forestry (%)		36.85	34.67	32.84	31.39	29.87	28.79
Share in agriculture and forestry	Agriculture	75.8	73.8	72.4	71.4	70.5	69.7
	Livestock and Fisheries	23.1	25.0	26.4	27.5	28.7	29.6
	Forestry	1.1	1.2	1.2	1.1	0.8	0.7
Manufacturing share (%)		26.4	27.6	27.8	28.5	29.6	30.0
Service industry share (%)		36.6	37.6	39.3	40.0	40.4	41.1
GDP annual growth rate (%)		9.6	5.5	7.33	8.42	7.9	7.2

Source: Myanmar Statistical Information Service 및 World Integrated Trade Solution

The main crops that account for 72% of Myanmar's agricultural output are rice, beans and sesame seeds. Rice is a major crop and accounts for 47% of the harvested area (as of 2016). In the case of fruit, mango represents the largest cultivation area and yield, followed by cashew nuts and oranges. In the case of vegetables, tomatoes have the largest cultivation area and yield, followed by cabbage, cauliflower, and mustard.

About 80% of Myanmar farmers have an average of less than 10 acres of rice paddies, and 68% are the best. The income per farmer in Myanmar is $2.5 per day. In the rainy season, per farmer income ranges from $1.8 to $2.5 per day. For reference, the Philippines and Thailand are showing profits of $7.8 and $10 to $16.50, respectively.

Table 2. Percentage of the population of agricultural workers in Myanmar
(2010~2016) (Unit: 1,000 people, %)

Division	2010	2011	2012	2013	2014	2015	2016
Total labor force (1,000 people)	23,662	23,897	24,112	24,323	24,555	24,812	25,085
Agricultural share (%)	60.61	59.07	57.36	55.79	54.07	51.75	51.29
Share of agriculture among the total male labor force (%)	61.39	59.99	58.30	56.70	55.04	52.81	52.35
Agricultural share of the total female labor force (%)	59.49	57.75	56.00	54.47	52.68	50.20	49.76

Source: World Bank.

Table 3. Major crops in Myanmar

Cereals	Paddy-rice, Wheat, Maize, Sorghum
Oilseeds	Groundnut, Sesame, Sunflower, Niger
Pulses	Black gram, Green gram, Pigeon pea, Soya Bean, Peelun, Kidney bean, Butter bean, Chicken pea), Garden pea, Sultapya, etc. 19 kinds of beans
Kitchen Crops	Chili, Onion, Garlic, Ginger, Turmeric, Potato
Fruits and Vegetables	Mango, Banana, Citrus Fruit, Pears, Durian, Mangosteen, Pineapple, Ranbutan, Other Tropical Vegetables and Vegetables
Industrial Crops	Cotton, Sugarcane, Rubber

Source: Myanmar Agricultural Livestock Irrigation Department, 2019.

Table 4. Myanmar's Rice Production Status (2013~17) (Unit: 1,000 ha, 1,000 ton, %)

Division	2013/14	2014/15	2015/16	2016/17	Compared to the previous year
Harvesting area	7,050	7,040	6,900	7,030	1.0%
Output	11,957	12,600	12,160	12,650	2.4%
Unit yield	2.65	2.80	2.75	2.81	1.4%

Source: Institute for Foreign Economic Policy,2018.

The distribution structure of Myanmar agricultural products is a traditional and closed form in which collectors lead distribution and logistics among farmers, production markets, consumer markets, and street vendors (Korea Institute for International Economic Policy, 2018). This is a historically and naturally developed distribution channel that accounts for about 90% of the distribution structure of agricultural products in Myanmar. The modern distribution structure with relatively

high efficiency and effectiveness is only about 10%. In the distribution of agricultural products in Myanmar, prices at the production level are mainly determined by wholesalers.

As of 2016, Myanmar's total agri-food exports amounted to about 3.8 billion dollars, and total imports were about 2.8 billion dollars. The agri-food export items with the highest export value were grains, vegetables, sugar and sugar confectionery, seeds and fruits for harvesting, industrial and pharmaceutical plants, feed plants, fruits and nuts, tobacco, coffee, tea, spices, etc.

Imported agri-food items with the highest level of imports were: sugar and sugar confectionery, animal and vegetable fats, other prepared foods, grain and grain preparations, food waste, prepared feed, and milling industrial products. Formulated feeds, milling industrial products, animal and vegetable oils, and dairy products are highly import-dependent. Myanmar has a trade structure that mainly exports raw materials for agricultural products with low added value, and processes them abroad to re-import agri-food and preparations with high added value.

Table 5. Trade volume and share of countries subject to import and export of agricultural products in Myanmar (2017) (Unit: USD 1,000, %)

Export				Import			
ranking	Exporting country	Export amount	%	ranking	Importing country	Importing amount	%
1	China	2,324,878	61.1	1	Indonesia	610,736	21.4
2	India	493,779	13.0	2	Thailand	552,256	19.4
3	Bangladesh	97,258	2.6	3	India	352,901	12.4
4	Thailand	92,217	2.4	4	Malaysia	229,875	8.1
5	Belgium	69,011	1.8	5	Brazil	221,656	7.8
6	Pakistan	62,751	1.6	6	China	126,990	4.5
7	Singapore	62,308	1.6	7	Australia	122,418	4.3

Source: UN Comtrade Database

Foreign investment in the agricultural sector of Myanmar accounts for only 0.5% of the total foreign direct investment, and there are still many investment opportunities (KOTRA, 2019). The Ministry of Agriculture, Livestock and Irrigation in Myanmar is trying to ease regulations to attract foreign investment in fields such as agricultural-based industries, agricultural machinery and small-scale farmland development, and agricultural machinery and material production to domestic and foreign investors.

Table 6. Investment Trends by Industry in Myanmar (Unit: USD million)

Division	2014/2015	2015/2016	2016/2017	2017/2018	2018 4-9	2018.10 -2019.9
Transportation/ communication	1,679.3	1,930.9	3,081.1	901.6	314.1	1,538.4
Manufacturing	1,502.0	1,064.9	1,179.5	1,769.1	706.6	1,347.8
Etc	357.3	235.9	231.3	1,005.2	277.1	650.7
Real estate development	780.8	728.6	747.6	1,261.9	280.3	210.9
Fishery/Livestock	26.9	8.2	96.6	27.6	32.9	156.8
Power	40.1	360.1	909.8	405.7	92.6	93.3
Hotel/Tourism	358	288.3	403.6	176.7	9.5	82.6
Industrial complex	-	10.0	-	34.0	34.4	48.5
Agriculture	39.7	7.1	-	134.4	10.6	19.1
Oil/gas	3,220.3	4,817.7	-	-	-	10.2
Mine	6.3	28.9	-	1.3	6.0	-
Sum	8,010.5	9,481.2	6,649.8	5,718.0	1,764.7	4,158.4

Source: Myanmar Investment Committee, 2019.

Table 7. Myanmar industrial structure (unit: billion kyat, %)

	Division	2000	2005	2011	2014	2016	%
Primary industry	Agriculture	1,245	4,718	11,113	12,873	13,736	17.2
	Livestock & Fishery	201	941	3,759	5,239	6,505	8.1
	Forestry	14	77	177	138	587	0.7
	sub Total	1,461	5,736	15,048	18,250	20,300	25.4
Secondary industry	Energy	5	20	2,241	4,011	2,670	3.3
	Mining	10	69	469	784	835	1.0
	Processing & Manufacturing	183	1,573	9,133	13,044	18,167	22.7
	Electric Power	3	28	481	925	1,111	1.3
	Construction	46	462	2,166	3,777	5,134	6.4
	sub Total	247	2,152	14,491	22,541	27,917	35.0
Tertiary industry	Transportation	146	1,283	5,511	7,509	8,948	11.2
	Communications	7	129	402	1,221	1,639	2.0
	Financial Institutions	3	10	65	136	234	0.2
	Administrative & Social Services	39	113	989	2,026	2,806	3.5
	Rental & Other	35	197	883	1,537	2,190	2.7
	Trade(Wholesale and retail)	614	2,667	8,918	12,218	15,717	19.7
	sub Total	844	4,399	16,769	24,646	31,503	39.5
Sum (GDP)		2,553	12,287	46,308	65,437	79,721	100

Source: kotra, 2019.

III. Major Agricultural Policy in Myanmar

The Ministry of Agriculture, Livestock and Irrigation (MOALI) of Myanmar has announced a five-year Myanmar Agriculture Development Strategy (ADS) from 2018-2023 (KOTRA, 2019).

The purpose of the agricultural development strategy is to build a foundation for expanding the agricultural and livestock industry, increasing farm household income, and improving access to international markets, and ultimately contributing to food security and economic development.

The expected effects through ADS's goals are as follows. First, increase the added value of the agricultural sector from 30% to 80%, while increasing the proportion of exports of agricultural products in Myanmar to 30%.

Second, by reducing the proportion of rural poverty from 20% to 15%, household income for tenant farmers is increased by 40% for men and 45% for women. Third, it achieves an income of 1,600 US dollars per capita by improving labor productivity by 50% (50% increase for men, 60% increase for women). Fourth, the annual investment in the agricultural sector will increase by 40%, and exports of agricultural products will increase by 40% from $2 billion in fiscal 2016/17 to $2.8 billion by 2020.

Table 8. Basic structure of Myanmar Agricultural Development Strategy (ADS)

Policy Impacts		
1. Food and Nutrition Security 2. Rural Poverty Reduction 3. Higher Smallholder Farmers' Income 4. Agricultural Trade Competitiveness 5. Farmers' Rights Ensured and Strengthened		

↑

Principles		
Clearly defined public and private roles)	Farmer's rights and voice	Inclusion
Sustainability	Smallholder farmers the growth drivers	Transparency, participation and accountability

