

**YANGON UNIVERSITY OF ECONOMICS
MASTER OF DEVELOPMENT STUDIES PROGRAMME**

**A STUDY ON
THE CAUSES OF FLUCTUATIONS IN BIRTH RATE AND
DEATH RATE IN YANGON REGION**

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DEATH RATE IN YANGON REGION

A Thesis is submitted as a partial fulfillment towards the requirements for the Degree of
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ABSTRACT

This thesis examines the causes of fluctuations in birth rate and death rate in Yangon Region. Descriptive method is used in this study. Both Primary and Secondary Data are collected. A sample of 200 households is asked from three townships which are Thakayta, Sangyoung and South Dagon by using face to face interviews via structured questionnaire. The sampling method applied in this study is two-step sampling. The cluster sampling is primarily used for selection of the townships in Yangon. Primary data is collected through the use of Personal Interview and questionnaire is with mothers of different age and level of education. What was found out in this study is that despite the population growth in Yangon Region, the primary reasons for having low birth and death rate were higher cost of living and higher cost of rearing babies, and married women having better education and better health knowledge. According to the result getting from focused group discussion, some married couples were worried about the divorce they might face in future while some said they were waiting until the time when they are ready to raise a child.

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CHAPTER I

INTRODUCTION

1.1 Rationale of the study

In both well-developed and developing countries in the world especially in Asia, gains in education, employment and living standards, combined with dramatic breakthrough in health and family-planning technology, have led to lower fertility in every country of a region. According to Westley, Choe, and Retherford, “ Cost becomes an important factor when considering having a child-both the cost of raising the child and the opportunity cost for the woman who interrupts her career to give birth and care for a baby.” Moreover, four of the Asia’s most prosperous economic, i.e, Singapore, Japan, South Korea, and Taiwan now have among the lowest birth rates in the world. According to the Malthusian’s theory of population trap, the threshold population level anticipated between (1766-1834) at which population increase was bound to stop because life-sustaining resources, which increases at an arithmetic rate, would be insufficient to support human population, which would increase at a growth rate. Furthermore, Microeconomic theory of fertility revealed that family formation has costs and benefits that determine the size of families formed. And then, the theory of population poverty cycle explains how poverty and high population growth become reinforcing. Reproductive choice is the theory that provides the concept that women should be able to determine on an equal status with their husbands and for themselves how many children they want and what methods to use to achieve their desired family size. They all came in through some empirical evidence that statistical studies in developing countries provided support for the economic theory of fertility as women became better educated, they tend to earn a larger share of household income and to produce fewer children.

UNFPA Myanmar reports that an exceptionally high proportion of women in Myanmar never marry although poor and uneducated women in remote areas carry the heaviest burden of child bearing. Twelve percent remains never married at the age of 50

which is the second highest figure in Southeast Asia after Singapore which is 13%. Myanmar also has more than four times as many never-married women as Laos, and more than twice as many as Vietnam and Cambodia. The total population in Myanmar is 51,468,253 in which urban population is 30% and the active population is 23,456,054 and the population living in Yangon is 5,157,461. Fertility rate in the year of 2006 is 2.66% and the year 2016 reaches down to 2.21% , and the year 2017 shows the percentage of 2.17. Between 1967 and 2016, fertility rate of Myanmar was declining at a moderating rate to shrink from 6.1 births per woman in 1967 to 2.2 births per woman in 2016. According to 2014 census, within the age limit of (25-29) and (30-34) and (35-39),it was learnt that the higher education level women possess, the lower birthrate they produce.

According to the 2014 Myanmar Population and Housing Census, it was found out that the proportion of young people has decreased from 41.5% in 1973 to 38.6% in 1983 and to 28.6% in 2014 while the population has gradually grown older. That demographic transition has deep consequences on Myanmar's society in the way that there is a decrease in the relative number of young persons, an increase in the number of older people which subsequently led to the fact that old people are more prone to physical and mental issues. After age 65, although older people stay economically active, there is strong evidence that the labor force participation rate among older people is decreasing (United Nations Population Fund, 2016). In other words, if there are fewer people, naturally the proportion of aged groups would be higher meaning that there would be fewer people working. As a result, a shrinking workforce could mean fewer taxpayers and less support for public finances. There are a number of reasons behind the low birthrate in Myanmar which all lead to downward path. Stronger participation of women in higher education and formal employment in the course of 20th century negatively impacted fertility. Economic instability also discourages childbearing. This Millennial generation was not enthusiastic on family creation due to the poor job security and lack of means to afford own home. Still, the current population lifestyle choices and a general perception of the opportunity cost of children is also considered as high since Millennial generation put more emphasis on careers and social status while deprioritizing marriage, home and family (Attane, 2002). As a result, lower birth rates have negative economic consequences in the long term. First of all, the population faces the challenges of ageing. Secondly, low birthrate causes significant restructuring for consumer-focused businesses (Amin, 2013). This will continuously and inevitably lead to a drop in total consumption in the future. Finally, the shrinking of the

working age (15-64) population is the single biggest danger for the economic health of the cities. This will eventually harm the country's economy because the working-aged are the tax payers and the care providers for the age-dependent (Sychyk, 2017).

For these reasons, the population structure of elderly people and declining younger people may impact on Myanmar's socio-economic development. Demographic factor and socio-economic development are interrelated because demographic consequence of population transition affects the process, strategy and measure in social and economic development, which determines the development outcome.

1.2 Objective of the Study

The main objective of the study is to study the current situation of birth and death rate in Yangon Region and to find out the factors affecting the family planning of married women.

1.3 Method of study

Descriptive method was used in this study. For the data collection, both Primary and Secondary Data sources was collected. Quantitative data collection method was applied to get the data for the study. Interviewing face to face with the respondents together with the structured questionnaires was included in this study. According to the cluster sampling, South Dagon, Thakayta and Sangyoung Townships were mainly selected for the respondents' region for the study.. Primary data was collected through the use of Personal Interview and questionnaire in which mothers with different age and level of education and fathers of the targeted household with different age and level of education was included. The Sample size was around 200 respondents by using Cochran's Formula. Secondary data was obtained through the Publications, Websites, Reports and Scholarly articles of the subject concerned. The most reliable data was collected by the use of 2014 Myanmar Population and Housing Census (Thematic Report) and the data from Department of Population (Ministry of Labor, Immigration and Population).

1.4 Scopes and Limitations of the Study

This study focused on the three Targeted Townships in Yangon Region and. The primary data collection is for the three targeted townships while the secondary data

available in this study is for Yangon Region which is thirty-year period from 1980 to 2015. The data collection process is on mothers of targeted households from targeted areas. The sample size collected is 200 in which 70 will be collected from Thaketa, 70 from South Dagon and 60 from Sanchaung Township respectively. This study mainly focused on the fluctuations of birth rate and death rate in targeted areas.

1.5 Organization of the study

There are five chapters in this study. Chapter I is the place where rationale of the study, objectives of the study, method of the study, scope and limitation of the study and the organization of the study are accumulated. The literature review is in Chapter II while the General Overview on the changes of demographic trend in urban area is written in Chapter III. And then Chapter IV consists the descriptions on the results of the questionnaires and finally, Chapter V is conclusion including Findings and Suggestions.

CHAPTER II

LITERATURE REVIEW

2.1 Concept of Demography

Demography is the study of human populations, which means their size, composition and distribution across space and the process through which populations change. Births, deaths and migration are the ‘big three’ of demography, jointly producing population stability or change. A population’s composition may be described in terms of basic demographic features i.e. age, sex, family and household status and by features of the population’s social and economic context i.e language, education, occupation, ethnicity, religion, income and wealth. The distribution of populations can be defined at multiple levels (local, regional, national, global) and with different types of boundaries (political, economic, geographic). Demography is a central component of societal contexts and social change (alumni, 2019).

Broadly defined, demography is the study of the characteristics of populations. It provides a mathematical description of how those characteristics change over time. Demographics can include any statistical factors that influence population growth or decline, but several parameters are particularly important: population size, density, age structure, fecundity (birth rates), mortality (death rates), and sex ratio (Dodge 2006).

A population is defined as a group of individuals of the same species living and interbreeding within a given area. Members of a population often rely on the same resources, are subject to similar environmental constraints, and depend on the availability of other members to persist over time. Scientists study a population by examining how individuals in that population interact with each other and how the population as a whole interacts with its environment. As a tool for objectively studying populations, population ecologists rely on a series of statistical measures, known as demographic parameters, to describe that population (Lebreton *et al.* 1992). The field of science interested in collecting and analyzing these numbers is termed population demographics, also known as demography.

According to Ashley Crossman, demography is the statistical study of human populations. It includes the study of the size, structure, and distributions of different populations and changes in them in response to birth, migration, aging, and death. It also includes the analysis of the relationships between economic, social, cultural, and biological process influencing a population.

Demography is widely used for various purposes and can encompass small, targeted populations or mass populations. Governments use demography for political observations, scientists use demography for research purposes, and businesses use demography for the purpose of advertising.

Statistical concepts essential to demography include birth rate, death rate, infant mortality rate, fertility rate, and life expectancy. These concepts can be further broken down into more specific data, such as the ratio of men to women and the life expectancy of each gender. A census helps provide much of this information, in addition to vital statistic records. In some studies, the demography of an area is expanded to include education, income, the structure of the family unit, housing, race or ethnicity, and religion. The information gathered and studied for a demographic overview of a population depends on the party utilizing the information (Crossman, 2017).

According to the United Nations, although the world's population is getting older and growing at a slower pace, it is expected to increase from 7.7 billion to 9.7 billion in 2050 (Blanc, 2005). It has been stated that world population could reach to its peak of nearly 11 billion around the end of the century while nine countries all over the world are mainly responsible for more than half of the projected population growth between now and 2050; They are India, Nigeria, Pakistan, Congo, Ethiopia, Tanzania, Indonesia, Egypt and the United States. However, in sub-Saharan Africa, population is projected to nearly double by 2050. The report mentioned that many of the fastest growing populations are in the poorest countries in which population growth brings additional challenges in an effort to eradicate poverty, promote gender equality and improve health care and education. The global fertility rate dropped from 3.2 births per woman in 1990 to 2.5 births in 2019 and is projected to decline further to 2.2 births by 2050. Between 2019 and 2050, populations are projected to decrease by one percent or more in 50 countries or areas where 26 of them may see some reduction of at least 10 percent. For instance, in China, the population is projected to decrease by 31.4 million, or around 2.2 percent from 2019 to 2050. The head of the population division said that population growth is slowing down as the fertility level

gradually decreases. In this case, some factors such as increasing education and employment especially for women and more job opportunity in urban area than rural area which motivate people away from expensive and large families to small families obviously contribute to the decline of the fertility. Another factor contributing to the decline is migration which is considered to be the major component of population loss and growth in some countries (M.Lederer). It is generally accepted that there has been a decline in fertility in some countries such as Taiwan which is at 1.218 children per woman which is closely followed by Moldova and Portugal, where there are 1.23 and 1.241 children per woman, according to the world population review, have also declined in fertility during the past decades. Some more economically developed countries such as Europe, the US, South Korea and Australia also have lower fertility rate. It has also been found out nearly half of the countries faced a baby bust, which means that there are not enough children in order to keep up the population size of the respective countries. That will lead to inevitable consequences for the societies along with more grandparents than grandchildren and that situation is quite a loss for the country's human capital and labor force. There are altogether three factors that contribute to the low fertility rate. ie. fewer death cases in childhood which means women have fewer babies, better and easier access to contraception and more women in education industry and work instead of being in the child-bearing position. Some Asian countries such as Taiwan, South Korea, Thailand and Japan are at the bottom most countries in low fertility rate in 2017. As a result, those countries will face ageing and shrinking populations without migration. Although some countries such as Japan is now fully aware of declining populations, some countries have been made up with migration .

2.2 Theoretical review on Demography

Demography is the science of populations. Demographers seek to understand population dynamics by investigating three main demographic processes; birth, migration, and aging. All three of these processes contribute to changes in populations, including how people inhabit the earth, form nations and societies and develop culture. In this paper, five theories of demography are mentioned

2.2.1 The Demographic Transition Theory

Demographic transition theory (Caldwell and Caldwell 2006) suggests that future population growth will develop along a predictable four-stage model. In Stage 1, birth,

death, and infant mortality rates are all high, while life expectancy is short. An example of this stage is the 1800s in the United States. As countries begin to industrialize, they enter Stage 2, where birthrates are higher while infant mortality and the death rates drop. Life expectancy also increases. Afghanistan is currently in this stage. Stage 3 occurs once a society is thoroughly industrialized; birthrates decline, while life expectancy continues to increase. Death rates continue to decrease. Mexico's population is at this stage. In the final phase, Stage 4, we see the postindustrial era of a society. Birth and death rates are low, people are healthier and live longer, and society enters a phase of population stability. Overall population may even decline. For example, Sweden is considered to be in Stage 4 (Lumen learning, 2017).

According to Michael P. Todaro, demographic transition is the phasing out process of population growth rates from a virtually stagnant growth stage, characterized by high birth rates and death rates through a rapid-growth stage with high birth rates and low death rates to a stable, low-growth stage in which both birth and death rates are low. Stage 1 begins when modernization, associated with better health methods, healthier diets, higher incomes, and other improvements led to a marked reduction in mortality that gradually raised life expectancy from under 40 years to over 60 years. Stage 2 marks the beginning of the demographic transition which is the transition from stable or slow-growing populations first to rapidly increasing numbers and then to declining rates.) Finally, stage 3 was entered when the forces and influences of modernization and development caused the beginning of a decline in fertility and falling birth rates converged with lower death rates, leaving little or no population growth (Michael P.Todaro, Economic Development, 2015).