↑

Core area (Pillars)		
Governance	Productivity	Competitiveness

Table 9. Detailed Outcome of ADS by Myanmar Agricultural Development
Objective

division	Main goal	result
Governance	Increased governance and capacity of agricultural development -related institutions	1.1 Planning-Effective, comprehensive planning based on stakeholder engagement at all levels of the country, state and region
		1.2 Policy Competency-Improvement of policy formation and analysis capacity
		1.3 Monitoring and Evaluation-Effective and timely monitoring and evaluation process through web-based management information system (MIS)
		1.4 Statistics-a statistical system for making evidence-based decisions
		1.5 Associations and Organizations-Strong peasant and industrial organizations. Trilateral action between government, farmers and entrepreneurs for the development of agribusiness
		1.6 Land-Strengthened farmers' land rights and capacity building of farmland management agencies
		1.7 Cooperation-Strengthening the ADS coordination and implementation capacity of the Ministry of Agriculture, Agriculture and Rural Affairs in Myanmar through democratically elected gender equality civil society representatives
		1.8 Food Security-Supplying food to remote areas and other underprivileged areas and improving the nutritional status of the underprivileged
		1.9 Reorganization-Quick response to farmers, entrepreneurs, and civil society through the reorganization of the Department of Agriculture, Agriculture and Agriculture in Myanmar
Productivity	Increase productivity and farmers' income	2.1 Agricultural Research-Improving the overall agricultural research system and cooperation system through participation of farmers and the private sector
		2.2 Rural Guidance Project (Extension)-adaptive application technology linked to agricultural research and formation of private-public rural guidance system
		2.3 Education and training-Development of education and training to foster agricultural human resources
		2.4 Irrigation and Water Resource Management-Irrigation and storage facilities, service construction and sustainable water resource management system
		2.5 Crop cultivation inputs-improved inputs and increased use of technology
		2.6 Agricultural mechanization-increasing the use of appropriate agricultural machinery in the agricultural value chain
		2.7 Livestock and Fisheries-Increased use of breeding,

		health, livestock services and technology by producers
		2.8 Sustainable Management-Excellent Agricultural Product Management System (GAP), Excellent Livestock Product Management System (GAHP), Excellent Seafood Management System (GFP) and Sustainable Agriculture, Organic Agriculture (OA) introduced
		2.9 Resilience-Promoting farmers' resilience to natural disasters and climate change
Competitive ness	Strengthening market connectivity and competitiveness	3.1 Industrial Environment-Improving industrial environment and information investment in agrifood supply chain
		3.2 Intellectual Property Rights-Protection of intellectual property rights in the agrifood sector
		3.3 Quality-Introducing a reliable quality system
		3.4 Rural Development Planning-Framework for gender equal and participatory planning and implementation
		3.5 Rural Infrastructure-Improving the efficiency and profitability of small-scale agriculture
		3.6 Value Chain-Stakeholders' participation in the value chain of major agricultural products and strengthening competitiveness
		3.7 Food Quality and Safety-Improving Food Quality and Safety
		3.8 Financial Services-Improving access to financial services for farmers and agricultural enterprises
		3.9 Trade-Promotion of trade and growth of agrifood exports

Source: MOALI, 2018.

The Myanmar government has established a mid-term National Export Strategy (NES) 2015-2019 to achieve export-led economic growth, and is writing NES 2020-2025 since.

The Myanmar government designates and fosters agrifood processing, forestry, textile sewing, fisheries, tourism, rubber, rice, fruits and vegetables, jewelry, handicrafts, processed foods, and digital sectors as export-led industries (KOTRA, 2019).

Myanmar is easing restrictions on foreigners in the agricultural sector. In November 2015, the Myanmar government permitted foreign companies to trade in three fields (agriculture, medical equipment, construction materials). At that time, the trade business of fertilizers, pesticides and seeds was opened to foreigners for the purpose of accepting advanced agricultural products and technologies from abroad.

The Myanmar Investment Commission (MIC) is revising foreign investment restrictions and land-related laws to attract foreign investment in the agricultural

sector (KOTRA, 2019).

Myanmar is notifying foreign joint ventures for export licensed items. The Ministry of Commerce of Myanmar has allowed foreign joint ventures to export some items through Notification 24/2019 (KOTRA, 2019). These items include meat and fish such as meat and fish, processed crops, paper and paper pulp, seeds, processed metals, processed and finished fruits, and wooden furniture. It aims to improve the quality of Myanmar export products and increase the demand for domestically produced raw materials.

IV. Major Issues in Myanmar's Agricultural Sector

When looking at Myanmar's agricultural status and targets comprehensively, the following major issues can be derived.

First, it is relatively low agricultural productivity. Myanmar labor productivity is very low compared to neighboring countries. In the case of Myanmar, the low yield of rice is small, while the input of labor is very high, resulting in very low labor productivity (World Bank, 2016). In the monsoon season in Myanmar, 23kg of rice is produced in one day labor, compared to 62kg in Cambodia, 429kg in Vietnam, and 547kg in Thailand (World Bank, 2016). In Ayeyarwady, farmers spend more than 100 days per hectare of monsoon rice fields. They spend 52 days in Cambodia, 22 days in Vietnam, and 11 days in Thailand.

Myanmar has poor agricultural infrastructure, agricultural product processing capacity, and distribution structure, so agricultural productivity is very low. Low labor productivity reflects low wages and low capital use. During the 2013 monsoon season, daily wages in the delta and arid regions were $2.0 (World Bank, 2016). During the dry season, wages rose to $3.0-3.4/day, but are still low in international comparisons. On the other hand, Myanmar's capital is expensive and supply is scarce. Except for Shan State, the rental machine market is essentially non-existent. Some mechanization services are available, but they are of low variety and low quality. Many farmers use bulls, and only a few power tillers and small tractors.

In addition, there is a large loss due to lack of agricultural technology during and after harvesting of crops. In the 2012 survey, rice loss was 1.2-1.8% when harvested, 4.6-6.2% when dried in paddy fields, 2.6-3.3% when threshed, 2.1-2.9% when transported, 0.8-1.1% when dried, and 2.1-3.3% when stored. Occurs, resulting in a total loss of 13.2~18.6% of crops (U Kyaw Win)

Second, there is a lack of inputs and infrastructure in agricultural production. It is difficult for Myanmar farmers to easily access inputs and post-harvest treatment

facilities required for agricultural products such as seeds, fertilizers, pesticides, livestock feed, and livestock drugs. For rice cultivation, 150kg/per acre of fertilizer is required, but in Myanmar, an average of 25kg/per acre is used (as of 2010). Fertilizer utilization is 0.14 in Myanmar, 2.18 in Vietnam and 1.87 (mil.MT) in Thailand (U Kyaw Win)

Small farmers' access to agricultural infrastructure and services is limited. There is a problem of insufficient distribution and storage facilities and insufficient power supply and demand.
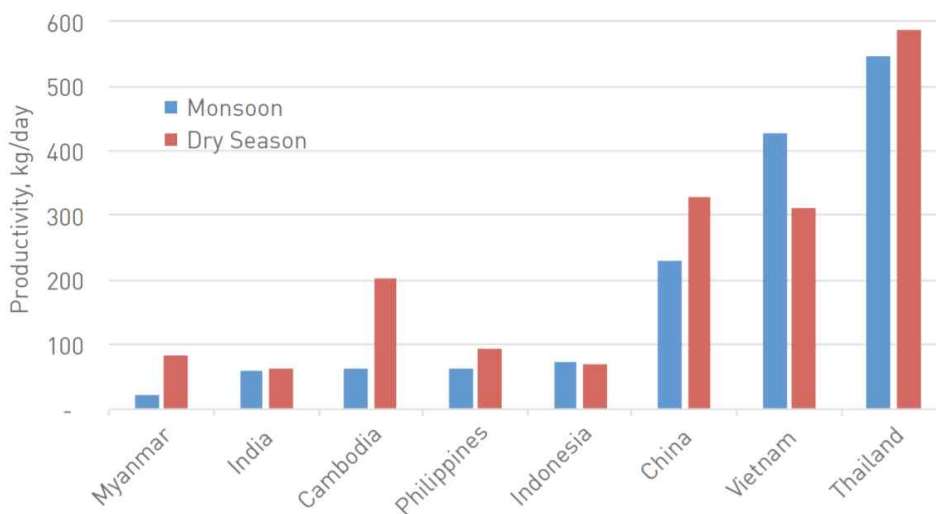
Figure 1. Myanmar Agricultural Productivity

Source: 2013/14 Myanmar agricultural survey for Myanmar data, World Bank, 2016

Third, the quality of agricultural products does not meet the international level. For import and export, the quality and safety of agricultural products conforming to the international level are required. In addition, classification and quality control of agricultural products for export are required.

Fourth, raw materials are exported to concentrated regions. Myanmar exports more raw materials than processed products, so its added value is low. In addition, intensive exports to several countries are increasing the volatility of farm prices due to unstable foreign demand.[2]

Fifth, it is specialized farmers education. Problems exist in professional farmers

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[2] In Myanmar, when agricultural products are exported to neighboring countries such as China and India, profits tend to be higher than in the domestic market, so border trade is actively progressing. However, due to the high dependence on exports of agricultural products to neighboring countries, price volatility is large according to import policies such as China and India, and instability of income is a problem (KIEP, 2018).

education due to the lack of agricultural expertise of the person in charge of the rural guidance project.

Sixth is the lack of efficient financial services.[3] Inexpensive financial services for small farmers are scarce. Therefore, the inefficiency of agricultural production is increasing by using high interest rates.

Table 10. Average and median interest rates by source

Loan source	number	Average monthly interest rate,%	Median monthly interest rate,%
MADB	1,124	0.80	0.80
Money lender	170	5.40	5.00
Family and friends	73	4.13	5.00
Microfinance institution	111	2.42	2.50
Rice company	87	1.11	1.00
Other	24	2.59	2.50
Total	1,589	1.60	0.80

Source: 2013/14 Myanmar agricultural survey, World Bank, 2016.

Sixth is frequent natural disasters and environmental destruction. Agricultural crops are decreasing due to natural disasters such as floods in Myanmar. In addition, natural disasters caused by global climate change are increasing.[4]

Seventh, other factors are as follows. Difficulties exist in agricultural development and policy implementation due to the relatively lack of human resources equipped with the capabilities necessary to implement economic reform compared to the rich population. In addition, there are inefficient governance, weak statistical systems, and gender inequality within agricultural workers.[5]

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3) Myanmar central bank notice rate cut from 10% in 2019 to 8.5% in April 2020 (Central Bank of Myanmar, 2020.8). The loan rate is from 13% in 2019 to 11.5% as of April 2020.

4) In 2008, 138,000 people were flooded by Cyclone Nargis and 1.3 million acres were damaged, and in 2010, Cyclone Giri and the flood in 2011. In 2012, an earthquake of magnitude 6.8 damaged the Sagaing and Mandalay areas.

5) Myanmar's agricultural statistics system is limited to statistics on the amount of production, and surveys and statistics on key variables such as area of farmland owned per farm, tenant rights, production cost, added value for each area of the value chain, loss after harvest, water resource use, and livestock status. There is no production. In addition, the low accuracy of government statistics was found to make it difficult for multinational corporations and overseas institutions entering Myanmar to analyze the current state of Myanmar agriculture and the agricultural market (KIEP, 2018).

Table 11. SWOT analysis

Strength	Weakness
-Abundant land resources, water resources and labor resources -Agriculture is a key industry in Myanmar and has high national interest. -Growing domestic market -Strategic position in export to neighboring countries such as China and India market	-Relying on overseas imports for machinery and fertilizers due to lack of local productivity and technology -Lack of skilled labor -Low agricultural productivity due to poor local technology and information. -Lack of financial services for small farmers -No standards for classification, quality control, and title processing of agricultural products -Statistical system is vulnerable
Opportunities	Threats
-Annual growth forecast of 3.2% in the agricultural sector -Recently, the government has eased foreign investment regulations on agriculture -Growing demand for rice in Europe and Africa -Strengthening the potential competitiveness of export products such as rice, legumes, fruits and vegetables	-Concerns about increase in production costs due to rising exchange rates -Growing gap in agricultural technology with competitors such as Thailand and Vietnam -Increased frequency and intensity of natural disasters -Increased price volatility due to market dependence of China and India

V. Conclusion and Implications

Myanmar is an agriculture-oriented economy with 70% of the population living in rural areas, about 51% of the working population working in the agricultural sector, and agriculture accounting for 21.3% of the total GDP.

Rice, the largest export item of Myanmar's agricultural products, is being sold in the form of primary raw materials due to the trend of steadily increasing production, but lack of post-harvest treatment facilities and lack of access to processing facilities. Myanmar's low agricultural productivity is due to its low agricultural mechanization rate, lack of processing capability, and poor agricultural facilities.

The Myanmar Agricultural Development Strategy (ADS) expects food security, lower rural poverty rates, increased income for small farmers, increased competitiveness in agricultural and forestry-related trade activities, and guaranteed and strengthened farmers' rights as final policy effects.

The main issues appearing in current Myanmar agriculture are as follows. Loss due to lack of agricultural technology, lack of fertilizer use, increased natural

disasters, lack of infrastructure, and high financial costs are reducing agricultural productivity.

The implications for solving this low productivity problem and developing Myanmar agriculture are as follows. In the first place, in order to increase agricultural productivity, it is required to expand mobile finance with low interest rates in rural areas through cooperation with international organizations. Second, it is required to expand agricultural technology education personnel and expand agricultural technology education through international organizations and ODA in advanced countries. Third, expansion of agricultural infrastructure is required through low-cost loans from international financial institutions and advanced countries.

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Relation of benefits of the work-family balance system and family health of female workers in social welfare facilities

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ABSTRACT: Looking at the characteristics of people engaged in social welfare facilities, there is a high proportion of women, and there are characteristics of semi-volunteers who sacrifice themselves and work for long hours to improve the quality of life of customers. At low wages. However, even if social welfare with expertise is gone, it is difficult to expect satisfactory service performance from customers, and self-esteem and self-efficacy may decrease if a satisfactory work environment is not provided. Therefore, this study aims to investigate how married women working in social welfare facilities perceive the degree of implementation of the family balance system and the health level of their families in the institutions and facilities where they work. This study is expected to help improve the quality of life and quality of life of married women engaged in economic activities while recognizing the balance between work and family life of institutions and institutional workers implementing the work-family balance system.

Key words : *Work-family balance system, family health of female workers, social welfare facilities, Korea-work policy,*

1. INTRODUCTION

1. Rationale of the Study

According to data released by the National Statistical Office and the Ministry of Gender Equality and Family, women's participation in economic activity continues to

rise, but women's participation rate by age is different from that of men. In other words, the participation rate of men's economic activity did not show much difference by age group, but the participation rate of women's economic activity showed the highest in the age of 25-29, while the participation rate in the age of 30-39 declined significantly and started to enter the labor market again from the early 40s. The number of women entering the market is increasing.

This phenomenon can be said that since women enter the labor market, marriage and childbirth and parenting occur alongside marriage, the career breakdown, which means the disconnection of professional life, has been rapidly progressing. In other words, the problems of childbirth and parenting in women's family life have resulted in conflict between work and family, which resulted in hesitation to give birth to children or abandonment of work.

Korea has recently had a record birth rate of 0.98, the lowest birth rate among OECD countries, showing a tendency to postpone family life rather than economic life. These changes are caused by the continuous industrialization, the improvement of education level, and changes in values and consciousness. Therefore, the issue of low fertility and conflict between work and family is emerging as an urgent social problem to be solved by the state.

In response, the government revised the 2007 Equal Employment Equality Act to the Act on Equal Employment Equality and Work-Family Support to improve the fertility rate and work-family balance, and implemented an active employment improvement policy to increase the use of female workforce. In order to harmonize family life and work life, new systems are being introduced and improved for work-family balance.

Due to the government's efforts, in the case of the public sector, the work-family compatibility policy was very effective, indicating that the job satisfaction of workers was high. It can be said to fall. For example, the fertility rate of married women in professional or office jobs, which are difficult to achieve work-family compatibility, does not reach the overall average level.

Marriage is the classic form in which a man and a woman meet and form a family. It is the most fundamental behavior in human lifestyle, satisfying sexual desire and fulfilling basic human life through childbirth. However, in modern society, the stability of marriage is threatened and the crisis of family disintegration is facing. Family health is of great importance in that it promotes healthy human growth and development in the mental, emotional, psychological, and spiritual realms, and socially builds a stable democratic society by creating healthy citizenship and lifestyles.

Meanwhile, our society is aging, the instability of families, and the expansion of the poor. As social problems such as polarization phenomenon, suicide rate surge, and internet addiction occur, the expansion of social welfare services is required, and

more efficient social workers with expertise are needed than ever before. Therefore, the number of people engaged in jobs in the social service sector is increasing and is expected to increase steadily in the future.

Looking at the characteristics of people engaged in social welfare facilities, the proportion of women is high, and for the purpose of improving the quality of life of clients, they have the characteristics of semi-volunteer, who sacrifices themselves and puts long hours of labor into low wages. However, even if you are a social worker with professional skills, if you do not provide a satisfactory work environment, it is difficult to expect satisfactory service performance to your clients, and your self-esteem and self-efficacy may decrease.

Therefore, this study is intended to examine how married women working in social welfare facilities perceive the degree of implementation of the work-family compatibility system of the institutions and facilities in which they work and the level of health of their families. It is expected that this study will help improve the quality of life and quality of life for married women who are engaged in economic activities while recognizing the balance between work and family life of institutional and institutional workers that implement a work-family balance system.

II. Theoretical background

1. Social welfare facilities and workers

1) Concept of social welfare facilities

Social welfare is a social system that solves social problems or fulfills social needs. This has been variously defined according to the times, and the concept of social welfare facilities has not been fixed, but has changed with the times. The Social Welfare Business Act defines social welfare facilities as facilities installed for the purpose of conducting social welfare projects. The social welfare business is the National Basic Living Security Act, the Child Welfare Act, the Elderly Welfare Act, the Welfare for the Disabled, the Welfare for the Disabled and Welfare Act, the Welfare for Infants and Welfare Act, the Prevention of Sex Trafficking and Victims' Protection Act, Mental Health Act, Sexual Violence Crime Punishment and Victims Protection Act, Adoption Promotion and Procedures Act, etc. Say (Health and Welfare Statistics. 2018).

Looking at the origin of social welfare facilities, the Children's Counseling Center, childcare facilities, preterm facilities, mentally ill child protection facilities, etc. were

established in the 1970s under the Child Welfare Act (proposed by the Child Welfare Act of 1981).In the 1980s, the Disabled Persons Welfare Act, the Elderly Welfare Act, the Single-mother and Child Welfare Act and the Infants and Toddlers Childcare Act and the Social Welfare Relations Act were enacted, promulgated, revised and supplemented to establish the system of today's social welfare facilities.

In general, social welfare facilities provide specialized treatment, training, education, and rehabilitation for people who are in a situation where self-reliance is difficult due to physical and mental disabilities due to undeveloped, immature, or aging or disease.It is a social and public venue and a building that can be used in the form of admission (short-term, short-term) or hospital visits, visits, etc.

Social welfare facilities meet the requirements of human rights, assistance, and professionalism necessary as welfare services so that functions, forms, and scales can be installed freely and flexibly according to the needs of today's social needs and welfare needs due to diversification of lifestyles. In the midst of being reviewed in a new direction to develop as much as possible, new attempts are made in the role of the facility to link social welfare services and socialize facilities in the community.

2) Types of social welfare facilities

Social welfare facilities can be variously classified according to the classification criteria, such as establishment and operation of the facility, how to use the facility, and whether or not to collect fees for users.In addition, as shown in <Table 1>, the Social Welfare Business Act, the National Basic Living Security Act, the Child Welfare Act, the Elderly Welfare Act, the Disability Welfare Act, the Single-parent Family Support Act, the Infant and Child Protection Act, the Act on the Prevention of Sex Trafficking and the Protection of Victims, the Mental Health Act There are facilities according to the Act on the Prevention of Domestic Violence and Protection of Victims, the Punishment of Sexual Violence Crime, and the Protection of Victims. In addition, there are facilities for conducting social welfare counseling under the Social Welfare Business Act, protection of bums, job reporting, free stays, community welfare, medical welfare, home welfare, social welfare center operation, and projects related to social return to the mentally ill and Hansen troops.

Table 1. Types of social welfare facilities

Related law	Facility Type	Type of detail		Jurisdiction
		Living facilities	Facilities	
Social Welfare Business Act	General Social Welfare Center	Vagrant facility Tuberculosis and	General Social Welfare Center Homeless	Ministry of Health and Welfare

	Boomers and homeless facilities Tuberculosis and Hansen facilities	Hansen facilities	shelter Counseling Protection Center	
Elderly welfare law	Elderly welfare facilities	Elderly welfare facilities Elderly Medical Welfare Facilities	Senior Citizen Welfare Facility Senior leisure welfare facilities Aged Protection Agency	
Child Welfare Act	Child welfare facilities	Child rearing facilities Temporary child care facilities Child protection treatment facility Child Vocational Training Facility Independence support facility Short-term child protection facilities Community life	Child Consultation Center Children-only facilities Child welfare center Regional Child Center	
The Disabled Welfare Act	Disabled welfare facilities	Disabled Facilities Living facilities among paid welfare facilities for the disabled	Facilities used among community rehabilitation facilities for the disabled Vocational rehabilitation facilities for the disabled Facilities for the handicapped	

			paid welfare facilities	
Mental Health Act	Mental health facility	Mental health care facilities Living (residential) facilities among social return facilities	Facilities used among social return facilities	
National Basic Living Guarantee law	Self-help guard center			
Parent and Child Welfare Act	Maternal and child welfare facilities		Nursery facilities	
Law on the Prevention of Sex Trafficking and Protection of Victims	Victims of prostitution Support facilities	General support facilities Youth Support Facility Foreign Women Support Facility	Self-Support Center	Ministry of Gender Equality and Family
Law on Punishment and Protection of Victims of Sexual Violence Crime	Sexual assault Protection facility	Sexual assault victim protection facility	Sexual Violence Consultation Center	
Domestic Violence Prevention and Victim Protection Act	Domestic Violence Protection Facility	Domestic violence victims Protection facility	Domestic Violence Counseling Office	

3) Workers in social welfare facilities

Social worker refers to all the people in the social welfare field or refers to employees working in social welfare related organizations (facilities) operated by government subsidies. The name of the social welfare facility worker is a general

term for people who work in the social welfare field, and may vary depending on the field of activity, scope of work, and qualifications.

The social welfare-related workforce can be roughly divided into public welfare and private welfare. Public welfare workforce includes public welfare officials, children's welfare instructors, and women's welfare counselors, and private welfare personnel refer to those who work in social welfare facilities specified in the Social Welfare Business Act. Private welfare workers can be divided into use facility workers and living facility workers. In the case of use facilities, there are general social workers, including the director, and in the case of living facilities, including the director, life welfare workers and life instructors.There are doctors, nurses and cooks.