2.2.2 Zero population growth theory

Zero population growth is the basic demographic term which refers to a population that is unchanging, i.e, it is neither growing nor declining. In other words, the growth rate is zero. This demographic balance could occur when the birth rate and death rate are equal. This theory also accounts for immigration and emigration. Therefore, a country that has reached zero population growth has a population where births plus immigration is equal to deaths plus emigration over the course of a year. When considering population growth in the entire world, immigration and emigration do not apply and zero population growth would be attained when the global birth and death rates are equal (Bailey, 2014). Examples of countries experiencing negative population growth include the Ukraine, Russia, Hungary, Japan, Italy and Greece.

2.2.3 Malthusian theory of population trap

Thomas Robert Malthus who lived from 1766-1834 was an English scholar and cleric who was one of the first to address the limits of the earth and the dangers of population growth. He wrote about the dangers of excessive population growth which was contrary to the popular 18th century European view that society was constantly improving. He examined the relationship between population growth and resources. In this way, he developed the Malthusian theory of population growth, which occurs exponentially, and therefore it increases according to birth rate (Birdsall, 1983).

In his essay on the Principle of Population, Malthus postulated a universal tendency for the population of a country unless checked by dwindling food supplies to grow at a geometric rate. At the same time, because of diminishing returns to the fixed factor, land, food supplies could only expand at the arithmetic rate (Bongaarts, 1987). As a matter of fact, as each member of the population would have less land to work, his or his marginal contribution to food production would actually start to decline. Because the growth in food supplies could not keep pace with the flourishing population, per capita incomes would have a tendency to fall so low about leading to a stable population which exist barely above the subsistence level. Malthus therefore concluded that the only way to avoid this condition of chronic low levels of living or absolute poverty was for people to engage in “moral restraint” and limit the number of their progeny. For that reason, Malthus might be considered as the father of modern birth control movement.

The threshold population level anticipated by Thomas Mathus (1766-1834) at which population increase was bound to stop because life sustaining resources which increase at an arithmetic rate, would be insufficient to support human population, which would increase at a geometric rate. According to modern day neo-Malthusians, poor nations will never be able to rise much above their subsistence levels of per capita income unless they initiate the preventive checks on their population growth. In the absence of such preventive checks, Malthusian positive checks on population growth will unavoidably provide the restraining force.

According to Malthus, there are two types of checks that can reduce the population's growth rate. The first one is preventive checks, which mean voluntary actions where people can take to avoid contributing to the population. His religious belief also supported a concept, which is called moral constraint which means people resist to urge to

marry and reproduce until the time they are capable of supporting a family. In other words, it means people have to wait until a later age to marry.

Another type is positive checks to population growth, which may shorten the average lifespan such as disease, warfare, famine, and poor living and working environment. Malthus mentioned that these positive checks would result in Malthusian catastrophe(a Malthusian crisis) which is a forced return of a population to basic survival. A classic example of this crisis can be seen in the Irish potato famine of the 19th century in which people then had to deal with political and economic relations with England and fragmentation of their land while that rapidly growing population was short of food (Harley).

2.2.4 The exponential model of demographic theory

Thomas Malthus stated that population with natural resources grow very rapidly after which population growth decreases as resources become depleted. This accelerating pattern of increasing population size is called exponential growth.

Exponential growth of a population occurs when a population has a continuous birth rate throughout time, and is never hindered by the absence of food or the abundance of disease. To illustrate this, when a bacterium is divided in two that will result in two bacteria. If these two bacteria are divided, the result is four bacteria. If these four bacteria are divided, the result is eight, then 16 and then 32. This is an exponential process that will continue until resources become scarce or run out (Shields, 2017).

According to John Shields, in real world situations, it is very common for populations to be restricted by a lack of food, and the presence of predators and diseases. As conditions become crowded, the population approaches the upper limit of the number of individuals the environment can support. This upper limit is referred to as its “carrying capacity.” Thus, in logistic growth patterns, the population is expected to increase exponentially up to a point, and then suddenly level off as resources become scarce (Shields, 2017).

2.3 Asian Countries' experiences about population decline

In the world today, approximately 6.6 billion people live in which 3.7 billion are from Asia. Over the past 50 years, a remarkable drop in birth rates has been accompanied by economic and social modernization in the region. A recent study by the East-West center in Hawaii accentuated on four Asian societies in Japan, Singapore, South Korea and Taiwan. Over the past 20 years, the United Nations says the Asia-Pacific population has been growing but at a slower rate compared to the rest of the world. Asian fertility fell by 39 percent in 20 year period from the late 1960s. By 1990, nearly two thirds of Asian countries had experienced declines of at least 25 percent. It was found that a lot of women are putting off starting a family amid gains in education, employment and living standards, combined with dramatic breakthroughs in health and family planning technology (Stevenson, 2011).

2.3.1 Experience of Population decline in Asian countries

The birth rate in Taiwan has held at one of the world's lowest for seven years. The number of Taiwanese would peak at up to 23.8 million before falling to between 17.3 million and 19.7 million by 2060. The National Development Council reported a 1.2 birth rate in 2016 which means 1.2 babies born that year per 1000 women aged 15 to 49. The reasons why there was a low birth rate were the costs of childcare, a focus on career that includes long working hours away from a would-be-family and hesitation to marry without the money to buy property (Jennings, 2018).

In Japan, there has been a crisis in the continuous decline in Japan's fertility rate. There are two main reasons why the decline took place. The first reason is that there has been a postponement of wedlock among young couples and the second reason is the increase in the number of educated women with higher education (Osawa ,1998). However, a key factor played in fertility decline in Japan is that women obtained higher educational degrees compared to those of in the olden days. This paper studied the relationship between the growth of women with higher education and the decline in fertility rate from the theoretical perspective of social satisfaction.

The study started with a change in percentage showing an increase in school enrollment in which respective years are arranged with 10 years of gap. It was discovered that birthrate declined after a rise in higher degree achievers. The main reason found out to have a fall in birthrate is due to the habit of cohabitation despite being remained an unusual

habit. Moreover, the four hypothesis found in the study in which the first hypothesis was that women from the well-off family marry if their marriage can maintain the same standard of living usually enjoyed by their family. The second one was that women with higher education take into account of the educational background for their spouses and that leads them to have lower rate in marriage. Thirdly, women engaged in professional jobs are likely to have the opportunities to have higher position and therefore women chose careers over marriage. The fourth one is mainly due to the postponement of marriage after earning degrees.

This study used the regression analysis of the rate of transition according to the age of women and education level of women. What has been found out from the study is that the influence of age at marriage remains significant while the importance of education just disappeared. It concluded by stating the fact that age is taken into consideration before marriage and therefore is still considered to be one of the barriers to get married (Shirahase, 2000).

Among the causes of the birthrates decline, the most important factor becomes the cost when the mother considers having a baby because the cost of raising a child and the opportunity cost for the woman who interrupts her career to give birth and raise a child. According to the data, Japan, Korea, South Korea and Taiwan have among the lowest birth rates in the world. Up to the near future, it therefore seems likely that fertility in East Asian societies will remain low because of the fact that women make difficult choice between careers and motherhood.

In Japan, population in general is dramatically declined due to the fact that labor force rate is decreased which leads to the declining birthrate. Another reason is that the percentage of birthrate is declined because of the high cost of living. People just tend to earn their living while the Japanese economy is boom. As a result, the number of elderly people is increased after two decades or more. The low rate of fertility led to the scarcity of workers and therefore, it is learnt that Japanese government had to call for new employment force from foreign countries as well as solve the problem by the use of robots. These problems are the implications of declining birthrate.

Likewise, in South Korea, according to data released by Statistics Korea late last month of 2017, the country's total fertility rate dropped from 1.05 in 2017. Moreover, Korea is found out to be the only country in the OECD whose fertility rate has

dropped below 1. The number of marriage has also fallen for the last seven years and was an all time low last year. In the United States, according to the report, the provisional number of births in 2018 was about 3.79 million which is a decrease of 2% from the total in 2017. The number of births has declined after an increase in 2014.

The higher the education is , the lower the fertility will be . This is related to birth control knowledge. Better education enables couples to obtain knowledge or family planning method. People know the difference between a large family and a small family. In other words, better-educated people know how to manage their family size. The birth rate difference is found in large and underdeveloped countries especially in rural areas where illiteracy was very high and illiterate parents rank first in fertility (H.Reza, 1987).

In Thailand, women with greater literacy rate bear around 1.8 children per woman compared with 3.7 children per woman with lower adult literacy rate and lower enrolment ratio in Nepal. It is clearly found out as a result that better educated women are much more able to transform their fertility desires to reality through the use of efficient methods of contraception (Coale. 2013).

Bangladesh and Nepal have higher total fertility rate than that of other nations wherein the female adult literacy rate was less than 50 per cent. However, the female adult literacy rate was higher in Myanmar at 86.4% and Sri Lanka 89.15. According to the data, the more women are better educated, the less fatalistic result can be seen.

Family size norms play an important part in shaping fertility behavior (Lightbourne, 1985; Westoff, 1990). There are a number of factors affecting family size and the population growth. Firstly, the fertility rate are mostly related to a certain number of years in which she lives with her husband during her reproductive period. Women who are aged between 15 to 45 are strongly affected by trends in the age at which women marry (Bongaarts, 1990). The second reason is that fertility rate and family size are partly responsive to changes in the institutional meaning of marriage and in the role that husband and their lineage have in the marriage process For instance, in traditional Chinese society, patrilineage played a significant role in family life. Moreover, male offspring in large families were considered to be of value and, the evaluation of the individual women partly depended on the number and sex of the children they bore. Thirdly, urbanization is directly associated with the decline in the proportion of early marriage and society experiences a decline in the number of years at risk of reproduction. Although urbanization is associated

at the beginning with a sudden increase in family size, this trend has now been sharply reversed (Mitchell).

2.3.2 Experiences in the US and European countries about population decline

Birth rates throughout Europe have declined to very low levels in which currently the majority of countries have total fertility rates (TFR) below 1.5 children per woman. Several recent studies have suggested that this level might be a threshold that triggers self-reinforcing mechanisms, which tend to further suppress fertility. Hence, once TFR falls below 1.5, bringing it back up will be more difficult. Lutz termed this the “low fertility trap”. Most countries of Southern, Central and Eastern Europe, including the European parts of the former Soviet Union, seem to have fallen in this “trap” (Jacqueline Bryld, 2006).

A dramatic decline in fertility rate has been observed in most developed countries since over the last decades. The trend remained stable for a certain period of time especially in the least developing countries. Those demographics dynamics are as a result of the various factors (R.Apostolova-Mihaylova, 2014). According to the author, what has been found out about the differential fertility and economic growth in a cross-US state context was that there was a larger gap in fertility rates between highly-educated and less-educated women and is immensely linked to a decrease in the rate of long-run economic growth across the US states. The author also discovered that there was a rise in fertility rate among young married women while there was a dramatic decrease among young unmarried women.

The world fertility has declined in recent years. It is indicated that the world’s total fertility rate dropped from 4.6 to 4.1 births per woman between 1968 and 1975 especially in the least developed countries, according to NCIB. According to the research paper by Sidney B. Westley, Minja Kim Choe, and Robert D. Retherford of the East West Center in Honolulu, economic and social modernization has created a dramatic drop in birth rates during the past fifty years. There are a number of reasons why the birthrate has been declined. Factors such as gains in education, employment and living standards, improvement in health and family-planning technology are the factors that contribute to the low fertility of the every country in the region.

According to Provisional data from the Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS), American women were increasingly delaying over having children and it was found out that fewer U.S babies were born in 2018 than in any year since 1986 (Ducharme, 2019). The worldwide fertility rate record estimated that the 2018 worldwide total fertility rate (average birth per woman over their lifetime) is 2.4 which is a figure that has been declining for the past few decades (Roberts, 2018).

The report projected that the world population will reach 9.9 billion by 2050 which is an increase of 2.3 billion (29%) from the current world population of 7.6 billion people. Despite those estimations, the world population is expected to either stabilize or start to decline by 2100 according to some projection models. For instance, the population of Europe is projected to decline from 746 million to 730 million by 2050. On the other hand, the population of America and Oceania is projected to increase from 1billion to 2billion and 41 million to 64 million. In general, a total of 38 countries will have smaller populations in 2050 than in 2018 in which China will register the largest numerical population increase of about 50 million which is followed by Japan at 25million and Russia at 9.4 million.

Although there have been some traditional beliefs about birth rate, there has been some changes in recent years. In recent years, percentage of unmarried couple increased dramatically after the economic reform. Late marriage became popular and divorce rate has been doubled. Moreover, changes in lifestyle are caused by widespread social economic changes. Western influence is one of the factors involved.

People lifestyle and ideology changed due to modernization. People know that many westerners stay single throughout their entire lives and late marriage is an emerging lifestyle with westerners as role models. Although both the professionals and intellectuals form only a small proportion of the population, the influence of life style adopted by those elites on the rest of the society is considerable (Zhang, 1994) .

Another approach to examine the relationship between population and economic outcomes is to examine the households rather than countries as a whole. Johia and Schultz (2007) and Schultz(2009) studied the effects on a randomized trial of contraception provision in Matlab, Bangladesh. They found out that a reduction in fertility produced persistent and significant positive effects on health, earnings, households assets of women and on the health and earnings of children.