2. Work-family compatibility policy (family friendly)

1) Concept

The work-family compatibility policy is a family-friendly policy and refers to a family-friendly policy that examines the reorganization of the job structure so that workers can perform both work and family work. Thus, gender equality, increased fertility rates, reduced poverty or child poverty of single-parent families, and emerged under various backgrounds such as securing sustainable economic growth and securing women's workforce to maintain a social security system in low birth rates and aging (Hong Seung-ah et al., 2008). Therefore, the concept and category of work-family compatibility policy are categorized differently according to the purpose of each scholar (Jung In-sun, 2012).

The OECD (2002) promoted the harmonization of work-family life for workers and fostered options for work and parenting for workers with children by creating the concept of work-family compatibility policy and creating an environment suitable for family resources and child development. It was defined as a support plan to promote gender equality and employment opportunities. In the gender and ideological analysis, Won Sook-Yeon (2005) divides work-family compatibility policies into childcare systems and vacation systems, and focuses on vacation systems in the two categories, focusing on the purpose and practice of work-family balance policies and the reality of performance

Hong-Sik Yoon (2005) classified the work-family balance system from the perspective of the working subject. In other words, when I stand in the perspective of the working subject, I think that the issue of work and family compatibility is not a matter of a specific gender, but a problem of universal citizens. Therefore, from a labor subject's point of view, sharing the responsibility of supporting and caring for men and women with work and family It was said to realize compatibility. Kwon

Tae-hee (2008) confines the work-family compatibility policy to those of companies belonging to the micro-system category, and resolves conflicts between work and family caused by demands for professional roles and demands for family roles conflicting with each other. It was defined as an employer's application to help them adjust their lives. In addition, Jeon Jong-soon and Kim Ki-hyeong (2013) said that work-family balance is a state where they control life by themselves and lead a satisfying life by balancing time and energy in the areas other than work, such as family, health, leisure, and self-development. Is passively using the concept

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As described above, in previous studies, the term referring to a system that supports the balance between work and family life so that individuals can harmonize work and family life in harmony is expressed in various ways for each researcher. Therefore, work-family balance, work-family balance, work-life balance, and family friendliness are used in a mixture.

In other words, work-family balance not only provides a program that meets various needs in the family life so that workers can concentrate on work at work, but also provides a system that allows workers to control their conflicts due to their home work as much as possible. As a strategy to meet the needs of companies and companies at the same time, it means to create an organizational culture as a support environment for workers.

2) Types of work-family compatibility system and Korea-work policy

The work-family compatibility system can be divided into separate and integrated policies according to the objectives of the policy (Grandey, 2000).

First, the separation policy refers to a work-family balance employment policy that provides a means for workers to solve problems in the family sector, but focuses on jobs in the workplace sector. Through work support programs, workers' worries about childcare or family care are reduced, and the turnover rate is reduced and work performance is increased. It also improves the attendance rate of workers by providing convenience facilities such as workplace childcare facilities.

On the other hand, the overall policy refers to a work-family balance policy that considers the reorganization of the job structure so that workers can perform both work and family work. To reduce worker turnover and increase productivity, policies to adjust working hours and working places to help solve family problems, and to introduce systems such as parenting and family care leave.

In the United States, family and work institutes are divided into three stages according to the stage of economic development. In the first stage, support for family problems is often limited to childcare problems without recognizing the work-family parallels as a policy involving companies. In the second stage, work-family parallelism is recognized as a policy for human resource management, and support is designed for both men and women to expand from childcare to nursing. The third step recognizes the work-family parallel as a core policy that enhances organizational competitiveness as well as human resource management policies. According to the Grandey policy classification, the separation policy belongs to the first stage and the integrated policy belongs to the second and third stage.

Looking at the situation of Korea's work-family compatibility policy, it is in the first stage of settlement. Regarding what kind of policy constitutes a work-family balance system as the responsibility of private business owners in Korea, the 'Regulations on Promotion of the Creation of a Family-Friendly Social Environment' established in December 2007 regulates the type of work-family balance system. The detailed presentation is shown in the following <Table 2>.

Table 2. Types of Work-Home Compatibility System

Types	Contents
Flexible working system	Time difference, commuting, working from home, part-time work, etc.
Childbirth, parenting and education support system	Spouse maternity leave, parental leave, workplace childcare support, child education support programs, etc.
Support for dependents	Parental care services, family care leave, etc.
Worker support system	Worker Health·Education·Consultation Program
System decided by the Ministry of	- Family relations promotion system

Gender Equality and Family	:Child vacation leave, worker family invitation event, regular work leave, parenting day, family day, etc. - Family leisure culture promotion system :Family-level cultural experience support - Family-friendly social contribution system :Support system for the underprivileged, such as single-parent families, grandparents, multicultural families, senior citizens living alone, and families with disabilities

If we look at Korea's work-family balance policies divided into policies related to childcare services, vacation systems, and working hours, the following are considered.

First, in the case of childcare services, it has been promoted by the president since 1990. Starting with the enactment of the Infants and Toddlers Act in 1991, childcare facilities were expanded in the 1990s, and childcare policies were promoted since 2000. Second, in the case of the vacation system, Korea is implementing a maternity leave system of 13990 days) with a 100% salary level for all insured women. Lastly, the policy on working hours reduced the working hours to 15-30 hours per week during the parenting period within one year in accordance with the Act on the Equal Employment of Men and Women and the Support for Work-Family Balance, which takes effect on June 22, 2008. There are national regulations that can be demanded and must be returned to the same level of work and wages after a short period.

If you look at the projects currently in progress among government policies related to the balance between work and family in Korea, the first project to promote women's social activities is the 'First Low Fertility Elderly Social Basic Plan (2006-2010)'. We have started projects such as support for starting and returning to work, developing and supporting women's vocational skills, and creating a female-friendly business environment. In 'Hope Together Korea Vision 2030', we support SMS work and family coordination and expand workplace childcare facilities. In the 'First Women's Human Resource Development Comprehensive Plan (2006-2010)', a childcare program for fostering and supporting children is promoted, a career-breaking women's vocational training support project is promoted, and various female-specialized social job creation plans are reviewed.

3. Family health

1) Concept and characteristics

The concept of health is not only a disease or a fragile condition, but also a

complete well-being of physical, mental and social. Physical health means 'the state of being able to do something appropriately without discomfort or helplessness' and mental health means 'having happy, hopeful and energetic feelings about life'. In this sense, family health is about how healthy the family is, and the concept and characteristics of family health can be examined focusing on family members, family functions, and ability to cope with family problems.

First, in an initial study focusing on the exchange between family members and family members, health was measured by providing various opportunities for family members to grow. In particular, the family experiences various changes according to the family life cycle. In this process, it is important to increase the individual's potential for family members and enable satisfactory interaction between family members, ultimately improving the quality of life of the individual. I have a view that. Since family members have a strong family and strong family strength, how positive the interaction between family members is an important factor.

Second, following the initial study, the home health study focused on the functional aspects of the family. The point is that you need to see how well your family is functioning to see how healthy your family is. This breaks away from the past view of determining family health based on individual characteristics of family members, family structure and behavior, and family members perform various interactions appropriately, share the family's community, emotional and moral relationships, and physically, It is judged that home health is high when mental and social stability is maintained.

Finally, family health is judged according to the ability to cope with changes and problem situations in terms of the functional aspects of the family. It is considered healthy if the family can properly recognize and respond flexibly and effectively to the changes in stress and conflict situations. In particular, in a dynamically changing modern society, the family's ability to cope is very important in that it can provide stability to family members and prevent confusion in society as a whole.

As described above, family health means a healthy degree of family and has variously defined and multidimensional concepts according to the researcher's viewpoint.

2) Factors of family health

Research on family health has been studied by many scholars, and among them, Eun-joo Eo and Young-joo Yoo (1995) describe the factors of family health in four categories: communication, bonding, shared value system, and problem solving ability.

If we first look at the communication among family members, the family will spend a lot of time communicating with each other first. Communication here is generally positive, understands each other's position and situation, and considers and communicates effectively. The unhealthy way of communication, however, maximizes

discord and wounds between families, hindering the development of family members. A healthy family is a family that promotes the growth of each family member, actively interacts with the family members, and maintains the family values and value system well. A healthy family promotes the healthy development of each family member and the interactions between family members. It is a smooth and shared value system as a group, and it is a system that lives in a smooth interaction with relatives and social systems.

Next, healthy families have strong bonds and invest a lot of time in family activities. Strong bonds between family members encourage one another and recognize autonomy based on love, understanding, trust and consideration. This is a positive response, a positive response to working and enjoying while acknowledging that each other can achieve different goals. A healthy family member's bond means that each family member has a strong relationship with each other, focuses on family activities, and invests a lot of time and energy and spends time together.

It also shares the value system among family members. Healthy families take pride in their traditions and family history, know family values or rules and principles clearly, and share and share each other's beliefs or moral values with family members. And share common goals and what is important.

Finally, healthy families have the right way to solve problems and the ability to effectively solve them, and even in the most difficult situations, they focus on positive factors, not being stressed or stressed. Difficulties are considered to be sufficient, and it is to accept positively, focus on the solution, and overcome without paying attention to the problem or crisis itself. In other words, a healthy family is one that has the ability to deal with a crisis or problem in the ultimate way.

III. Research method

1. Survey target and data collection

The subject of this study is a female social worker living in K, S, Y cities located in the eastern part of Jeonnam and working in social welfare facilities.

The survey period is from October 20 to November 30, 2019, and the researcher for this study is composed of graduate students including researchers. The collection of questionnaire data was conducted by a researcher who received pre-training, after explaining the purpose of the study and the questionnaire contents to female workers in social welfare facilities sufficiently, and then subjecting them to self-reporting. The questionnaire was distributed to a total of 270 people, but the collected questionnaire showed a recovery rate of 90% with 243 copies. Among them, a total of 230 copies were selected as analysis data, excluding 13 copies with unsatisfactory responses or inappropriate data.

2. Research Tools

This study used a questionnaire consisting of a total of three parts to investigate the effect of work-family compatibility on social welfare facility female workers on family health. The questionnaire consisted of a total of 35 questions, including 8 questions to investigate the socio-demographic characteristics of the survey subjects, 7 questions to ask for work-family compatibility, and 20 questions to assess the degree of family health. The details of each scale are as follows.

1) Socio-demographic characteristics of the survey subjects

The social demographic characteristics of female workers in the social welfare facilities surveyed consisted of 8 items: age, qualification level, marital status, number of children, position, career, field of activity, and institution/facilities.

2) Work-home balance scale

Since there are no clearly distinct categories in Korea's work-family compatibility policy, this study used the main work-family compatibility support policies currently implemented by the government as content of the scale. The schemes used in this study are all 7 schemes: parental leave, family day, family nursing, time lag/commission, job sharing, career leave, and tuition support system. This scale is a 5-point Likert scale (1=not at all, 2=not, 3=normal, 4=yes, 5=very so). It was interpreted as being. The reliability of the work-home compatibility scale used in this study was found to be Cronbach's α=74.