In Colombia, a program called Profamilia identified both the effect of contraceptive availability on fertility and the effect of fertility on social and economic outcomes. And for the women of a young age, it was estimated that fertility has reduced by 11 to 12 % and consequently raised the education by 0.08 years. Roesenweig and Zhang (2009) who collected data from China found that higher fertility reduced the educational attainment (Quamrul H. Ashraf, 2019).

Low fertility is seen as economically advantageous because only the fit and high quality children are born. In demographic transition, it is found that the actual cost of raising children increases as living standard goes up along with the opportunity costs to reproduction becomes large for the rich and highly educated members of the whole population (Colleran, 2016).

Late in the 18th century in France and in the early 19th century in the rest of Western Europe, there was a new model of family plan, which began to prevail. The number of children as well as the interval between births were also planned by parents. Moreover, marriages were delayed and illegitimate births were infrequent. As a result, the increased age at marriage served as a highly effective brake on fertility which led to the decline in fertility (Aries).

In Germany, between 1990 and 1991, there has been a decline in the fertility among married women. To be exact, the number of children per woman declines to approximately 0.9 from just under 1.5 which can be taken as low fertility rate. The decline is found out to be mainly because of war, hunger, and the introduction of liberal abortion and birth control policies. Moreover, the noticeable decrease in fertility rate was observed around October 1990 (Witte & Wagner, 1995).

It was assumed that low fertility is tied to individuals' own economic situation which is an indication that some intimate aspects of behavior have already been changed through assimilation. Knowing that unemployment rate has been high and there are lesser generosity in maternity benefits and less flexible employers, couples respond rationally to socioeconomic change by limiting fertility (Witte & Wagner, 1995).

According to Tsui, Bogue and Hogan, the decrease in the fertility rate of the 1970s in Canada was mainly due to changes in fertility within marriages, changes in extramarital fertility; and changes in the number of marriages. Moreover, the variables such as the

couple's demographics, each partner's background(i.e. race, ethnicity, language, urban-rural origin): the female's education level; and the occupation of each person are included.

From 1951 to 1966, the total fertility rate for Canada and the United States increased rapidly reaching a peak at 3.895 in Canada in 1960 and 3.682 in the United States in 1957 which is called Baby Boom generation. After the low fertility level in 1970s, fertility level of Canada reached to lower record than the United States at 1.578 (Robert L.Brown).

Over the period from the late 1940s to the 1970s, there were three major intervals, over which fertility rapidly declined which are 1947-50, 1957-69, and 1970-73. During these periods, employment and wages increased. Likewise, during the period of 1950-57, 1969-70, and 1973-74, fertility either increased or very slightly decreased. During these periods, wages were either declining or constant with 1969-70 and 1973-74, which exhibit constant or slow increase in employment ratios.

It was found out that highly educated women have smaller family size and lower fertility. Although education does not effect directly on the reduction of fertility, it can indirectly affect through a set of variables. The reason behind this is that an educated woman will probably delay her marriage and put off childbearing process. That should be good to some extent due to the fact that mothers with higher education was able to increase their ability to have lower infant and child mortality by the use of better nutrition and sophisticated health care practices (Khing).

Average fertility in the United States reached a post-World War II maximum during the peak of the "baby boom" in the late 1950s. The highest observed number of annual births (4.3 million) and birth rates (25.3 births per 1,000 population) since 1950 were recorded in 1957. Steep declines were observed in the 1960s and early 1970s, a broad trend that was also observed in Europe, Canada, Japan, Australia, and New Zealand. U.S. birth rates since the early 1970s have remained remarkably constant,¹³ mostly fluctuating in the mid-teens, and reached an all-time low of 13.9 live births per 1,000 population in 2002. In 2008, the most recent year for which final data are available, there were 14.0 live births per 1,000 in the population and almost 4.25 million births were recorded. This represents a small decline from 2007 when the largest *number* of births were recorded in nearly 4 decades, though the birth *rate* remains lower than levels seen during the baby boom.

2.4 Determinants of Demographic fluctuations

There are some factors which stop people from reproducing during the reproductive age. Migration is one of the factors that can be taken into account in which young people of reproductive age, the majority with a high educational status, prefer to realize their reproductive rights abroad, where they feel economically more secure. Another factor is economic issues where low economic status, instability, insecurity, lack of relevant investments in social programs and one of the lowest standards of living in Europe. Additionally, the family model is changing and is following the Western European tendency, where the majority of the young people and a large share of all people of reproductive age live as cohabitants, without formalizing their relations (Karl G.Nygren, 2006).

Towards the middle of the twentieth century, high fertility rates (of six or more children per woman) and falling mortality rates were the main factors fuelling population growth in the region. In some cases, large inflows of migrants, mainly from outside the region, also affected the age structure of the population. Declining fertility rates are a result of several combined factors, namely economic development and industrialization (rising wealth, improvements in material conditions, healthcare, lifestyles and wider availability of birth-control measures), changes in values (reduced demand for children, shifting priorities), and higher education and employment rates, particularly for women.

Another big issue linked to fertility is infertility. In Bulgaria there are over 240 000 infertile couples (the total number for all the cases with primary and secondary infertility). The percentage of cases of male and female infertility is relatively equal. The main reason for secondary infertility is a history of reproductive tract infection among adolescents – mainly due to the lack of appropriate health knowledge and sexuality education, which provides inadequate preparation for adolescents' sexual life. It is important to underline that despite all the efforts of the NGO community, UN agencies in the country, and even after gaining the strong support of the Ministry of Health in recent years, the Ministry of Education still shows resistance and delays the inclusion of health and sexuality education in the school curriculum (Karl G.Nygren, 2006).

At the same time, the large-scale entry of women into the labour force in middle- and low-income countries will contribute to raising the opportunity costs of having and raising children, as individuals prioritize their career and delay childbearing, especially

as globalization increases competition for work and hinders stability (Jackson et al. 2008; Lutz 2007). Experts claim that the resulting empowerment of women and growing wealth are likely to lead to changes in values that will affect fertility rates in several ways. Firstly, the rise of a global middle class may favor a new middle-class emphasizing the 'quality' rather than the 'quantity' of children, and give rise to new cultural attitudes such as individualism and independence (Birks 2007). The rise in such values will be partly linked to decisions about smaller family sizes in affluent societies, owing to some extent to competing decisions about the consumption of goods (Becker & Gregg Lewis 1974; European Commission 2012b; Jackson et al. 2009).

Fertility decline in Europe is also driven by a complex range of factors; women's increased enrolment in education and access to the labour market appear to have affected demographic behaviour by leading to greater birth postponement (the effect is known as the 'tempo effect') because more highly educated individuals tend to delay childbearing. This is partly because they prioritise their careers, and a dual earner model has developed whereby women are becoming breadwinners instead of caregivers (Gustafsson & Worku 2005; Lappegård & Rønsen 2005; Sobotka 2004; van Bavel 2010). Evidence for the link between higher education levels for women and lower fertility in Europe is mixed. The association appears to hold to an extent in the United Kingdom and in Germany, but it is weaker in other European countries such as the Nordic states and France (Andersson et al. 2009; Ekert-Jaffé et al. 2002; Sigle-Rushton 2008). The correlation between women's labour force participation and fertility was negative in Europe until the 1980s, yet the correlation slowly weakened or even reversed in many countries when the perception of women's participation in labour markets and work-life balance family policies changed (Kotowska 2012).

The various aspects of demographic fluctuations need to be analyzed in light of two pressing issues: the expansion of human rights and the fight against poverty. These two issues have their own specificities but are also interrelated. Development involves respecting the rights of people and groups and guaranteeing "dignified" living conditions for all individuals regardless of their position in society and their opportunities to access the social benefits that can be obtained through participation in the formal labour market.

The beginning of demographic transition in Latin America and the Caribbean was largely influenced by the economic and social changes which took place in the region in the twentieth century. Economic development—which trended upward strongly after the

Second World War— laid the foundations for rising real incomes for large sections of the population and for increased urbanization and expansion of education, giving rise to the emergence or growth of the middle class in many countries. At the same time, health coverage expanded and the nutritional condition of the population improved, new discoveries in medicine were disseminated, the availability and awareness of contraceptive methods increased, and the range of the media expanded, improving access to information on sexual and reproductive matters.

The current demographic situation, which is characterized by an expanding total population that is ageing increasingly rapidly, is forming within a context of wide poverty gaps and inequity in income distribution, two factors that are particularly resistant to change.

Socio-economic differences, which are reflected in differences in income and opportunities, restrict the scope of action for people from low-income groups in areas such as education, health, employment, and social, political and cultural participation and pose a serious threat to social harmony and cohesion.

Within the context of the economic and social development of the region's countries, which all suffer from huge disparities in income distribution, the drop in the mortality and fertility rates has had a positive impact on health and helped improve the living standards of the population. The way in which these processes have occurred favoured those with the greatest access to opportunities in society. This has generated a new demographic panorama in which demographic inequalities and inequities closely mirror the socio-economic situation of the population, and this in turn has created new, more specific, problems that social action and economic and social policies need to address.

The great difference between fertility and education can obviously be seen in Sub-Saharan Africa countries. In their countries, there is an average number of two children in every family which is taken as an ideal family size for the upper educational family (Boserup, 2013). The same situation can be found in North African and Asian regions. In El Salvador, Guatemala, and Mexico, they barely exceed one child. According to the data given, the differentials in desired family size across educational groups are considerably smaller than differentials in actual fertility. Although uneducated women typically have more children than their educated counterparts, their family-size ideals may not be far apart. In Latin American region, the observed fertility among better-educated women is close to

their desired family size, the actual fertility of unschooled women is usually twice their stated ideal family size (Martin, 2014).

According to population-poverty cycle theory, too rapid population growth yields negative economic consequences and thus should be a real concern for developing countries. Moreover, population growth intensifies and exacerbates the economic, social, and psychological problems associated with the condition of underdevelopment. Because widespread absolute poverty and low levels of living are considered as a major cause of large family size, and large families retard economic growth, it follows that economic and social development is a necessary condition for bringing about an eventual slowing or cessation of population growth at low levels of fertility and mortality. However, development provides people with the incentives and motivations to limit their family size but family planning programs are needed to provide them with the technological means to avoid unwanted pregnancies (Michael P. Todaro, *Economic Development*, 2015)

2.4.1 Fluctuations of demography in different countries

The demographic situation has changed considerably in the vast majority of the region's countries. Fertility rates are down to levels far below those anticipated even in the 1970s and 1980s: Latin American and Caribbean women today have, on average, 2.4 children. Life expectancy at birth for both sexes now stands at 73.3 years, which means that, without substantial improvements in living conditions or major medical breakthroughs, improvements in this indicator are unlikely to be anywhere near as spectacular as they have been in the past 20 years. The impact of migration has also waned and now has only a moderate impact on population sizes.

In this context, when fertility, which has been the main factor driving population growth in every country except Cuba, reaches replacement levels (2.1 children per woman) in all the countries of the region, populations will continue to increase for several more decades as a result of the growth potential of the age structure created by past high fertility rates.

The expected future increase in the countries' populations (growth recorded between 2005 and the year at which population growth peaks) varies considerably. Among the countries in the advanced transition stage, Uruguay will witness the slowest population growth (12.5% in relation to its current population), followed by Chile and Mexico (24.1%

and 26.3%, respectively), Argentina, Brazil and Colombia (between 30% and 40%) and Costa Rica (44.4%).

Larger relative increases will be recorded among the countries in full transition, although the situation will vary considerably from country to country. Those expected to witness the least growth include Peru, Dominican Republic and Nicaragua (45.6%; 48.9% and 51%, respectively), followed by Ecuador, Panama, Bolivarian Republic of Venezuela and El Salvador (56.7%; 57.3%; 58.6% and 68.9%, respectively). Paraguay and Honduras, by contrast, will experience higher levels of growth (82.6% and 92.4%, respectively). When their population growth peaks, these two countries will have practically doubled the population they had in 2005, as will two countries undergoing moderate transitions: Haiti (94.1%) and Bolivia (88.1%). Guatemala, meanwhile, is the country that will experience the largest increase in population (151.8%).

As demographic transition advances, the impact of fertility on population growth declines. Its effect is not completely lost, however, until fertility reaches replacement levels. From that moment onwards, as shown in the cases of the countries in the more advanced stages of transition, growth depends mostly on age structure in the countries that still have a more or less important proportion of women of child-bearing age. These figures are therefore obviously highly important for medium- and long-term decision-making and for assessing and anticipating variations in demand over time. Needless to say, care must be taken to adjust for real changes in demographic variables that diverge from the projected trends as they arise.

The trend of fertility changes is not only affected by economic outcomes but also by unobserved variables that may have direct effect on the economy. It is generally true that population growth changes as the economy develops. Three factors such as the measurement of fertility and mortality, the measurement of the age structure of the population and the growth of GDP per capita show the fertility decline. A decrease in fertility raises the income per capita by an amount that consider economically significant despite the fact that the effect is small relative to the great gap in income between developed and developing countries.

According to the UN Population prospect 2010 concerning with the demographic profile, approximately 48% of the world population had an average total fertility rate of less than 2.1 children per woman. The world population in 1950 which had total fertility rate of

6 or more children had declined to 1.7 percent by 2010. Moreover, the fertility levels in developed countries have gradually declined since the early 1970s to below-replacement level. By 2005-2010, the fertility levels of almost all developed countries had reached below 2.1 children per woman. Since the year 1974, the rate of fertility has declined by more than 20 percent in 135 developing countries and by over 50 percent in 66 of them. Some countries such as Asia, Maldives, the Islamic Republic of Iran, Oman, Vietnam, United Arab Emirates, Bangladesh, Mongolia, Bhutan and Qatar, in which the level of fertility is equal to 4 children per woman in 1975-1980 which is facing the fastest fertility reductions. The average number of children in some countries which have experienced over 50 per cent of decline since 1970-1975 is presently below 2.31 children per woman on average instead of 5.76 children per woman 35 years ago.

Little is understood about the extent of the interaction between the factors contributing to declining fertility levels, and these interactions differ between high-income countries and middle-income and low-income states. In short, some experts argue that increased educational attainment for women in middle-income and low-income countries is likely to reduce unwanted childbearing (owing to greater access to contraceptives) and to postpone childbearing as a whole as women enter the labour market and have access to a career (Lutz & KC 2011). This process is expected to contribute to economic growth – given increases in the workforce (Beets 2010; UNPD 2002). The evidence shows that in the developing world, women with higher education levels have fewer children than those with low education levels, and that their children have lower mortality rates and higher survival rates (Lutz & KC 2011).

2.5 Reviews on Previous studies

Gazi Ashir Uddin studied the Population changes and implications for economic growth and the environment in Australia. The main objectives of the study were to study the impact of population changes on economic growth and environmental quality. The method used was time series of econometric techniques and a panel data technique were applied. Cross data country techniques were applied to estimate the relationship between populations, income and environmental problems. The result implied that changes in population age structure had a significant impact on real GDP per capita in Australia over the study period. The impact is influenced by saving rate, trade openness and capital formation. The advantages of age structure may disappear in the near future due to the rapid

increase in the elderly dependency ratio. The result suggested that the effect of demographic structure, saving rate and trade openness on GDP growth rate appears to be more pronounced in the long run than in the short run. It is essential for government to undertake initiatives that target market reforms in order to greatly improve the efficiencies of labour. Governments should also put measures in place to ensure that the economy grows at a higher rate than that of population (Uddin, 2016).

A study in Africa about fertility transition was carried out to experience the socio-cultural changes and the status of women in society. Quantitative techniques are used to provide confidence in any inferences drawn from the analyzed data. Cultural and socio economic factors are hypothesized to be important spatial correlates in the variation of fertility and the onset of fertility transition was underway. This study used the data to assess the spatial variation and change in fertility rates. Socio economic and demographic factors include education, rural and urban residence, income levels, status of women and infant mortality rates, and contraceptive prevalence (Caldwell, 1999). Moreover, analysis of variance, correlation analysis, and stepwise multiple-regression techniques are employed to determine the levels of regional variations and to account for the observed spatial variation of fertility rates. The use of model of demographic transition highlights four phenomena that are interrelated through social, economic, and psychological mechanisms, urbanization, education, institutions and standard of living. The consequences of the result are industrialization, urbanization, increased literacy and declining infant mortality. Low fertility in Africa can be explained by its high socioeconomic development and the overview of regression results highlight the importance of both socio economic and demographic variables in fertility reduction. It was also found out that contraceptive prevalence, status of women and reduction in infant mortality rates are central to ongoing fertility decline (Kalipeni, 2007).

John Bongaarts (2008) studied Fertility Transitions in Developing Countries Progress or Stagnation in sub-Saharan African countries. This study examines the pace of fertility change in developing countries that have multiple Demographic and Health Surveys to determine whether ongoing transitions are decelerating or stalling (Glaier, 2006). The main objective of this study is to analyze the recent trends in the pace of fertility transitions in developing countries since 1990 to determine if these transitions are decelerating and how widespread stalling. This analysis relies on fertility estimates from countries with multiple Demographic and Health surveys. The Demographic health survey

uses standardized procedures and questionnaires for collecting data, and so estimates of measures from different surveys are highly comparable (Ding, 2006). The results have shown that nearly all developing countries had high fertility levels in the 1950s but most of these countries have experienced substantial declines. The average pace of fertility decline slowed significantly in sub-Saharan African countries (Freeman, 1974). Two factors played a role in the causes of the slowing pace of fertility change. Firstly, according to conventional theory, socioeconomic development is a key driver of fertility decline and also life expectancy declined due to rapidly spreading AIDS pandemic. Secondly, the fertility stalls may be attributable in part to the lower priority assigned to family planning programs in recent years in these countries. This unexpected slowing of the pace of fertility decline around 2000 in sub-Saharan Africa has implications for future demographic trends because minor variations in fertility trends have large effects on the future size and age structure of populations. If the recent slow pace of fertility transition persists, sub-Saharan Africa's population size could approach the high variant. This trend will likely have adverse effects on the region's prospects for social and economic development, food security, and the sustainability of natural resources (Bongaarts, 2008). Palamuleni (2013) studied that the demographic change is acknowledged in most developing countries to be an effective way of improving the health of women and plays leading roles in women mortality. Demographic changes of trend also influences women empowerment. They analyzes the identified age, education, children ever born, number of living children, husband's approval of family planning, respondent's approval of family planning, discussion of plan to have child with partner and family, respondent's work status as the most important variables. The results of this study show that the plan to have a child is increased with the age of the respondents (Gertler, 2014). The women aged between 15 – 19 years may due to that factor because they are newly married. Younger women reduce the plan to have a child because of the socio –economic factors. The working mothers are increasing and they would like to do the family planning. The respondent's approval of family planning is the most important predictor of the plan to have a child. The study's finding is that family's approval of chance to have a child is the most important factor.

CHAPTER III

DEMOGRAPHIC SITUATION IN YANGON REGION

3.1 Population in Myanmar

The Union of Myanmar is geographically situated in Southeast Asia between latitudes 9', 32'N and 28', 31'N and longitudes 92', 10'E and 101', 11'E. Myanmar is bordered on the north and northeast by the People's Republic of China, on the east and southeast by Lao PDR and Thailand, on the west by the People's Republic of Bangladesh and the Republic of India, on the south by the Andaman Sea and on the west by the Bay of Bengal. The total surface area of Myanmar is 676,578 square kilometers. It has 6151 kilometers of international boundary and 2229 kilometers of coastal line. Myanmar is constituted with seven States and seven Divisions including 65 Districts and 365 Townships. Myanmar is a country which is made up of 135 ethnic groups which belong to the eight major nationalities namely Kachin, Kayah, Kayin, Chin, Bamar, Mon, Rakhine and Shan (Degraff, 1986). The estimated population of Myanmar, according to the year 2006-2007, is 56.52 million and the population growth rate is 2.02%. Out of this population 28.42 million is female and 28.10 million is male. The recently issued Population Census of 2017 stated that Bamars made up of the vast majority of the total population who live all over the country (Duflo, 2007). About 70 percent of the people who live in Myanmar are from rural area where agricultural production is related to each region. The highly densely populated areas are between Yangon and Hinthada Region. Despite the fact that city populations have been growing, the pace of urbanization has not been as rapid in Myanmar as it has been in most other Southeast Asia (Department of Health, 2008). The population of Myanmar is still fairly youthful with roughly one-fourth of the people under age of 15. Nevertheless, the proportion of young people has been declining steadily since the late 20th century due to the fact that the birth rate has dropped from notably above to significantly below the world average although life expectancy is on the rise with most men and women living into their 60s (Dayaratna, 2000).

Table 3.1.1 Population trend by sex in Myanmar(1980-2015)

Year	Male	Female	Total (in million)
1980	16.68	16.93	33.61
1990	20.22	20.57	40.79
1995	22.22	22.52	44.74
2000	24.91	25.21	50.12
2005	27.54	27.86	55.40
2010	29.40	29.73	59.13
2015	25.26	27.19	52.42

Source: Myanmar Statistical Year Book 2011 and 2017

3.1.2 Gender proportion

According to the data from Statistical Year Book, throughout the years from 1980 to 2015, the trend of male and female fluctuated. The percentage of female outnumbered that of male throughout the years except the years 1995 and 2015 where the number of male is a bit more than that of female. However, there was an upward trend for the population by sex in general for all the consecutive years except the year 2015 where the number finally decreased to 52.45. Therefore, in general, the population is decreasing and it is also projected to fall in the coming years.

Table 3.1.2 Population estimates of Myanmar (1985- 2018) Population in Million

Year	Total	Male	Female	Annual Growth rate(%)
1985-1986	37.07	18.38	18.69	1.96
1990-1991	40.79	20.22	20.57	1.88
1992-1993	42.33	20.98	21.35	1.88
1993-1994	43.12	21.44	21.68	1.87
1994-1995	43.92	21.83	22.09	1.87
1995-1996	44.74	22.22	22.52	1.87
1996-1997	45.57	22.63	22.94	1.84
1997-1998	46.40	23.04	23.36	1.84
1999-2000	49.13	24.40	24.73	2.02
2000-2001	50.13	24.91	25.22	2.02
2002-2003	52.17	25.94	26.23	2.02
2003-2004	53.22	26.47	26.75	2.02
2004-2005	54.30	27.00	27.30	2.02
2005-2006	55.40	27.54	27.86	2.02
2006-2007	56.52	28.10	28.42	2.02
2007-2008	57.50	28.58	28.92	1.75
2008-2009	58.38	29.03	29.35	1.52
2009-2010	59.13	29.40	29.73	1.29
2010-2011	59.78	29.72	30.06	1.10
2014-2015	51.99	25.07	26.92	0.88
2015-2016	52.45	25.26	27.19	0.88
2016-2017	52.92	25.45	27.47	0.89
2017-2018	53.39	25.65	27.74	0.89

Source: Statistical year book 2000, 2006, 2008, 2011, 2017 and 2018

The table 3.1.2 mentioned the general estimation of the population during thirty years period and the figures are shown in percentage. Throughout the years, the total number of both male and female increased year by year until 2011 which later turned into a drop to 53.39% in 2018. However, compared to the number of male and female, the number of female outnumbered the number of male during the three decades. And in general, the annual population growth per year increased gradually until 2007 which later turned into a slight fall of up to 0.89% in 2018. According to the population projection, it was projected that the number of people in the years to come was going to fall gradually with a slight change in numbers each year.

3.2 Annual Population growth rate by Union

According to the Malthusian population trap theory, there is a tendency for the population growth rate to surpass the production growth rate because population increases at a geometrical rate while production increases at an arithmetic rate. Therefore, the unbound population growth in a country could plunge into acute poverty.

Table 3.2.1 Population growth rate by Union (from 1980-2010)

Year	Population (in million)	Population(annual percent change)
1980-81	33.61	-
1981-82	34.00	1.16
1982-83	34.12	0.35
1983-84	35.30	3.46
1984-85	36.13	2.35
1985-86	37.07	2.60
1986-87	37.80	1.97
1987-88	38.54	1.96
1988-89	39.30	1.97
1989-90	40.03	1.86
1990-91	40.78	1.87
1991-92	41.55	1.87
1992-93	42.34	1.90
1993-94	43.10	1.79
1994-95	43.92	1.90
1995-96	44.74	1.87
1996-97	45.57	1.86
1997-98	46.40	1.82
1998-99	48.16	3.79
1999-00	49.13	2.01
2000-01	50.13	2.04
2001-02	51.14	2.01
2002-03	52.17	2.01
2003-04	53.22	2.01
2004-05	54.30	2.03
2005-06	55.40	2.03
2006-07	56.52	2.02
2007-08	57.50	1.73
2008-09	58.38	1.53
2009-10	59.13	1.28
2010-11	59.78	1.10

Source: Statistical Year Book 2001, 2010 and 2011

From the analysis of table 3.2.1, it can be assumed that population growth will continue in the future years ahead. It can be clearly seen that the number of population grows steadily and gradually year by year. There is an approximate increase of one million in every year gap which makes no much difference in percentage growth rate. As the population grows, the country has much more potential to have a growth in labor force and the growth in population structure is not hindering country's development. The reason behind the population growth is probably due to the increased life expectancy among the public. Since more and more women in every household are more educated, they are fully aware of the family planning and health care process on those whom they have already given birth. The fact that the cost of living is higher is also one of the factors that contribute to have lesser children, which leads to have smaller family size where the family members are in the best of health. The population is growing despite the decline in marriages and birthrate among the married couples. There are more advantages of it having the growth in population.

3.3 Crude birth rate, death rate and total marital fertility rate by Union

The table belows reveals the information in states and regions of the Union in three categories, i.e , crude birth rate, total fertility rate and total marital fertility rate. Total Fertility Rate (TFR) is defined as the number of births a woman would have if she experiences the current observed age-specific fertility rates, and if she survives to the end of her childbearing age, which ranges from 15-49 years. The increased age at first marriage and the relatively high proportion of young, unmarried women in Myanmar may be responsible for the low average number of children per woman in the population of reproductive age. The total fertility rate differs significantly by place of residence; it is lower in urban areas (1.8 and 3.6) and higher in rural areas (2.5 and 4.2). Fertility rates vary significantly by States and Regions; they are the highest in Chin (4.4), Kayin (3.4) and Kayah (3.3) and lowest in Yangon (1.7) and Mandalay (1.9) respectively. The data implies that married women from Chin State has the highest fertility rate where they are used to giving to birth to many children as in the days of their grandmothers' while leaving the total marital fertility rate in Yangon as the lowest of all regions. From this comparison, it can be concluded that women in cities are better educated and have easy access to better health care whereas the contrast happened in Provinces. For these reasons, there is quite a gap between the total marital fertility rate of provinces and Yangon.