3) Family Health Scale

The degree of family health of female workers in social welfare facilities was partially modified and used by the family health scales produced by Eui-ju and Young-ju Yoo (1995). The scale consists of six sub-scales such as communication among family members, ties, sharing of value systems, and ability to solve problems, and the total number of questions was composed of 20 questions. Each item was interpreted as the higher the sum of the scores of each item on a 5-point Likert scale from 1 point (very not) to 5 points (very so), the higher the level of family health. The reliability of the self-control scale used in this study was very high with Cronbach's =.92.

3. Data analysis method

The data processing for this study was statistically processed using the SAS

Package program. The specific analysis method is as follows.

First, to find out the socio-demographic characteristics of the subjects, frequency and percentage were calculated.

Second, the average and standard deviation were calculated to find work-family compatibility and the degree of family health among female workers in social welfare facilities, and the Cronbach' coefficient was calculated to check the reliability of the scale.

Third, a correlation analysis was conducted to find out the relationship between work-family compatibility and family health.

Fifth, a multiful regression analysis was conducted to find out the relative influence of the variables (socio-demographic variables, work-family balance) on the home health of the survey subjects.

IV. Results

1. General characteristics of the subject

<Table 3> shows the general characteristics of the survey subjects.

Table 3. General characteristics (N= 230)

Variable	Category	N (%)
Age(Ar)	20	63
	30	68
	40	52
	50	38
	60	9
Qualification Level	1st grade	46
	2st grade	143
	3st grade	3
	Etc.	38
marital status	married	128
	single	74
	Bereavement + Separation + Divorce, etc.	28
Number of children	No	95
	1	32
	2	68
	3	28
	4 people or more	7
position	Director-level (Director/Facilities)	15
	Senior management level (deputy manager,	10

	director, etc.)	
	Intermediate management level (manager/team leader)	32
		157
	Working level (representative/welfare worker/instructor, etc.)	16
	Contract workers (temporary workers, etc.)	
career(Ar)	Less than 1 year	19
	1-5	103
	6-10	26
	11-15	38
	16-20	24
	21 year or more	20
Field of Activity	Youth welfare-related facilities/organizations, etc.	24
	Child welfare-related facilities/organizations, etc.	35
	Regional welfare centers/self-supporting facilities, etc.	32
	Elderly welfare-related facilities/organs, etc.	67
	Women/Family Welfare Related Facilities/Institutions, etc.	20
	Disabled welfare related facilities/organizations, etc.	23
	Mental health related facilities/institutions	16
	Vagrant facilities, institutions, etc.	13
Total		230

2. Benefits of the work-family compatibility system of female workers in social welfare   facilities and the degree of family health

As shown in <Table 4>, the benefits of the work-family compatibility system for women workers in social welfare facilities averaged 2.86 points, which is lower than the median of 3 points. The results of these studies do not receive much benefit from the work-family balance system implemented by women in social welfare facilities in the country, and among them, they rarely benefit from family nursing leave, time-sharing/commuting, career leave, and financial aid system. Turned out to be unable. On the other hand, the average level of home health of female workers in social welfare facilities was 3.64 points, which was higher than the median score of 3, indicating that the level of home health was relatively high. Specifically, family members showed the highest bond among family members, with an average of 4.13 points, value sharing among family members 3.73 points, communication among family members 3.49 points, and problem solving among family members 3.23 points.

3. The relationship between the work-family balance system benefits and family health of women workers in social welfare facilities

<Table 5> shows the relationship between the social welfare facility's female

worker's work-family compatibility and the degree of family health. As shown in the table, (r=.4931, p<.001) shows the relationship between the benefit level of the female worker at the social welfare facility and the home health system and the level of family health. There was a relationship. In other words, it can be seen that the active implementation of the work-family balance system at work is very useful in family life.

Table 4. Benefits of the work-family compatibility system of female workers in social welfare facilities and the degree of family health

Division		M (SD)
Work-family balance system	Parental leave	4.33 (.73)
	Family day	4.02 (.46)
	Family Nursing Vacation	1.36 (.37)
	Time difference, work	2.25 (.50)
	Job Sharing	3.24 (.63)
	Career leave	2.77 (.52)
	Student support	2.05 (.28)
	Total	2.86 (.45)
Family health	Communication between family members	3.49 (.76)
	Family ties	4.13 (.64)
	Sharing the value system among family members	3.73 (.84)
	Problem solving ability among family members	3.23 (.53)
	Total	3.64 (.62)

Table 5. Relationship between the degree of benefits and home health in the work-family balance system

Variable	parenting Leave of absence (1)	family day (2)	family nurse vacation (3)	Time difference, work (4)	Job Sharing (5)	Career leave (6)	Student support (7)	work-family balance system Total (8)	Communication between family members (9)	Family ties (10)	Sharing the value system among family members (11)	Problem solving ability among family members (12)	family healty total (13)
1	1.0000 ***												
2	.2421 ***	1.0000 ***											
3	.3736 ***	.1120 ***	1.0000 ***										
4	.3037 ***	.2812 ***	.1010 ***	1.0000 ***									
5	.2973 ***	.2400 ***	.0983 ***	.2581 ***	1.0000 ***								

6	.2120 ***	.1950 ***	.1290 ***	.2254 ***	.0909 **	1.0000 ***							
7	.2548 ***	.1854 ***	.2867 ***	.2100 ***	.3021 ***	.0634 **	1.0000 ***						
8	.3473 ***	.2285 ***	.3139 ***	.1954 ***	.3216 ***	.0994 **	.2176 ***	1.0000 ***					
9	.2843 ***	.1197 ***	.2421 ***	.1919 ***	.2754 ***	.0852 **	.2545 ***	.3937 ***	1.0000 ***				
10	.2765 ***	.0856 ***	.2054 ***	.1123 ***	.3021 ***	.0754 **	.2056 ***	.4231 ***	.3967 ***	1.0000 ***			
11	.3856 ***	.2300 ***	.3825 ***	.2106 ***	.3307 ***	.0991 **	.2996 ***	.4545 ***	.4112 ***	.3976 ***	1.0000 ***		
12	.4213 ***	.3434 ***	.2867 ***	.1970 ***	.2754 ***	.0876 **	.3756 ***	.4382 ***	.4856 ***	.4398 ***	.4115 ***	1.0000 ***	
13	.4627 ***	.3856 ***	.3667 ***	.2867 ***	.3452 ***	.1212 ***	.4211 ***	.4931 ***	.4775 ***	.4621 ***	.4554 ***	.4765 ***	1.0000 ***

· ** p<.01,   *** p<.001

4. Relative influence of variables (socio-demographic characteristics, benefits of work-family balance) on the home health of women workers in social welfare facilities

<Table 6> shows the results of examining the relative influence of the social demographic characteristics of female workers in social welfare facilities and the degree of mutual benefits between home and family on family health.

In this study, before performing regression analysis, the Durbin-Watson coefficient was analyzed through residual analysis. As a result, the Durbin-Watson coefficient was close to 2, indicating that there was no autocorrelation between the residuals. Then, it was confirmed that there was no problem of multicollinearity that occurs when VIF is 10 or more in the range of 1.73 <VIF <1.90, and the correlation between independent variables was 0.0234 <r <0.3190, and regression analysis was performed.

In the regression analysis for this study, a two-step verification was conducted. In step I, the influence of only socio-demographic variables on the home health of female workers in social welfare facilities was examined.·Added a family-compatible variable to investigate the impact of these on family health.

As shown in the table, age (β= .1780, p<.01), number of children (β= .1331, p<.01), and social demographic variables that have a statistically significant effect on family health in Step I,The position (β=.0814, p<.05) was shown, and the influence of these variables was 15%.

In Step Ⅱ, which added the benefit variables of the work-family balance system to Step I, the statistically significant influences on family health were the benefits of work-family balance (β=.4510, p<.001) and the number of children (β =- .2954,

p<.01), and rank (β= .1318, p<.01). The relative influence of these variables was 37%, resulting in an increase of 22%. In other words, the degree of benefit from the work-family balance system was high, the number of children was small, and the higher the position, the higher the level of family health. It is consistent with the research of Jin Jong-soon and Kim Ki-hyeong (2013) and the study of Kim Kyung-hwa (2013) of male and female workers with children of infants and elementary school children. In addition, Son-Jin (2013)'s work-family promotion and research on the relationship between performance work-ga Jung promotes work at work to deal with personal and practical problems at home.

It is helpful and emphasizes the necessity of a work-family balance system by saying that the more positive experiences are experienced between work and family areas, and the more experience of facilitating work-family increases, the higher the satisfaction with the job.

Table 6. Variables Influencing on Family Health

Step	Variable	B	β	R^2	Rank
Step I	Age(yr)	1.4210	.1780**	.07	1
	Qualification Level	.0913	.0012		
	Marriage status (a)	- .0860	- .0245		
	Number of children	1.2123	.1331**	.05	2
	Position (a)	.1618	.0814*	.03	3
	career	.0451	.0037		
	Field of Activities	.0018	.0008		
	Cons = 23.90 R^2 = 0.15 F = 35.23***				
	Variable	B	β	R^2	Rank
Step II	Age(yr)	.6543	.1186*	.03	4
	Qualification Level	.1208	.0679		
	Marriage status(a)	- .0753	- .0164		
	Number of children	.3348	- .2954**	.09	2
	Position (a)	.2123	.1318**	.05	3
	career	.1511	.0042		
	Field of Activities	.1683	.1896		

benefits of work-family balance	1.6420	.4510***	.20	1
Cons = 19.62 R^2 = 0.37 F = 33.83***				

· * p<0.5, ** p<.01, *** p<.001
(a) dummy
- Marriage status; Yes(1), No(0).
- Position; Director, facility manager(1), Etc.(0).
- Field of activity; Adolescent welfare facilities/institutions(1), Etc.(0)

V. Summary and Suggestions

The following is a summary of this study to investigate the relationship between the degree of benefit of the work-family compatibility system and the home health of women workers in social welfare facilities.

The subject of this study is a female social worker living in K, S, Y city located in the eastern part of Jeonnam and working in social welfare facilities. The survey period was conducted from October 20 to November 30, 2019. The survey tool used a questionnaire consisting of a total of three parts, and the specific questions of the questionnaire included 8 questions to examine the social demographic characteristics of the survey subjects, 7 questions to ask for work-family compatibility, and 20 questions to assess the degree of family health. It consists of 35 questions. The data processing for this study was statistically processed using the SAS Package program. As a specific analysis method, frequency, percentage, average, and standard deviation were calculated, and Cronbach' coefficients were calculated to check the reliability of the scale. In addition, a correlation analysis and a multiple regression analysis were conducted to examine the relationship between work-family compatibility and family health.

The results of this study are as follows.

First, the degree of benefit of female workers in social welfare facilities between the work and family is 2.86 points on average, which is lower than the median of 3 points, and the degree of benefit from the work and family balance system seems to be below the middle.On the other hand, the average level of home health of female workers in social welfare facilities was 3.64 points, which was higher than the median score of 3, indicating that the level of home health was relatively high.