Table 3.3.1 Crude birth rate (CBR), Total fertility rate(TFR), and Total Marital fertility rate(TMR) by region

Region	Crude Birth rate	Total fertility rate	Total marital fertility rate
Total (Myanmar)	18.8	2.3	4.0
Urban	15.8	1.8	3.6
Rural	20.1	2.5	4.2
Kachin	22.0	2.8	5.1
Kayah	26.1	3.3	5.7
Kayin	23.8	3.4	5.4
Chin	29.9	4.4	6.9
Sagaing	19.4	2.3	4.4
Tanintharyi	21.9	3.0	5.0
Bago	17.6	2.2	3.6
Magway	16.9	1.9	3.7
Mandalay	16.9	1.9	3.7
Mon	18.1	2.4	4.2
Rakhine	18.0	2.2	3.5
Yangon	15.5	1.7	3.3
Shan	21.2	2.7	4.3
Ayeyawady	20.2	2.6	4.1
Naypyitaw	18.7	2.1	3.4

Source: 2014 Myanmar Population and Housing Census

3.4 Infant Mortality Rate of Urban and Rural area

Table 3.4.1 Infant mortality rate of urban and rural (1980-2017)

Year	Infant Mortality Rate (per 1000 live-births)	
	Urban	Rural
1980	44.0	47.7
1985	47.2	47.0
1990	47.0	48.8
1995	47.3	49.7
2000	48.5	50.2
2004	45.1	47.0
2005	25.6	47.0
2006	44.9	46.9
2007	43.4	46.3
2008	28.2	30.0
2009	25.9	27.8
2010	25.6	27.8
2011	34.4	39.8
2012	34.2	38.2
2013	33.2	35.9
2014	34.1	43.6
2015	30.9	49.3
2016	30.2	48.2
2017	29.6	47.2

Source: Statistical Year Book 2002 , 2010 and 2015, 2016, 2018

According to the table 3.4.1, the number of children who are born alive is decreasing gradually year by year in both rural and urban areas although there is still some gap between rural and urban areas. In 1980, the number of infant died was 44.0 in urban

area while that of was 47.7. After 1980, there weren't any changes in infant mortality rate of urban area with only a slight difference while that of in rural increased gradually up to 50.2 in 2000. This is probably due to the poor health services provided in rural areas while in urban area, the health services are better. Moreover, mothers of rural area are less educated compared to those of in urban area and this can be one of the reasons why they have lower mortality rate. Starting from the year 2011 to 2017, it was quite obvious to see the slight decrease in the number of infant mortality rate while there was a gradual increase in infant mortality rate in rural area.

3.5 Childhood Mortality and Life expectancy

The information provided in the table shows the mortality indicators at Union level and by State and Region. The table shows that for every 1,000 children born in Myanmar, 62 die before reaching their first birthday. This rate is higher in rural areas (68) than in urban areas (41). By State and Region, Magway and Ayeyarwaddy have the highest rates with 89 and 87 deaths per 1,000 live births, respectively. The under-five mortality rate is 72 at the Union level with the same pattern at both the State and Region level. The expectation of life at birth is 66.8 for both sexes. People born or who live in Yangon Region and Mon State are expected to live the longest at 71.2 and 71.7 years respectively. By comparing the two tables 3.2.1 and 3.3.1, what can be concluded is that although the highest marital fertility rate can be seen in rural area, the rate of life expectancy is the highest in urban area. It shows that women living in urban areas are provided with better health care facilities and also more educated and therefore they are able to do some family planning which they have to do due to the higher cost of living and cost of rearing babies. However, in rural areas, the cost of living is just normal and simultaneously they are not as educated as the married women in urban area and consequently they failed to do family planning. Therefore, these are the reasons why there is high percentage of life expectancy in Yangon and low percentage in other states.

Table 3.5.1 Childhood Mortality Indicators (IMR, CMR, U5MR and Life Expectancy at birth) by State/Region

	Infant Mortality Rate (IMR)	Child Mortality Rate (CMR)	Under Five Mortality Rate (U5MR)	Life Expectancy at Birth
UNION	62	11	72	66.8
Urban	41	6	47	72.1
Rural	68	13	79	65.5
Kachin	53	8	61	68.9
Kayah	62	11	72	66.7
Kayin	60	10	70	67.3
Chin	76	15	90	63.6
Sagaing	60	10	70	67.1
Tanintharyi	71	14	84	64.7
Bago	62	11	72	66.7
Magway	89	20	108	60.6
Mandalay	57	9	66	68.0
Mon	43	6	48	71.7
Rakhine	65	12	75	66.1
Yangon	44	6	50	71.2
Shan	60	10	70	67.2
Ayeyawady	87	20	105	61.0
Nay Pyi Taw	63	10	73	66.6

Source: 2014 Myanmar Population and Housing Census

3.6 Crude Birth Rate and Crude Death Rate in urban and rural area

The crude birth rate is defined as the number of births that occur in a particular year per 1000 people. There were 906,493 children born to all women in the 12 months prior to the census date. This reveals the crude birth rate of 18.9 births per 1000 populations. The crude birth rate is higher in rural areas(20.1) than in urban areas(15.8). A comparison by

State and Region level indicates that the crude birth rate is the highest in Chin which is 29.9, Kayah which is 26.1 and Kayin which is 23.8 and the lowest in Yangon which is 15.5 and Mandalay (16.9).

The crude birth rate is the total number of live births per 1000 in a population in a year or period and crude death rate is the number of deaths occurring among the population of a given geographical area during the same year (2013). According to the table 3.5, the number of births per thousand in urban is continued to fall gradually from the year 1980 to the year 2017. In 1980, the number of babies born was 26.9 while the rural had 29.3 in the same year period. However, there was a slight fall during the course of the years of 1985, 1990, 1995, 2000 with 28.6,28.4,28.0,and 24.2 respectively while in rural area, the number was 29.0, 30.2, 30.1, and 26.4 which was still higher than that of urban. The number of crude birthrate declined dramatically up to 16.9 in urban and 21.2 (which is still a lot higher than urban) in the later period of the years, specifically in 2017.

Table 3.6.1 Crude Birth Rate in Urban and Rural (1980- 2017)

Crude Birth Rate (per 1000 population)		
Year	Urban	Rural
1980	26.9	29.3
1985	28.5	29.0
1990	28.4	30.2
1995	28.0	30.1
2000	24.2	26.4
2005	19.0	21.9
2010	15.4	16.6
2015	16.8	21.9
2017	16.9	21.2

Source: Statistical Year Book 2002, 2010, 2015 and 2018

Table 3.6.2 Birth, Death, Infant Mortality rate in urban (1980-2017)

Year	Crude Birth Rate (per 1000 population)	Crude Death Rate (per 1000 population)	Infant Mortality rate (per 1000 live births)
1980	26.9	8.1	44.0
1981	27.7	8.7	47.3
1982	27.6	8.6	47.1
1983	28.3	9.0	47.2
1984	28.3	9.0	47.1
1985	28.5	8.9	47.2
1986	28.4	8.8	47.1
1987	28.6	8.4	44.3
1988	28.6	8.9	47.0
1989	28.5	8.8	47.1
1990	28.4	8.8	47.0
1991	28.5	8.9	47.3
1992	28.3	8.9	47.5
1993	28.1	8.7	47.4
1994	28.2	8.7	47.5
1995	28.0	8.6	47.3
1996	28.1	8.8	47.5
1997	27.8	8.5	47.1
1998	27.5	8.2	47.2
1999	24.5	6.0	55.1
2000	24.2	6.3	48.5
2001	23.9	6.2	48.3
2002	21.2	6.1	48.4
2003	19.9	5.6	45.3
2004	19.1	5.5	45.2
2005	19.0	5.5	45.1
2006	19.0	5.3	44.9
2007	18.4	5.3	43.4
2008	15.4	8.4	29.5
2009	16.2	5.6	27.2
2010	16.3	5.8	27.1
2011	16.0	7.0	34.4
2012	15.7	6.9	34.2
2013	15.5	6.9	33.2

Source: Myanmar Statistical Year Book (1989,1998,2004,2008,2011,2015)

The table 3.6.2 describes the birth, death and infant mortality rate in urban area from 1980 to 2013 collected from the Myanmar Statistical Year Books. the crude birth rate from the year 1980 increased steadily from 26.9 to 28.1 in 1996. However, the crude death rate remained the same throughout the years from 1980 to 1998 at approximately 8.2 in. Since then, the crude death rate declined slowly and steadily up to 6.9 in 2013 while there was a sharp decline in crude birth rate up to 15.5 in 2013. This is because the education level of married women got higher than the mothers of the 1980s which could make a big gap in the birth rate. More and more couples chose to have lesser children due to some constraints such as economic crisis, higher cost of living and higher cost of rearing a baby. The infant mortality rate also dropped slowly and steadily throughout the years from 1980 to 2013.

Table 3.6.3 Birth, Death, Infant Mortality rate in rural area (1987-2013)

Year	Crude Birth Rate (per 1000 population)	Crude Death Rate (per 1000 population)	Infant Mortality rate (per 1000 live births)
1987	29.9	9.5	47.1
1988	30.5	9.9	49.8
1989	30.1	9.8	49.6
1990	30.2	9.7	48.8
1991	30.4	9.8	49.2
1992	30.1	9.7	49.7
1993	30.0	9.9	49.8
1994	30.2	9.8	49.6
1995	30.1	9.9	49.7
1996	30.0	9.9	49.8
2000	26.4	7.3	50.2
2001	26.3	7.1	50.1
2002	24.6	7.0	50.7
2003	22.4	6.5	47.1
2004	22.0	6.4	47.0
2005	21.9	6.4	47.0
2006	21.5	6.3	46.9
2007	21.2	5.9	46.3
2008	16.1	8.7	30.0
2009	16.6	5.8	27.8
2010	16.6	6.1	27.8
2011	20.2	8.0	39.8
2012	19.8	8.0	38.2
2013	19.6	8.0	35.9

Source: Myanmar Statistical Year Book (1989,1998,2004,2008,2011,2015)

According to the table 3.6.3, the crude birth rate in rural area decreased gradually from 1987 to 2013 with some fluctuations during the 30 years period. The crude death rate also decreased from 9.5 to 8.0 in the same period of 30 years which is probably due to higher life expectancy. People are well equipped with better health knowledge and more health conscious on the people around them and therefore, it saved more children than they used to in the olden days. Infant mortality rate is also decreased substantially although there was an increase for three consecutive years, which later decreased to 35.9 in 2013, which originally was 47.1 in 1987. Although this data is meant for the rural area, the fluctuations in data showed that there wasn't much difference between rural and urban in the way they got health care services and knowledge. This can be probably due to the influence of social media for better health care services and facilities among people from rural and urban areas

Table 3.6.4 Birth, death, infant mortality rate in Union(2014-2017)

Year	Crude Birth rate (per 1000 population)	Crude Death rate (per 1000 population)	Infant mortality rate (per 1000 live births)
2014	20.6	9.5	45.9
2015	20.4	9.3	44.8
2016	20.2	9.1	43.8
2017	19.9	8.9	42.8

Source: Myanmar Statistical Year Book (2018)

The table 3.6.4 mentioned only the data of four consecutive years from 2014 from 2017. In the table, there was a gradual fall in the birth rate from 20.6 to 19.9 in 2017 and the crude death rate also declined steadily from 9.5 in 2014 to 8.9 in 2017. This was because people more and more people have different lifestyle which is quite different from the olden days'. And also due to the cost of living and cost of child upbringing, very few people determined to marry and get babies. The reason why infant mortality rate declined was due to the higher and more updated health care provided countrywide and also more married women are educated and are able to take care of their babies.

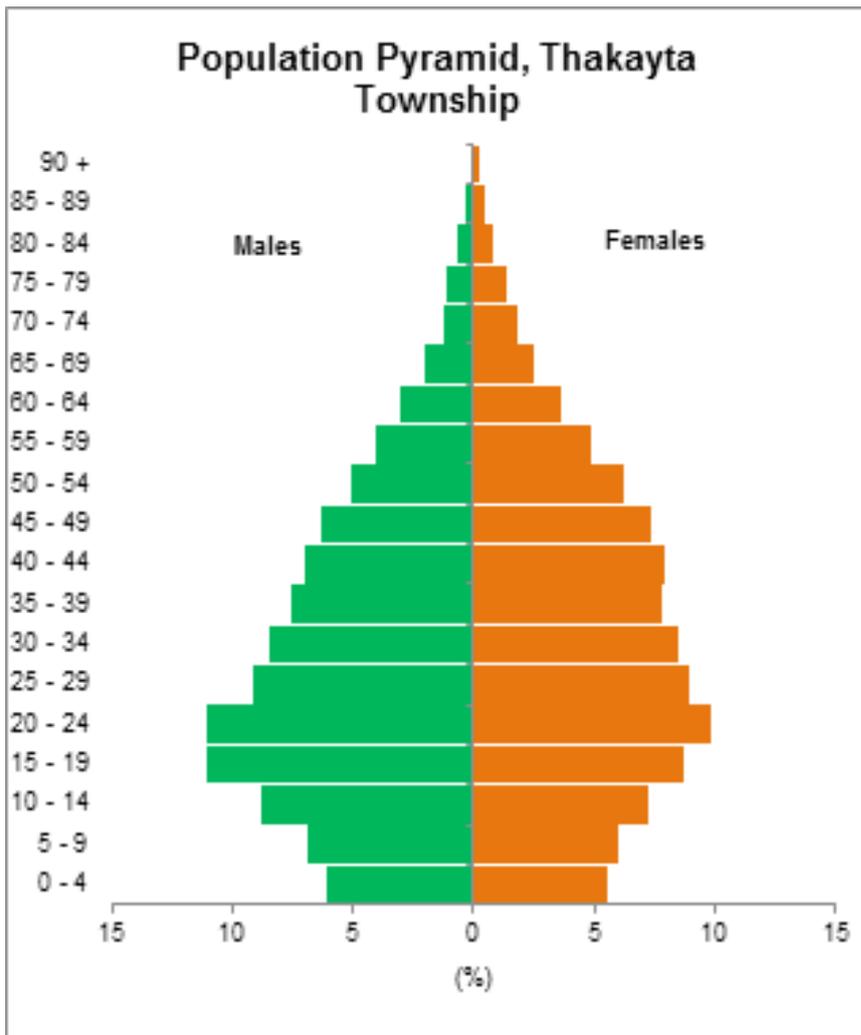
3.7 Variations of population in Yangon Region

Being the second capital city of Myanmar, the city has a population of over 4.34 million since 1983. According to the Department of Population from recent census report, the total population in Myanmar was 52.92 million between 2016 and 2017 with the population growth rate of 0.89 which is an increase of 1 percent compared to the previous years. Compared to the rest of the division in Myanmar, the growth rate and population density of Yangon from they year 2014 to 2017 was 7.43, 7.6, 7.76 respectively which can be seen as highest percentage among other divisions. Moreover, the percentage of the gender in Yangon Region for three years period was male at 14.16, 14.33,14.51 respectively while that of female was at the proportion of 14.42, 14.62, and 14.82, which is also the highest percentage, compared to the rest of the regions. The information about the size and population in Myanmar within the period of 1980 to 2017 is given in the table Table 3.1. According to the population census in 1973, there was 28.08 million people in Myanmar which is grown to 33.61 million in 1980. 1983 census recorded that 35.3 million is the size of population in Myanmar. During the period of 1980 to 1985 and 1985 to 1990, the size of population increased was stable which shows around 10 percent. Compared to the population size in 1980, in the year 2000, it has increased about 1.5 times and in the early 21st century, the population was already nearly double compared to that of 1980s while the growth is continuing (Saw, 2012).

3.7.1 Thakayta Township profile

Thakayta is a satellite township with a total population of 220.556 while males made up 48.6% and female made up 51.4% respectively. The number of household is 45,456 and the percentage of female headed households is 28.9%. In Thakayta Township, there are slightly more females than males with 95 males per 100 females. The population density of Thakayta Township is 17.258 person per square kilometer. There are 4.7 persons living in each household in Thakayta Township which is slightly higher than the Union average.

Figure: 3.7.1 Population pyramid of Thakayta



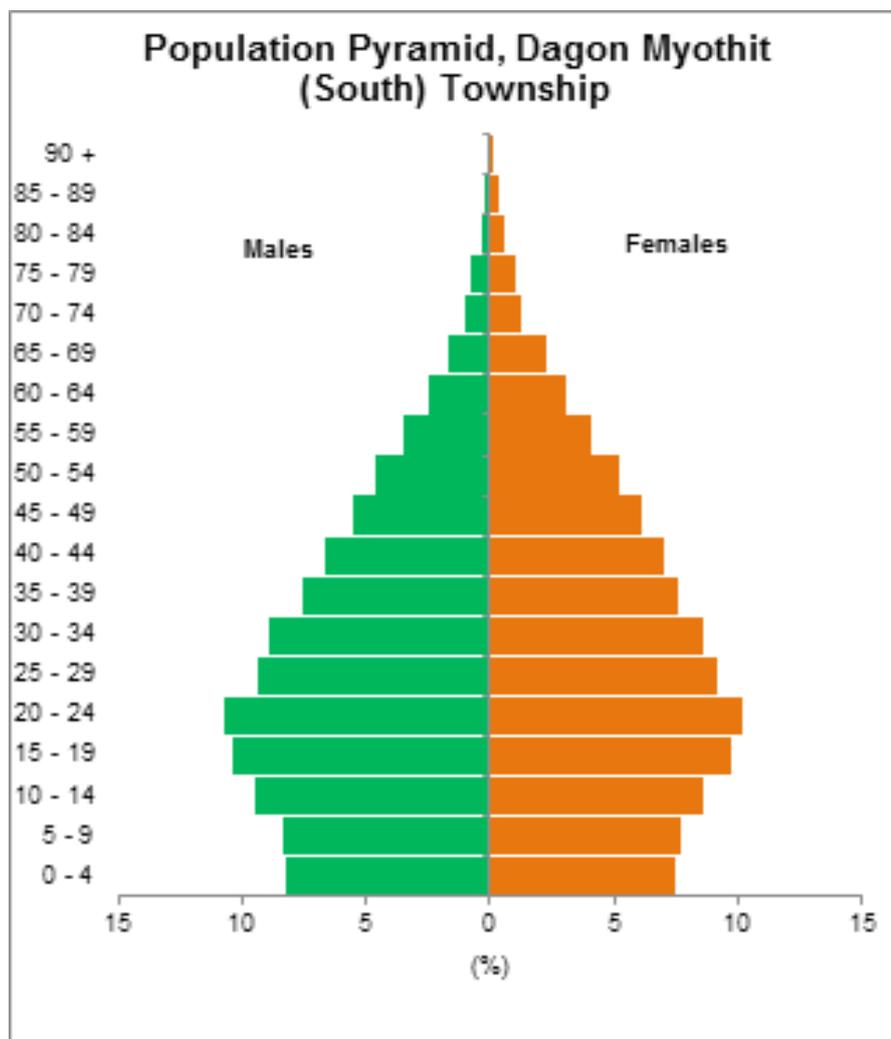
Source: 2014 Myanmar Population and Housing Census

According to the population pyramid of Thakayta Township, it can be seen that the birth rate has been noticeably declining in Thakayta Township since the last 15 years. Therefore, the population has markedly declined from age group 25-29 onwards. Compared to Union level, there is considerably higher percentage of working age group 15-64 population in Thakayta Township. Starting from age group 25-29, there are less males than females in all age groups.

3.7.2 South Dagon Township Profile

South Dagon is a township which has a population of 371646 with male population of 181140 and female 190506. The township area is 79.1 square kilometers with 32 wards in total. The total number of people in all the households is 358350 and the total number of household is 76984. In South Dagon Township, the number of female residents outweigh that of male residents which means 95 males per 100 females. The highest age limit of women who gave birth to most babies compared to the rest of the other age group is the age group of 25 and 29. The total number of crude birth rate of mothers between 15 and 49 is 2.0 which is still relatively low compared to the total fertility rate at national level.

Figure 3.7.2 : Population Pyramid of Dagon Myothit(south) township

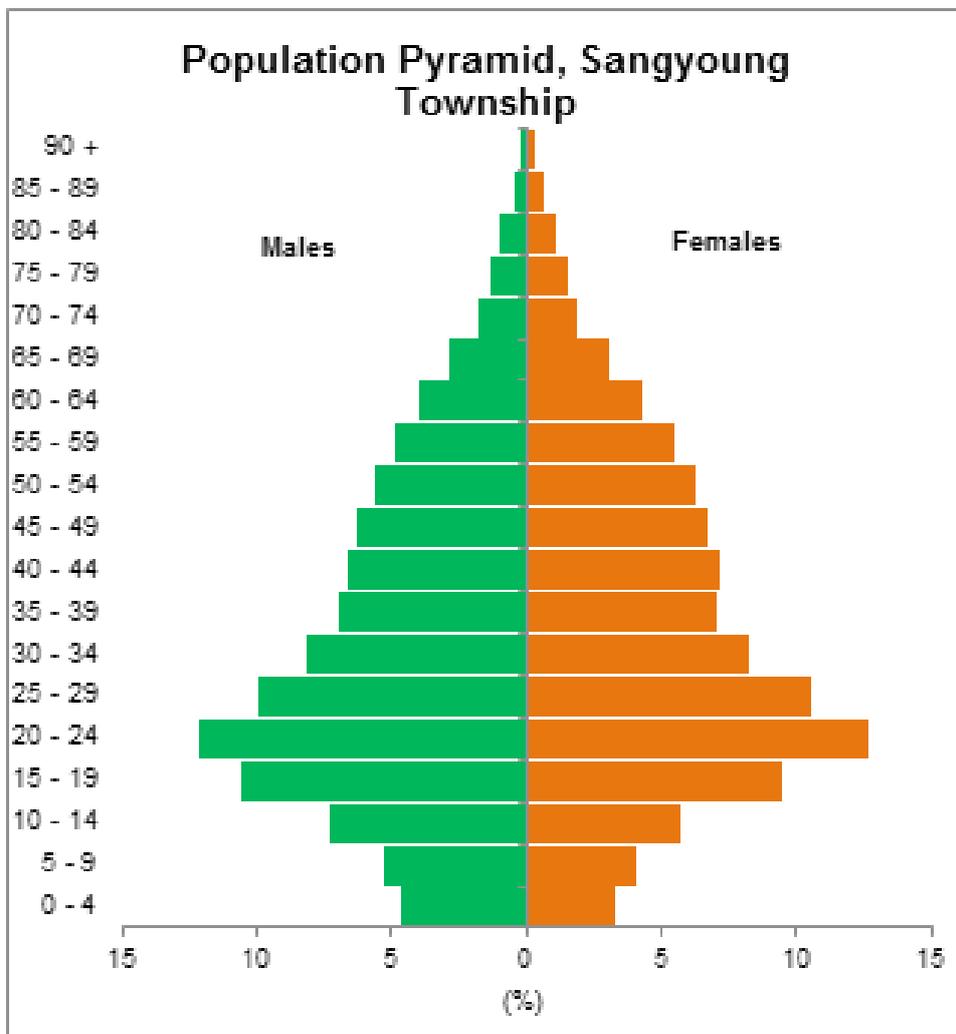


Source: Myanmar Population and Housing Census

3.7.3 Sangyoung Township profile

Sangyoung Township has a total population of 99,619 which comprises male population 43,993 and that of female 55,626 respectively. The area is 2.5 square kilometers with 18 wards. The sex ratio is 79 males per 100 females and population density is 40,288.7 per person square kilometre. The number of household in total is 20,635. In Sangyoung township, there are more females than males with 79 males per 100 females. The age specific fertility rate is the highest at the age group between 30 and 34. For women aged 15-49, the total fertility rate is 1.1 children per woman and is lower than the total fertility rate of 2.5 at the National level.

Figure 3.7.3 : Population pyramid of Sangyoung township



Source: 2014 Myanmar Population and Housing Census

According to the population pyramid, the birth rate has been noticeably declining in Sangyoung Township since the last 20 years. And the population has markedly declined from age group 25-29 onwards. Compared to the Union level, there is higher percentage of working age group 15-64 population in Sangyoung township. Starting from age group 15-19, there are less males than females in all age groups.

CHAPTER IV

DATA ANALYSIS OF THE SURVEY AREA

4.1 Survey profile

Data collected was statistically analyzed using SPSS (Special Package for Social Science). This study contains three main parts. The first part of the study presented the respondents' personal profile, the second part illustrated their marriage profile and the third part reflected the reasons why they have less children. First of all, the three townships that covered in this survey are as follows:

4.1.1 Survey Area or Data Collected area

For the primary data collection, three selected townships are chosen out of thirty three townships in Yangon which are Thakayta, South Dagon and Sangyoung. The first two townships were chosen because they are in the group of suburban of Yangon while Sangyoung is considered to be the center of township in Yangon.

Thakayta is a township which is situated at the junction of Pazundaung Crook and Ngamoeyeik Crook and was founded on the east Peninsula of Yangon. The geographical location of Thakayta is situated at the lower part of Yangon region, Myanmar. The township area is 4.93 kilometers square. On the east part of Thakayta lies Dagon Myothit Seikan township and on the west is South Dagon Township, while Dawbon township is in the south and Thingangyun in the north respectively. There are altogether 19 blocks and eight national races live in Thakayta Township and the total household number for the whole township is 45957 and the total population is 220599.

South Dagon is a township which is situated adjacent to Dagon Seikan township in the east, Hlegu township in the north, Thakayta township in the south and North Dagon Myothit in the west. The township area is 30.54 kilometer square. The total number of household for the whole township is 59468 and the total population is 320099.

Sangyoung Township is situated adjacent to Kamayut Township in the east, Dagon and Ahlon Township in the south, Kyimyindaing Township in the west and

Kamayut Township in the north respectively. The area of Sangyoung township is 0.955 kilometer square. The total number of household is 17338 with 18 blocks and the total population is 86081. Most of the residents of Sangyoung make a living by trading and providing services.

The reason why those three townships out of thirty three townships were chosen was mainly due to their geographical location. And another reason was due to the different livelihood those three township get involved in. As South Dagon and Thakayta are suburban areas, some households might live from hand to mouth while others are employed by companies or are working as government staff or just dependents in the family. In this way, varieties of data can be collected and that might be interesting to collect data from housewives of different livelihood.

4.1.2 Questionnaire Design

The researcher is using the survey questionnaire to collect the data for the changes of demographic trend in Myanmar. The closed-ended questions are applied in this study. The researcher prepared the survey questions for the demographic factors, socio-economic status and the plan to have a child.

4.1.3 Quantitative Data Collection

According to (Babbie, 2010), quantitative method is used to measure the objective of the quantify the problem through numerical data or mathematical data, which is transformed into statistics. The data are collected through surveys, online survey questionnaires or polls. The quantitative method mainly focuses to gather numerical data in detail. The result is generalized bases on a large sample population. The researcher applied the quantitative data collection by using the closed-ended questions. Defranzo (2011) stated that quantitative research which is used to know deeper and thought of the problem or objective of the research. The researcher uses the face to face interview with the respondents for the changes in demographic trends of Myanmar.