Second, the relationship between the work-family compatibility system benefit level and family health among women workers in social welfare facilities is shown as (r=.4931, p<.001). There was a close relationship. In other words, the active

implementation of the work-family balance system at work was very beneficial for a healthy family life.

Third, age (β= .1780, p<.01), number of children (β= .1331, p<.01), and position (β=.0814, p<.05), and the influence of these variables was 15%. In the regression equation in which the benefit variables of the work-family balance system are added, the benefits of work-family balance (β=.4510, p<.001), the number of children (β=-.2954, p<.01), position (β= .1318, p<.01) showed the influence in order, and the relative influence of these variables totaled 37%, which was 22% higher than the regression equation I.In other words, the degree of benefit from the work-family balance system was high, the number of children was small, and the higher the position, the higher the level of family health.

In this way, the work-family compatibility support policy is a win-win strategy that helps countries of workers' enterprises to improve the quality of life by resolving career breaks due to child-rearing and raising the satisfaction of family life. By increasing loyalty, the turnover rate can be lowered to increase corporate productivity. In addition, it can be seen that the revitalization of the work-family balance system is very necessary in that the country secures sustainable growth engines in the age of low birthrate and aging by utilizing female workforce.

Suggestions for implementing this are as follows.

First, the work-family compatibility system is a legal system, but the parties to use are noticeable. The use of work increases the burden of work-family balance, difficulty living, promotion problems, and society. The reality is that you cannot use it freely because of enemy perception problems. In order to secure the effectiveness of the work-family balance system, the organization should improve the system of supplements for leave and leave welfare workers, parental leave or family nursing, promotion of leave period and spouse allocation, parental leave allowance, and parenting time. In addition, in order to secure the effectiveness of flexible working hours, overtime work and home work. The introduction of holiday savings system should also be actively considered.

Second, in terms of work-family compatibility, the support environment is as important as institutional and economic support. Work-family compatibility depends on the free use of work-family compatibility system, and use of the system. Its effectiveness and success depend on the home environment and the supportive atmosphere of the organization. The work-family balance of civil servants not only ensures individual life, but also secures the competitiveness of the organization. The organization also has a great influence on the effectiveness of the organization. Lips should be recognized as an important strategy for human resource management. In order for the free use of the work-family compatibility system to settle down, men and women at home. Equal family roles are practiced, and at work, civil servants'

work-family balance. A positive organizational culture that changes awareness and considers should be fostered.

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Financial Literacy and Financial Capability of Low-Income People in Myanmar

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ABSTRACT: This study aims to examine the relationship between financial capability and financial literacy of low-income people. The primary data collected from daily wages workers from retail shop and construction site, and street hawkers in Bahan Township at Yangon region. The results showed that financial knowledge and financial skills have no significant relationship on financial capability, but financial accessibility has significant relationship on financial capability. The result of research also indicates educational background of the respondents is direct related with financial knowledge. This study found that most of the respondents have saving account and current account, however, a small number of respondents used the debit cards from the banks. It is argued that financial knowledge and financial skill are moderate and positive relationship with financial capability. And financial accessibility is strong and positive relationship with financial capability.

Key words : *Financial knowledge, financial skills, financial accessibility, financial capability,*

I. Introduction

Low-income people often have inadequate resources to maintain a healthy and happy family life. Lack of economic resources impairs parents' abilities to invest in their children's nutrition, health and education; increases harsh parenting, and exposes children to higher levels of developmental risks (Gershoff, Aber, Raver, & Lennon, 2007).

Actually, low-income people need financial knowledge to deal with an increasingly complex financial world and make decisions in their best financial interests (Collins, 2013; Hilgert, Hogarth & Beverly, 2003; Altman, 2011). Low-income families also need access to basic financial services and asset-building opportunities that enable them to fully participate in social and economic life (M. W. Sherraden, 1991; 2001; 2009; Bucks, Kennickell, Mach & Moore, 2009).

The combination of knowledge and inclusion in the mainstream financial sector is thought to result in financial capability for low-income families (M. S. Sherraden, 2010; 2013). Financial capability can be defined having the knowledge, understanding, skills, motivation and confidence to make financial decisions which are appropriate to one's personal circumstances. (Shaun Mundy, 2011)

The Government of Myanmar considers revising and rebasing its poverty condition measure in order to better reflect living standards and the needs of the poor in 2015. (World Bank report, August, 2017)

Myanmar Government lays down strategies that will raise the overall capacity of Myanmar's human capital and contribute to social development, without which genuine, sustainable economic development cannot be sustained. This goal focuses primarily on improving quality and access to social services, such as education, financial and health knowledge, and financial accessibility, and the expansion and strengthening of social protection programmes. (Myanmar sustainable development plan, 2018, p.41)

II. Rationale of the Study

Financial literacy has gained the attention of a wide range of interested parties, such as banking industry, grass-root consumers, government agencies, and community interest groups. (Louw, Fouche`, &Oberholzer, 2013). Nowadays, financial literacy is reached important role of the education area. People can handle their finance and can fight fraud by using the money management. The ability of managing personal finance is focused on financial literacy. Financial literacy includes the knowledge of making appropriate decisions about personal finance such as investing the securities and real estate, paying for college, budgeting, and planning for retirement.

Actually, most of the low-income people will face the various challenges of personal finance. Agarwalla (2012) observed a reduced role of the government and employers in managing financial investments on behalf of employees. This has led to increased responsibility of employees in managing their own finances and securing their financial future. Therefore, financial capability and financial literacy are very important for low-income people. Basic financial literacy helps low-income people to become self-sufficient and achieve financial stability. Literacy helps them create a realistic

roadmap that will take them through their daily lives making good financial decisions and also be empowers people.

III. Objectives of the Study

(1) To identify the financial knowledge, financial accessibility, and financial skill in low-income people in Bahan Township, Yangon.
(2) To explore the relationship between financial capability and financial literacy in low-income people in Bahan Township, Yangon

IV. Literature Review

In this study, low-income people can be defined as daily wages workers from retail shop and construction site, and street hawkers. Low-income people in developing countries share the same goals as all people economic security for themselves, their families, and future generations. The main differences are that they have fewer resources and opportunities. Most live in high-risk and unpredictable environments.

Low-income people can get daily wages good money management is critical for meeting day-to-day needs and unexpected emergencies, taking advantage of opportunities when they present themselves and planning. As applied to financial wellbeing of low-income people, financial capability is seen as the ability to act based on financial knowledge and skills in combination with one's inclusion in mainstream financial structures and institutional arrangements (M. S. Sherraden, 2013).

The terms 'financial literacy' and 'financial capability' tend to be used interchangeably. Financial capability of a person is best judged by their actual behaviour. Financial capability is defined as "the capacity, based on knowledge, skills and access, to manage financial resources effectively". Financial capability is a critical step towards financial security, and many people may lack one or more factors of the financial capability equation illustrated in Figure.1.(Jeannie Chaffin, 2010)
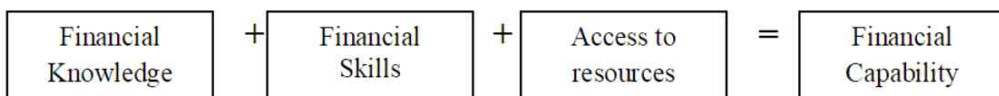

Figure 1. Financial Capability Components
Source: Jeannie Chaffin, 2010

Some may lack the knowledge or the skills needed to manage their financial lives effectively. Others may not have the access to resources necessary for managing their finance well. Challenges in any of these areas will negatively affect. Low financial capability will negatively affect financial security.

Financial knowledge is the element of the financial literacy. Hilert, Hogarth and Beverley (2003) define financial literacy as financial knowledge. Financial knowledge is considered central to financial literacy, it should be differentiated from general knowledge. In this study, financial knowledge is measured knowledge of inflation, risk, return, future cash flows, financial plan, and financial institution in Myanmar.

In measuring financial access is essential for strengthening the link between financial institutions and personal finance of low-income people. Low-income people want to use financial service from formal financial institution, but do not have access due to a variety of reasons. Firstly, they may be unbank able because their low income prevents them from being served commercially by financial institutions. Second and finally, the price or features of financial services may not be appropriate for the low-income people. By the analyzing these factors that determine whether or not a bank or microfinance firm has access to finance of low-income people in Yangon region.

Financial skills are big influence over most definition of financial literacy. Noctor (1992) presented this definition more than twenty years ago as "the ability to make informed judgments and to make effective decisions regarding the use and management of money". This definition focused on the people financial ability and his/her judgments and financial decisions. In this study, financial skills are measured the ability to repay of debts, to pay the bill on time, and making the financial planning of low-income people in Yangon region.

The power and confidence of the people, such as the efficient decision of their money and improve their lives, will get form financial capability. These people can handle times when life is financially difficult. Financial capability is the combination of money management, choosing the financial decisions, and staying informed about financial issues of low-income people in Yangon region.

V. Research Methodology

The data for this study were collected from the low-income people in Bahan Township, Yangon region, by using structured questionnaire. The research type is descriptive statistics research by using five point likerts scale model. It aims to know the relationship between the financial knowledge, accessibility, accessibility and capability of low-income people. This study presented that Bahan Township in

Yangon of 50 daily wages workers from retail shop, 50 daily wages workers from construction site, and 50 street hawkers in Bahan Township. The sampling technique was conducted by using simple random sampling.

The method of study is based on a primary data also secondary data. The primary data collection was conducted by personal interview and structured questionnaires survey. The secondary data are obtained from many data sources such as previous researches and findings on similar subjects, labor office, library books, and journals articles from newspaper, internet and other reliable academic based website from the Internet and other related reports.

Research design is used the descriptive statistics methods that would effectively and efficiently the research objective. The questionnaire consists of two sections. The first part of questionnaire gathers demographic information of respondents. The second part of questionnaire is about financial knowledge, accessibility and skills of respondents. And last section is financial capability of respondents. The Five points likert scales is used for questionnaire in section one, two, and three ranging from "1" for strongly disagree, "2" disagree, "3" neutral, "4" agree, "5" for strongly agree.

VI. Findings and Discussions

There are three components of the study; profile of respondents, financial literacy, and financial capability of the low-income people.

1. Demographic Characteristics of Respondents

The following Table represents the demographic characteristics of the respondents.

Table 1. Profile of Respondents

Factor	Total respondents	Percent
	150	100%
Gender of Respondents		
Female	90	60%
Male	60	40%
Working Experience of Respondents		
<1year	70	47%
1 - 5years	30	20%
6 -10 years	30	20%
10years <	20	13%
Educational Background		
High School Level	110	73%
Under Graduate Level	30	20%
Graduate Level	10	7%

Source: Survey data, 2020

By the Table (1), it shows that survey includes 60 males and 90 females. In term of percent, male respondents share with 40% with the most and female respondents' shares 60% in the study. Since the nature of the Myanmar traditional, female composition is higher than male, in low-income people.

Age level of respondents is analyzed. Their working age levels are grouped into four: less than 1year, 1 - 5years, 5 -10 years, and 10 years above. By the survey, Table (1) shows that 70 respondents are working experiences less than 1 year, 30 respondents are working experiences from 1 - 5years, 30 respondents are working experiences, and 20 respondents have over 10-year experience respectively. Due to the increasing of internal migrant workers, less than one-year experience of low-income people is so high percentage.