4.1.4 Sampling Method

There are two types of sampling methods: probability and non-probability sampling methods. The population of this study is known and the researcher uses the probability sampling. The researcher selects Thakayta Township, South Dagon Township and

Sangyoung Township. The cluster sampling is applied to collect the data. The cluster sampling divides the total population into subgroups, then one of more of these subgroups is randomly selected to represent the total population. The researcher determines the area to be surveyed and identify subgroups. The researcher uses two step sampling with simple random sampling method. The researcher is using the computerized number system to select the households of those areas.

4.1.5 Sample Size

As population is known, the sampling frame is the household of the selected three townships of Yangon. Cochran's formula is applied for this study to know the changes of demographic trend in Myanmar.

$$(n = z^2 pd/d^2)$$

Where n = sample size

Z = reliability co-efficient at 95% confidence level = 1.96

P = proportion

$$(q = 1 - p) = 1 - 0.05 = 0.05$$

(d = desired precision = 0.05)

Therefore n = 87

To correct design effect, $n = 87 \times 2 = 174$

Therefore, 200 respondents of household were used for the sample size to get the data for the study of the changes of demographic trend in Myanmar.

4.2 Background profile of the selected township (Thakayta)

Thakayta township is located in the eastern part of Yangon, Myanmar. The township comprises 19 wards, and shares borders with Thingangyun township in the north and the west, the Bago River in the east, and Dawbon township in the south. The Pazundaung Creek flows through the township. It was built on the peninsula of Pazundaung Creek and Nga Moe Yeik creek in eastern part of Yangon. Thakayta township was founded in 1959 and made up of middle class and working class neighborhoods. To be exact,

Thakayta township was founded by Yangon Mayor Colonel Htun Sein during General Ne Win's Care taker government in order to relocate illegal slams in Yangon.

Thakayta township belongs to one of the 33 townships in Yangon Region. The total population is 220,556 which comprises males 107,290 and females 113,266. The highest population percentage is urban population with the area of 12.8 kilometers. There are altogether 19 wards.

4.2.1. Households and population of the study townships (Thakayta)

In Thakayta township, there are slightly more females than males with 95 males per females. The population density of Thakayta township is 17,258 per square kilometer and there are 4.7 persons living in each household in Thakayta which is slightly higher than the Union average.

Table 4.2.1: Population and number of conventional households by sex by ward; Thakayta Township (East District Region)

Sr	Wad	No. of Conventional households	Population		
			Total	Males	Females
	Total	45,456	220,556	107,290	113,266
	Ward	45,456	220,556	107,290	113,266
1	Set Hmu Let Hmu(W)	935	5,751	3,225	2,526
2	No(1) Ah Naw	3,552	18,176	8,505	9,671
3	No(1) Htu Par Yon(W)	2,587	11,887	5,461	6,426
4	No(2) (South)(W)	1,620	7,947	3,741	4,206
5	No(2) (North)(W)	2,714	13,399	6,449	6,950
6	No(3) Yan Pyay(W)	2,957	14,194	6,695	7,499
7	No(3) Man Pyay(W)	2,192	10,247	4,692	5,555
8	No(4)(South)(W)	1,694	8,056	3,801	4,255
9	No(4)(North)(W)	1,363	6,446	3,001	3,445
10	No(5)(W)	1,574	7,183	3,462	3,721
11	No(6) (East)(W)	1,807	8,020	3,822	4,198
12	No(6) (West)(W)	2,117	9,859	4,758	5,101
13	No(7) (East)(W)	2,858	13,039	6,143	6,896
14	No(7) (West)(W)	1,282	7,056	3,813	3,243
15	No(8)(W)	2,941	14,026	6,681	7,345
16	No(9)(W)	2,053	10,293	5,167	5,126
17	No(10)(South)(W)	7,586	36,384	18,173	18,211
18	No(10)(North)(W)	2,113	10,481	5,144	5,337
19	Shu Khin Thar(W)	1,511	8,112	4,557	3,555

Source: The 2014 Myanmar Population and Census

The table mentioned the number of people living in different wards respectively. All the residents of Thakayta township live harmoniously in almost equal ratio in these nineteen wards.

4.3 Background profile of the selected township (Sangyoung)

Sangyoung township shares border with Kamayut Township in the north, Kamaryut township and Bahan township in the east, Kyimyindaing township in the west, Dagon Township and Ahlone township in the south. Myanigone ward, one of the popular wards in Yangon has the largest targeted pool for shopping mall, supermarket, citymart, restaurants and 24 hours stores. As the township is connected to Pyay road, Myaynigone is important junction to change the bus to get to any destination. Sangyoung street is populous and popular with many fashion stores, shops, offices and restaurants not only in the evenings but also at night.

Table 4.3.1 Population and number of conventional households by sex by ward; Sangyoung Township (West District, Yangon Region)

Sr	Ward	No. of Conventional households	Population		
			Total	Males	Females
	Total	20,635	99,619	43,993	55,626
	Ward	20,635	99,619	43,993	55,626
1	Way Lu Wun (North)(W)	944	4,396	2,027	2,369
2	Way Lu Wun (South)(W)	576	2,724	1,332	1,392
3	Mont Loke Saung Kone (North)(W)	829	3,759	1,743	2,016
4	Mont Loke Saung Kone (South)(W)	1,716	9,555	4,626	4,929
5	Kyun Taw (North)(W)	702	2,975	1,293	1,682
6	Kyun Taw (Middle)(W)	925	4,244	1,687	2,557
7	Kyun Taw (South)(W)	1,845	8,186	3,484	4,702
8	Than Ta Dar(W)	1,025	4,294	1,859	2,435
9	Lin Lun(North)(W)	1,555	6,674	2,754	3,920
10	Lin Lun(South)(W)	1,332	6,248	3,090	3,158
11	San Chaung (North)(W)	1,702	7,099	2,873	4,226
12	San Chaung (South)(W)	1,588	7,040	2,868	4,172
13	Shin Saw Pu(W)	593	3,480	1,532	1,948
14	Aung Chan Thar(W)	344	2,253	994	1,259
15	Thi Ri Khay Mar(W)	666	4,647	2,456	2,191
16	Hone Lan Bu Tar(W)	714	3,431	1,475	1,956
17	Myay Ni Kone (North)(W)	1,846	9,036	3,657	5,379
18	Myay Ni Kone (South)(W)	1,733	9,578	4,243	5,335

Source: The 2014 Myanmar Population Census

4.4 Administration of pilot test

The pilot survey was done after the designed questionnaires in Thaketa Township. In the pilot survey, 5 percent of the total sample size was tested which was (20 households). The total number of questions were 30 wherein quantitative and qualitative data were included. All the targeted number of households were families who were married with children and just married with no children. After data collecting process, some questionnaires were revised for better data collection. After that, the final questionnaire was structured.

4.5 Analysis

4.5.1 Respondents' personal profile

Before going through the analysis on the changes in demographic trend in Yangon, the respondents' personal profile was analyzed first. The first part of the study describes the respondents' profile which consists their age, marital status, educational progress, occupation, income, religion, number of children born from mothers of three generation, and marital duration.

In this study, the researcher studies the age group of the respondents of 3 townships. The age groups are divided into four groups. i.e. 18 – 28 years, 29 – 39 years, 40 – 50 years and over 50 years so that reproductive age groups are divided obviously. It will also be easy to gather the data for the specific age groups. The region to do the survey is chosen on the criteria of the geographical location of the areas. The two townships of South Dagon and Thaketa townships are chosen because they are two of the suburb areas in Yangon and Sanchaung is considered to be the centre of Yangon. The education level of respondents is categorized into three main groups which are under-graduated, graduated and post-graduated. They are categorized in this way so that respondents can easily answer if they are divided that way, i.e, those who just finished middle schools or high schools will go into Under-graduated category while graduated and post-graduated ones will obviously go under those two categories. It also helps organize data. In this study, the education level of the respondents that the researcher wants to study is under-graduated, graduated and post-graduated education level. In this survey, four types of occupations of the respondents are focused. They are those who have own business whether big or small, those who are government staff, those who are company staff and those who do not belong to those categories fall into the category of others. The occupations of the respondents are included in the survey so that different types of occupations can be linked to the number of children born. The income level of respondents is included in the questionnaire because this is one of the factors to take into account of the number of children born and this can be one of the reasons why there is decline in fertility these days. This factor is included just to examine the fact if there is any relationship between the family planning and the religion of the respondents since in some countries, there is a direct relationship between the family and their religion. In some culture, some women are forbidden to have more children if their first-born child is baby son. Therefore, this is included to check if the same situation takes place in Myanmar.

Table 4.5.1 Demography of the respondents

Demography of the Respondents						Total
Age Group	18 – 28 years (13%)	29 – 39 years (35%)	40 – 50 years (41%)	Over 50 years (11%)		100%
Region	Tharketa (34%)	Sanchaung (33%)	South Dagan (33%)			100%
Education level	Under-graduated (18%)	Graduated (69%)	Post-graduated (13%)			100%
Occupation	Own business (21%)	Government Staff (40%)	Company Staff (21%)	Others (18%)		100%
Monthly Income	Under 150,000 MMK (20%)	150,000 – 300,000 MMK (21%)	300,001 – 450,000 MMK (21%)	450,001 – 600,000 MMK (28%)	Over 600,000 MMK (10%)	100%
Religion	Buddhist (62%)	Islamist (19%)	Christian (19%)			100%

Source: (Survey Data, 2019)

According to table (4.5.1), it can be seen from the result that the majority of the respondents of this study is the age group between 40 – 50 years which is 41% of the respondents. The second majority group is 35% with the age group between 29 – 39 years and the remaining age groups are between 18 – 28 years and over 50 years with the percentage of 13 and 11 respectively. It can be seen that the two highest percentage of all the age group is within the range of 29 to 50 years which is considered to be the reproductive age. In this study, the data were collected in those townships which are Thaketa, Sanchaung and South Dagon, which is calculated according to the sample size calculation. This can be seen as equally divided percentage.

The education level of the respondents who are involved in this study shows that most of the female respondents involved in this study are graduated and the percentage is the highest of all (69%) while the post-graduated is only 13% of the total respondents and under-graduated comprises 18% of all. Since graduated are taken as the educated ones, that data can be linked to the number of children born per mother. According to this study, the majority of the female respondents are government staff whose percentage is 40. The percentage of the own business and company staff is 21% while the others is 18% respectively. The highest percentage of respondents is working as government staff while the least percentage goes to the category of others. This table shows that the monthly income level of the respondents which is between 300,001 and 450,000 MMK has the highest percentage of 21 and the percentage of monthly income level between 450,001 and

600,000 MMK is 28. The remaining 40% is monthly income level of under 150,000 MMK and between 150,000 and 300,000MMK. This can be concluded that the highest percentage of 31 is earned as most of the respondents are government staff and therefore it is reasonable that they do not earn the highest category of all. This will also affect the number of children they have because they also have to take into consideration about the cost of living and making ends meet in their matrimonial life. According to the study, the majority of the respondents who take refuge in Buddhism is 62% and the rest is at the same percentage with 19. This is probably because the country itself is a Buddhist country and so it is reasonable that most of the respondents are Buddhists.

During the face-to-face interviews, the respondents also included some points which stated their educational background. Some discontinued their studies for some reasons after getting married while some continued their studies so that they can get better job prospects. And concerning with the category of monthly income, most of them complained how the cost of living becomes so high that they cannot make both ends meet. For the question of religion, it was said that Islamists are encouraged to get more children while Buddhists and Christians do not have those rules.

4.5.2 Number of children ever born

The number of children born factor is asked three times here in this survey so that the data for three generations can be collected. This table is firstly asked to respondents, and the number of children born in their marriage life is divided into three groups.

The number of the children ever born of the respondents was studied in three categories, which are no children born, between one and two children, and three and four children respectively.

Table 4.5.2 Number of children ever born

Number of children ever born	No of respondents	Percentage
0	20	10%
1 – 2	168	84%
3 – 4	12	6%
Total	200	100%

Source: Survey Data, 2019

According to table 4.5.2, the number of children ever born of 1-2 is 84%, which is the highest among the three categories, 3-4 is 6% and the remaining 10% does not have the children ever born. This can be connected to the income level and the occupation of mother who think twice to have more than one or two babies.

During the focused group discussions, the respondents gave quite a few reasons why they have fewer children compared to their mother. Very few respondents said they are incapable of having babies. A small percentage of respondents said they are worried about the future of their marriage life because getting divorce is very common between couples these days. Therefore, they think twice to have babies so that they can avoid having attachments in case they are getting divorced. The rest of the respondents said they do not want to leave their babies without being under their watchful eyes while they are away on job or business and therefore, they intentionally have only one or two babies so that they can give time to them.

4.5.3 Husband's Approval of chance to have a child

This factor is included because this is considered as one of the main reasons why fewer children are born these days. This can also be taken as another way of family planning which is the agreement between husband and wife to decide to have some more children or not. Therefore, this can also be considered as one of the main factors.

For the approval of chance to have a child, the husband and respondent's approval is important. The researcher studied the approval and disapproval of the husband and respondents.

Table 4.5.3 Husband’s Approval of chance to have a child

Husband approval	No of respondents	Percentage
Approve	168	84%
Disapprove	32	16%
Total	200	100%
Respondent’s approval	No of respondents	Percentage
Approve	128	64%
Disapprove	72	36%
Total	200	100%

Source: Survey Data, 2019

The results show that the majority of the respondents who have the husband’s approval of chance to have a child is 84% and the remaining 16% is disapproval. It seems that in Myanmar culture, having husband’s approval is quite important because husband is considered as the head of the household and so having approval from husband is done before doing anything important such as having babies. Having realized the cost of living and the cost of bearing a child, husbands also think carefully before getting babies so that they can manage well after getting the babies. Likewise, both the husband’s and wife’s approval is needed to have children, and so this factor is also put in the questionnaire. For the approval of chance to have a child, the husband and respondent’s approval is important. The result shows that the majority of the respondents is 64% who has the approval of the respondents of chance to have a child. Most of the respondents agree because they want to have babies at least one or two to leave as their generation. Some just want to strengthen their bondage between couples while others want to have babies so that they can rely on them when they grow older and are unable to earn their living.