Education background of respondents is grouped into three groups: high school level, undergraduate level, and graduate level mentioned above. According to the Table (1), high school level respondents are significantly high percentage in low-income people.

2. Financial Literacy of Respondents

According to the survey, the following results represents the financial literacy of the low-income people in Table (2).

Table 2. Financial Literacy of Respondents

No.	Financial Knowledge	Mean	Standard Deviation
1	I see high inflation means that the cost of living is increasing rapidly	3.85	0.706
2	An investment with a high return is likely to be high risk	4.02	0.635
3	I know the children's educational expenses is major expenses for my life	4.01	0.642
4	I know the medical expenses is major expenses for my life	3.83	0.690
5	I have the financial plan for every month in currently	3.98	0.622
6	I have put money into short term saving (Su Mae')	4.00	0.635
7	I have put money into bank sometime	3.99	0.628
8	Received financial information and advice from a bank	4.07	0.742
9	Received financial information and advice from friends and family	4.10	0.726
	Overall Mean	3.98	
No.	**Financial Accessibility**	Mean	Standard Deviation
1	I have saving account	4.00	0.756

No.		Mean	Standard Deviation
2	I have current account	4.03	0.750
3	I use banks to transfer money	3.67	0.833
4	I use private remittance services (Wave, True, etc.)	3.89	0.809
5	I use debit cards	3.99	0.848
6	I use credit cards	3.56	0.666
7	I use mobile banking and online banking services	3.87	0.721
8	I use banks to take on hire purchase financing	3.99	0.704
9	I use banks to borrow money	3.73	0.648
10	I use microfinance organizations to borrow money	3.70	0.629
11	I use individual money lender to borrow money.	4.02	0.698
	Overall Mean	3.86	
No.	**Financial Skill**	Mean	Standard Deviation
1	I need to repay my loan by daily basis or monthly	4.12	0.724
2	Before I do the business, I carefully consider whether I can afford it	3.98	0.692
3	I pay my bill on time	4.03	0.607
4	I set long-term financial goals and strive to achieve them	4.02	0.622
5	I find it more satisfying to spend money than to save it for the long-term	4.00	0.692
6	I tend to live today and let tomorrow take care of itself	3.75	0.769
7	I keep a close personal watch on my financial affairs	3.82	0.763
8	I have too much debt right now	3.74	0.761
9	I am prepared to risk some of my own money when saving or making an investment	3.97	0.692
	Overall Mean	3.94	

Source: Survey Data (2020)

According to the Table (2), most of respondents are financial information and advices are received from friends and family. But respondents have not enough the financial knowledge about the inflation, interest rate and other future plan consideration.

In financial accessibility, most of the respondents have saving account, current account and debit card, however, a small number of respondents used the credit cards from the banks. They used to finance from individual money lenders.

Financial skills of low-income people can be presented as honesty person, because their attitude towards repayment of loan is high mean level of financial skill. But they want to get more debt from other sources of finance; they believe that they can handle their debts.

3. Financial Capability

Financial capability has become of great importance due to the complexity and deregulation of the financial sectors. The following table presents the financial

capability condition of low-income people in Bahan Township. There are three domains; money management, making financial choice, and staying inform about financial issues.

Table 3. Financial Capability of Respondents

No.	Money Management	Mean	Standard Deviation
1	I do not struggle to cover basic day-to-day needs	4.00	0.648
2	I know how much money is available to cover future expenditures	3.77	0.775
3	I have a plan to deal with current monthly expenditures	4.10	0.726
4	I never or very rarely run out of money before payday	4.00	0.756
5	I do not borrow to pay back other debts	3.86	0.702
6	I manage day-to-day income at least trying to save some money	3.82	0.788
	Overall Mean	3.93	
	Making Financial Choice		
1	I tend to be good at understanding risk, what risks I face, and the tradeoff between risk and rewards	4.03	0.755
2	I understand the risks I face with my savings/investments and do not have realistic expectations of government support.	4.00	0.655
3	I actively shop around before buying financial products	3.84	0.698
4	I use advice when buying financial products either from many sources or from an appropriate professional advisor	3.69	0.848
5	When borrowing, I choose a lender based on the cost of credit and not on reputation	3.96	0.666
	Overall Mean	3.17	
No.	**Staying Informed about Financial Issue**		
1	I know the main activities and regulations issued by the financial regulatory and supervisory structures	3.87	0.721
2	I conduct an active search for information by consulting professionals	3.99	0.704
3	I want to learn more about sources of information on financial issues and how to interpret the information	3.73	0.648
4	I'm interested in learning how to compare financial services	3.70	0.629
5	Consumer protection issues should be considered by any financial education program	4.02	0.698
	Overall Mean	3.86	

Source: Survey data (2020)

According to the Table (3), money management involves budgeting and controlling one's financial resources by monitoring income and tracking expenditures. The average score of money management domain was 3.93. It represents that most of the respondents can manage their money themselves. Making financial choices shows that respondents are aware the risk and return of saving and their investment. The average score of staying inform about financial issue was 3.86. It is unable to monitor financial indicators such as changes in the housing market, gold market and interest rate.

To achieve the second objective of the study, correlation model is applied. Results from the correlation between financial literacy and financial capability of the

low-income people by generating this model are shown in Table (4) in below.

Table 4. Correlations between Financial Literacy and Financial Capability

		KM	AM	SM	FCM
KM	Pearson Correlation	1	.205*	.094	.495**
	Sig. (2 tailed)		.025	.305	.000
	N	120	120	120	120
AM	Pearson Correlation	.205*	1	.310**	.744**
	Sig. (2 tailed)	.025		.001	.000
	N	120	120	120	120
SM	Pearson Correlation	.094	.310**	1	.486**
	Sig. (2 tailed)	.305	.001		.000
	N	120	120	120	120
FCM	Pearson Correlation	.495**	.744**	.486**	1
	Sig. (2 tailed)	.000	.000	.000	
	N	120	120	120	120

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient is measured by the relationship between two variables. The correlations are regarded as significant if P value is less than or equal to 0.01($p \leq$ 0.01). The relationship between the variables are regarded as r is such that ($-1 \leq r \leq$ +1). The plus (+) and minus (-) signs are used for positive correlations and negative linear correlations, respectively. The correlation is weak if r is less than or equal to 0.1 ($r \leq 0.1$); modest if r is less than or equal to 0.3($r \leq 0.3$); moderate if r is less than or equal to 0.5 ($r \leq 0.5$); strong if r is less than or equal to 0.8 ($r \leq 0.8$) and very if r is greater than 0.8 ($r > 0.8$).

The correlations of the independent variables (financial knowledge, financial skill and financial accessibility) were measured to explore their correlation with dependent variable (Financial Capability). The results are shown in Table.

According to Table, all independent variables are significant at two-tailed with 0.01 levels (r=0.495,p<0.01), (r=0.744,p<0.01), and (r=0.486,p<0.01). Financial Knowledge and Financial Skill are moderate and positive relationship with Financial Capability. And financial accessibility is strong and positive relationship with Financial Capability. The correlation results highlight that all independent variables are essential to achieve financial capability for the selected respondents.

VII. Conclusion

Financial knowledge and financial skills have no significant relationship on financial capability, but financial accessibility has significant relationship on financial capability. The result of research also indicates educational background of the respondents is

direct related with financial knowledge. This study found that most of the respondents have saving account and current account, however, a small number of respondents used the debit cards and credit cards from the banks. They used to finance from individual money lenders. There are many limitation in this study such as; (1) the number of sample in not enough, it not represents behalf of all low-income people in Myanmar, (2) the relationship between each components of the financial literacy; financial knowledge, financial skills, and financial accessibility; and financial capability are not described separately. A similar study could be conducted in other areas due to the facts that financial capability of low-income people in Myanmar.

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The Analysis of Smart Factory During the 4th Industrial Revolution and the Pandemic: Case Studies of Siemens and Samsung

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ABSTRACT: Smart manufacturing innovation is increasing interest as a bridge that leads to high value-added industrial innovation. The heart of Industry 4.0 is the 'smart factory', which aims to increase productivity and maximize quality through automation. In the 4th Industrial Revolution, as the importance of smart factories increases, the world market is expected to grow rapidly, and many countries and companies are actively promoting smart factories. The case studies of Siemens and Samsung show the efficiency and importance of smart factory production. Siemens Amberg factory is assessed as the best smart factory in Europe due to its high level of automation and intelligence. Recently, Samsung has provided the production know-how to COVID 19 related masks, diagnostic kits, and protective equipment manufacturers, and the productivity of related manufacturers has increased significantly, contributing to prevention in a pandemic situation. This paper analyzes how the smart factory system, which is a key area of the 4th Industrial Revolution, contributes to the production and prevention of the pandemic through successful case studies.

Key words : Siemens, Amberg Factory, Samsung, Smart Factory, COVID 19,

I. Introduction

In response to the advancement of digital technology in the 4th industrial revolution, paradigm shift to demand-specific production, and intensification of global

competition, the enterprises are actively pushing the transition forward to a smart manufacturing production system. Smart manufacturing innovation is increasing interest as a bridge that leads to high value-added industrial innovation(Schwab 2016, Xu *et al* 2018).

Smart factories can respond to real-time changes in demand as well as process-related performance such as productivity improvement, quality improvement, flexibility reduction, and lead time reduction in the digital transformation process. It is also possible to fulfill a flexible manufacturing system. Smart manufacturing innovation is a state in which the entire process from product planning to sales is integrated with advanced intelligent ICT technology to produce and sell customized products at minimum cost and time.

Traditional manufacturers with a long history and excelling market responsiveness, like Siemens and Bosch, have advanced their existing manufacturing processes using intelligent machines. Many smart factory companies have optimized the value chain using advanced technology in order to reduce the inefficiency (costs) incurred throughout the manufacturing process from consumer ordering to shipping(Min 2018, Adidas 2013, Bosch, Siemens websites).

The heart of Industry 4.0 is the 'smart factory', which aims to increase productivity and maximize quality through automation. In other words, it is called, "cyber physical system"(UBS 2016, Fredette *et al* 2012). Cyber physical system is an integrated system of the physical world, such as cyber world made of software and a robot manufacturing machine, to create a virtual cyber world exactly like the physical world. Wang *et al*(2016) defines a smart factory as a factory that can design and produce its own optimized process according to manufacturing commands. As a result, major countries, such as Germany, the US, Japan, S. Korea, and China, are concentrated on differentiating policies for their own countries and companies are concentrated on improving their manufacturing systems to respond changes in the new manufacturing paradigm.

According to Markets & Markets(2020), the world market size of the smart factory is about $170 billion('16) and it is expected to reach about $38.83 billion in 2025.[1] The background of the promotion of smart factories needs to be promoted by the smart factories as part of the paradigm shift in manufacturing to overcome the limitations of the current growth method of manufacturing industries and to create new growth engines. Through smart factories incorporating ICT technology into the manufacturing industry, it achieves active demand response and increased industry value added and from a long-term perspective, smartization is promoted by expanding the scope to the entire value chain associated with manufacturing.

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1) <https://www.marketsandmarkets.com/PressReleases/smart-manufacturing.asp>

This smart factory system also affects reshoring to the home country through changes in the global value chain (GVC). In addition, with the outbreak of COVID 19, Samsung supported smart factories and there have been cases where related domestic and foreign SMEs related to masks, diagnostic kit manufacturers, protective equipment manufacturers, etc. have significantly increased productivity and contributed to the prevention of epidemics as the world's demand for masks and protective products surged in the global pandemic.

This paper analyzes how the smart factory system, which is a key area of the 4th Industrial Revolution, contributes to the production and prevention of the pandemic through successful case studies. First, the Siemens case, the leader of the smart factory system, is analyzed in Chapter 2. After analyzing the case of Samsung's smart factory system related to the prevention of COVID 19 in the recent pandemic in Chapter 3, Chapter 4 draws implications and conclusions, respectively.

II. Siemens Case Study: Amberg Factory

The 4th industrial revolution and 'Industry4.0' are closely related. Germany leads the 'Industry 4.0' and Siemens is the leading company. 'Industry 4.0' is defined as "Innovating manufacturing industry by utilizing information technology". The main IT technologies including IOT, clouding computing, and big data are used in 'Industry 4.0'.[2]

A new manufacturing paradigm is required due to technological development (such as AI, IoT, and sensor), Mobile SNS proliferation, and global low growth trend. In response to these demands, global companies are speeding up the creation of 'smart' manufacturing environments that reduce production costs and prepare for greater consumer influence.

Siemens Amberg factory is assessed as the best smart factory in Europe due to its high level of automation and intelligence. Amberg factory, established in 1989, has been manufacturing equipment to design and control production lines for industrial automation. The level of automation reaches 75 percent and the factory produces over 12 million products per year. Even if the changes occur in design or order, the factory has a system that will deliver 99.7 percent of products within 24 hours. Furthermore, the factory maintains high quality as the number of defects per million is only 11.5.

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2) Hermann *et al*(2015)

The robotic automation at the Amberg factory puts dozens of conveyor belts running around the clock, but many production workers are standing in front of the monitor instead of the machine. Because the Amberg factory analyzes 50 million pieces of data per day, it is also a data processing room, not a factory. Factory automation and quality control were feasible through this data analysis. Currently, building smart factories is prioritized, but in the future, rather than one factory, the factories will be connected to each other and to other supply chains.

With the rise of smart factories, the Siemens Amberg factory, which has secured process automation solutions in all manufacturing areas, from production facilities to control systems to industrial software, attracts attention as an intelligent factory with high productivity and low defect rates. This is due to Siemens' consistent investment in factory automation and digitization. The Siemens Amberg factory primarily produces power engineering, industrial control systems, and system solutions. CEO of Siemens, Helmuth Ludwig, determines that the following three key factors are the key to Siemens' success: PLM(product life cycle management), MES(manufacturing execution system), and Production Automation.[3]

With these three, Siemens can focus more on productivity, reduction of risk, and speeding up the innovation cycle, which is called a digital twin. The digital twin is the same digital replica of a physical entity. Digital replicas record digital information about how physical products cause changes in various environmental changes. This site, obtained by analyzing the information recorded in digital information in real time, can be immediately reflected in the product development or production process. Siemens is an innovative smart factory that enables high productivity, cost and energy savings, and real-time analysis. The Siemens Amberg factory has three characteristics and significance:[4]

❑ High Productivity
- Variety Production: Produces about 12 million products of about 1000 kinds annually
- World Class Yield: 99.9985 (15 defects per million)
- 1100 employees mainly work on product development and production planning
- Achieved 75% automation rate with industrial automation SW and the application of production robots.
- World's best productivity with 35 hours of work per week

❑ Cost Competitiveness and Energy Efficiency

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3) <https://2sideline.tistory.com/entry/> <https://news.siemens.com>
   <https://www.youtube.com/watch?v=2KU4ErFHwz8&feature=youtu.be>
4) <https://2sideline.tistory.com/entry/>

- Compared to the existing factory, about 30 percent of energy, 25 percent of cost, and 50 percent of market launch period were reduced.

❑ Real Time Data Analysis and Management
- Solution that automatically commands by collecting and analyzing 50 million pieces of information per day in real time using sensors installed in the field.
- Big data system that filters out faulty products and delivers them to the management system.

III. COVID-19 and Smart Factory: Samsung Case Study

Due to COVID-19, Korea improved productivity through the smart factory by supporting in a total of 30 prevention companies, such as 14 mask companies, 8 hand sanitizer companies, 3 medical goggle companies, 2 testing kit companies, and 3 other medical device companies (data as of March 31st, 2020).[5] Especially in the case of Samsung, when a shortage of COV 19-related goods occurred, Samsung mentors were dispatched to support smart factories of masks and COVID-19-related hygiene products manufacturers, which significantly increased productivity and contributed significantly to COV 19 prevention. The analysis of success stories is as follows.

First, in the case of mask production, Samsung mentors who have an average of 25 years of experience were dispatched to mask production and they supported the smart factory so that mask manufacturers can maximize their production in the short term without additional investment through improvement of the production process, efficiency, and technical guidance. The experts from Samsung Electronics were helpful not only in technical support, such as setting up new facilities and canceling temporary pauses of existing facilities, but also in practical productivity improvement by providing necessary tools and mold manufacturing.

Second, Samsung Electronics is also actively providing smart factories for testing kit companies, such as Solgent, SD Biosensor, KogenBiotech. As a result of on-site visits, it was found to be essential in improving productivity due to the recent increase in short-term orders. In particular, it was necessary to switch from the manufacturing site of small quantity batch production to the mass production system and maintain quality. Solgent increased its productivity by 73% as Solgent introduced a smart factory system with the help of Samsung.

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5) Korea Ministry of SEMs(2020)

Third, due to the prolonged duration of COVID-19, global attention is focused on an SME, OTOS, that produces a powered air purifying respirator (PAPR). PAPR is a necessity to serve as a "lifeline" for medical staff and quarantine personnel who are inescapable of prolonged exposure to COVID-19. Samsung Electronics recently carried out productivity, quality, and logistics innovation work for OTOS that produces PAPR, and has greatly improved the upgrade process and procedure process for PAPR products.

Samsung Electronics supported the localization of PAPR medical hoses that AutoSwing imported from the United States, and by attaching the world's first LCD monitor to the PAPR product, it was able to check the air volume, filter replacement time, and working time. As a result of supporting the smart factory, the daily production capacity increased 10 times, which increased from 30 to 300, and the defective rate fell from 5% to less than 1%. The production of OTOS goggles has also increased from 30,000 per month to 260,000 per month after Samsung Electronics' support. After receiving help from Samsung Electronics' smart factory technical guidance, OTOS exports increased to more than 50 countries due to a surge in orders from hospitals and health authorities around the world, which dominated 80% of the PAPR market. As a result, OTOS emerged as number one surpassing 3M, the "steady global leader".

Fourth, there is also a successful case of Samsung Electronics' overseas support for smart mask manufacturing in Poland. Due to Pandemic, with the increased number of confirmed cases of COVID-19 in Poland, the Polish government started a project to increase the production of masks, and PTAK, a specialist in clothing distribution, was transformed into a mask manufacturer in May of this year. However, due to a lack of production experience and defectives, PTAK needed the know-how related to manufacturing from Samsung Electronics, which operates a home appliance factory in Poland. It was helpful for Samsung to significantly increase the production of Korean mask makers by leveraging its experience in supporting the establishment of smart factories for small and medium-sized enterprises (SMEs) in Korea. PTAK's daily mask production has tripled from 23,000 sheets to 69,000 pieces by improving the manufacturing process and transferring technology to production sites. PTAK, a specialized clothing distribution company, had no manufacturing experience, so Samsung Electronics transferred know-how not only in improving work circulation and the working environment, but also in improving operation, field management, and quality control.

The Korean government plans to establish 30,000 smart factories by 2022 and create 10 smart industrial complexes. It plans to promote half of domestic SMEs as smart factories and promote the country as SME manufacturing powerhouses. Samsung Electronics plays an important role in the distribution and diffusion of smart

factories for SMEs. Samsung Electronics started supporting smart factories in 2015. From 2018 to 2022, Samsung Electronics and the government will create a total of 110 billion won (Samsung Electronics-60 billion won, government - 50 billion won) to support the establishment of smart factories for SMEs in Korea. For 5 years, they have been converting 2,500 SMEs into smart factories and supporting domestic and foreign market development. Samsung Electronics promoted smart factories and dispatched specialized manpower (about 150 mentors of Samsung Electronics) to SMEs to support consultations such as process improvement. Because Samsung Electronics mentors reside in companies for 2 to 3 months directly to identify and improve problems and transmitting know-how, satisfaction with innovation activities is high.[6]

IV. Implications and Conclusion

In the 4th Industrial Revolution, as the importance of smart factories increases, the world market is expected to grow rapidly, and many countries and companies are actively promoting smart factories. The case studies of Siemens and Samsung show the efficiency and importance of smart factory production. Recently, Samsung has provided the production know-how to COVID 19 related masks, diagnostic kits, and protective equipment manufacturers, and the productivity of related manufacturers has increased significantly, contributing to prevention in a pandemic situation.

Korea has been in effect since 2014 intending to supply 30,000 smart factories by 2022 and create 10 smart industrial complexes. Looking at the current status and achievements of smart manufacturing innovation in Korea's SMEs, it has been observed that small and medium-sized companies participating in the smart factory business have superior overall indicators of innovation, such as innovation level, innovation activity, and innovation competency compared to non-established enterprises. In 2015-2017, 413 SMEs that participated in the government's smart factory support project and 428 SMEs that had a twin character with these participating companies but did not introduce a smart manufacturing solution were surveyed(Park and Ji 2020).

As a result of performance analysis, the built smart manufacturing system has the effect of dramatically improving the existing production inefficiency and increasing sales and employment. It has promoted not only positive process improvement results but also a realization of process innovation, such as reduction of inventory

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6) Korea Ministry of SEMs(2020)

and defect rate, reduction of manufacturing cost, reduction of lead time, decision time and delivery, and strengthening of information sharing within the company. However, due to the lack of technology, poor bargaining power, and relative inferiority in access to innovative resources related to smart manufacturing, incentives for SMEs and Medium-sized enterprises to voluntarily invest in smart manufacturing are structurally limited factors. Therefore, it is necessary to make policy efforts, such as providing the government's technology/innovation system and specific road maps, which can stimulate the incentives of companies to voluntarily invest.

Min(2018) has pointed out that it is necessary to raise the specific purpose and interest of building a smart factory: for example, companies need to realize the necessity of "smartening factories" as an alternative to a change in manufacturing paradigm and deteriorating productivity. Also, it is necessary to have CEO-centered active participation and differentiation according to the scale and characteristics of smart factory construction.

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