4.5.4 Numbers of children ever born of mothers

This factor is taken into account so that the trend of three generations is obviously seen and so categorized into two main groups.

Table 4.5.4: Numbers of children ever born of mothers

Number of children ever born of mother	No of respondents	Percentage
3 - 4	98	49%
5 and above	102	51%
Total	200	100%

Source: Survey Data, 2019

According to the table (4.6.6), the majority of the percentage of the children ever born of mothers is over 5 children. This can be assumed that mother of the respondents gave birth to more children compared to her daughter. This might happen because there is a world of difference between the cost of living then and the cost of living these days which made mothers of these days to think twice to have more babies. Another reason is probably due to the family planning program since respondents are more educated and more accessible to do some family planning techniques and be able to provide better health care services to the children they gave birth to. Moreover, the fact that the respondent's mothers gave birth to more babies is probably due to lower cost of living, higher life expectancy, and lesser population growth those days compared to those of these days. It is said that the lifespan those days was longer than the lifespan these days which is quite shrinking despite the improvement in medical knowledge and health care support.

4.5.5 Number of children ever born of grandmothers

This is the second factor that can be taken into account in having more children or not. This question is included so that the number of children of grandmothers of respondents' gave birth to is known and can be linked to her daughter's time

Table 4.5.5 Number of children ever born of grandmothers

Number of children ever born of grandmother	No of respondents	Percentage
3 - 4	46	23%
5 and above	154	77%
Total	200	100%

Source: Survey Data, 2019

According to the table (4.5.5), the numbers of children ever born of the respondents' grandmothers shows that over 5 children ever born is 77%, which is the highest of all categories, the remaining 23% is the number of children ever born 3 – 4. This can be concluded that the respondent's grandmother gave birth to more children than the respondents. This is probably due to the different lifestyle and the cost of living which might be cheaper in the olden days compared to that of respondents'. During the focused group discussions, the respondents mentioned how competitive their life is compared to that of their grandmothers. In the olden days, their grandmothers were not supposed to work and instead they did the household chores and cared for the babies and that was all they had to do and so they could enjoy being with their mother and got full loving kindness and attention from them. However, for the respondents, although they were married, they still had to work in order to cover the daily costs and so they thought twice in order to get more babies.

4.5.6 Different reasons for no plan to have a child

This information was inserted to get to know to some extent that people have different reasons to have children. There can be a lot of reasons why there has been a decline in birth rate and so this factor shall help in linking the reasons why there are fewer children born ever.

The reasons of the no plan to have a child are important to know the changing of demographic trends in Yangon region. The reasons are divided into seven categories such as economic problems, couple's approval, health issue, higher cost of living, inadequacy of income and higher cost of rearing a baby. Moreover, some more reasons are added due to the answers respondents gave during the interviews. The reasons are that the couples are waiting to get married, waiting longer to have children, career focus and the effect of fertility treatments.

Table 4.5.6 Different reasons for no plan to have a child

Reasons	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	No	%	No	%	No	%	No	%	No	%
Economic problem							(56)	28%	(144)	72%
Couple approval of no plan to have a child			(18)	9%	(34)	17%	(42)	21%	(106)	53%
Health issue of husband or/and spouse			(164)	82%	(10)	5%	(26)	13%		
Higher cost of living							(18)	9%	(182)	91%
Inadequacy of income							(84)	42%	(116)	58%
Women employment			(34)	17%	(46)	23%	(106)	53%	(12)	7%
Higher cost of rearing a baby			(24)	12%	(12)	6%	(44)	22%	(120)	60%
Sterilization method is improved and developed in government hospital							(128)	64%	(72)	36%
Health Education of child planning is improved and developed							(138)	69%	(62)	31%
Increasing Migrant workers to foreign countries			(12)	6%	(40)	20%	(108)	54%	(40)	20%
Marriage at old age					(98)	49%	(60)	30%	(42)	21%
Not ovulating or gynecological problems			(108)	54%	(66)	33%	(26)	13%		
Divorce with husband	(86)	43%	(54)	27%	(32)	16%	(28)	14%		

Source: Survey Data, 2019

According to the table 4.5.6, the respondents who strongly agreed the economic problems for no plan to have a child is 72%. The strongly agreed of reasons of couple approval of no plan to have a child is 53%. The strongly agreed percentage of higher cost of living for no plan to have a child is 91%. The strongly agreed percentage of inadequacy of income is over 58%. The strongly agreed percentage of higher cost of rearing a baby is over 60%. They disagree the health issue of husband or spouse for no plan to have a child which is 82%. The respondents said that the electrical charges and the living costs are becoming higher and it is one of the main reasons why they decided to have no child. The fact that the cost of children's education and their development process is very high in Myanmar is also included. The monthly income of the family of the respondents is not so high and perhaps that is also the main reason why they are determined not to have children anymore. As a result, they have plans to have some more children. The other factors such as health issue and women employment are not the main reasons of plan to have no child. However, the amount in the number of migrant workers which was increasing can also be considered as one of the reasons as well. The fact that getting married at an old age and having gynecological problems and last but not least, the fact of getting divorce or the fear of getting divorce with husband are also part of the reason which contributed to some degrees in having no plan to have a child.

During the face-to-face interview, the respondents mentioned some reasons why they have lesser babies. Some of them said more and more unmarried couples these days are just waiting to get married while the married couples are waiting to have children. Some couples said they need to focus on their career while the rest of the respondents said the effect of fertility treatment is getting better and that is why the birth rate is declining.

4.5.7 Fluctuations in having children of the women in three generations

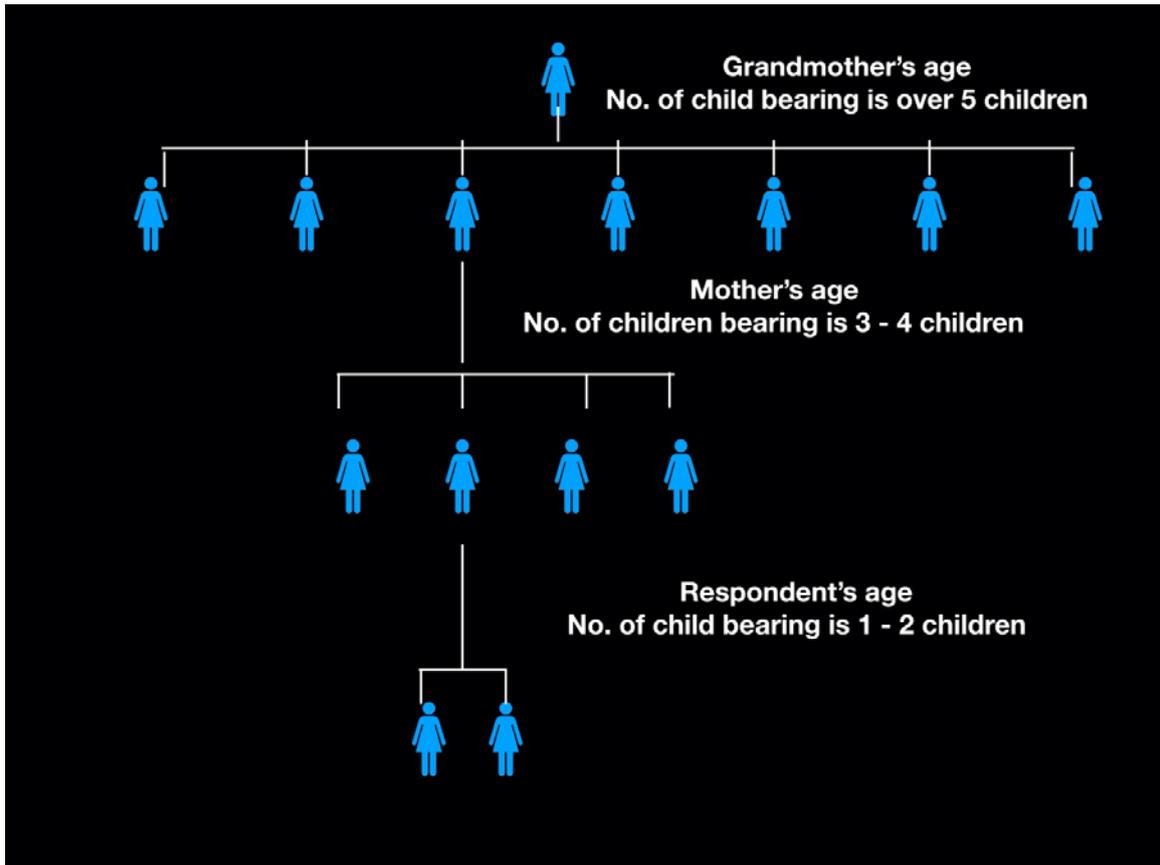
The percentage of fluctuations in having children of the women by collecting the data of the respondents, their mothers and their grandmothers so that three consecutive generations are obviously found out. This might also help the readers understand the changing trend in the number of children born nowadays compared to those of the olden days.

Table 4.5.7 Percentage of fluctuations in having children of the women in three generations

Number of children ever born	Grandmother	Mother	Respondents (daughter)
0	-	-	10%
1 – 2	-	-	84%
3 – 4	23%	49%	6%
5 and above	77%	51%	-
Total	100%	100%	100%

According to the table (4.5.7), the results show that the fluctuations having children of Myanmar women in three generations. They face many reasons and problems to have a child. This table shows that the number of children (over 5 children) is the highest in the grandmother's time. Nowadays, Myanmar women have many reasons to have no more child and therefore their birth rate is reduced. The majority of the women who have under 2 children is over 90% of the total respondents. The grandmother's generation have over 5 children in their family which is the highest percentage and the mother's generation also have the highest percentage of having over 3 children in the family. But today's generation (the respondents) do not have over 3 children. The number of children born is decreased in today generations due to many reasons mentioned above. The reasons include that couples are waiting to get married before entering the wedlock, some are having financial concerns while some want to have career focus. Other reasons include having higher living cost and the scarcity of time,i.e. which they cannot afford to spend time , when they are having their babies.

Figure 4.6 Generation Pyramid of having children number of 3 - 4 of the three generation of Myanmar Women



Source: Survey data 2019

According to the figure 4.6, it can obviously be seen from the family tree that the highest number of babies of more than five children were born by grandmothers of the respondents while mothers of the respondents gave birth to around 3 or so children. On the contrary to both of those two generation, the respondents gave birth to approximately 2 children due to several factors mentioned.

4.7 Various perspectives of married women on the children's mortality

In this study, various perspectives of married women on the children's mortality of the selected three regions of Yangon were studied.

Table 4.7 Various perspectives of married women on the children's mortality

	Grandmother	Mother	Daughter
Mortality of Children (Under 5 years)	62%	41%	12%
Mortality of Children (Over 5 years)	37%	9%	0%

Source: Survey data 2019

According to the data collected from the survey, various perspectives of married women on the children's mortality which includes infant mortality rate and under 5-year of mortality is shown in the table. The percentage of the mortality of the children under 5 years of grandmother is 62%, and that of the mother is 41% and that of the respondents is 12% of the total population. The percentage of the mortality of the children over 5 years is 37% in grandmother, 9% in mother and 0% in the respondents. This is because these days, respondents use better health care system to give birth to babies while their mother and grandmother could not use like these ways. Having better standard of living is one of the reasons why they have very low number of death rate.

4.7.1 Reasons why life expectancy of children is increased

In this study, the reasons why life expectancy of children is increased is studied.

Table 4.7.1 Reasons why life expectancy of children is increased

Reasons	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	No	%	No	%	No	%	No	%	No	%
Improved health Education of Parents							(72)	22%	(128)	78%
Health Care Service is Improved					(30)	15%	(126)	63%	(44)	22%
Health knowledge of printed media							(168)	84%	(32)	16%
Health knowledge from Social Media							(22)	11%	(178)	89%
Increasing health care centers in each township					(46)	23%	(122)	61%	(32)	16%
Appropriate Home care and timely treatment of complications of newborns			(86)	43%	(74)	37%	(24)	12%	(16)	8%
Expanded programme on immunization							(134)	67%	(66)	33%
Infant feeding health care is increased							(138)	69%	(62)	31%
Integrated management of childhood illness for all children under 5 years old.			(10)	5%	(96)	48%	(70)	35%	(24)	12%

Source: Survey data 2019

According to the survey data on the reasons why life expectancy of children are increased, the main reason why there is higher life expectancy in children is due to the reason of health knowledge from social media which is counted for 89% while the least percentage of 16 can be seen in the reason of health knowledge of printed media. The highest percentage is collected because of the influence of social media these days among people of all ages. Therefore, it is the best way to disseminate proper health knowledge via social media towards the targeted audience. The second largest reason is due to improved health education of parents. Since more and more parents are getting more educated and having better living standard, it is reasonable that children are also taken care by the health conscious parents. The rest of the factors which are improvement of health care service, health knowledge of printed media and increasing health care centers in each township are getting lower percentage compared to the reasons above mentioned. The role of printed media which used to be influential is no longer influential among the public. And also, the reason why having expanded programme on immunization and the increase number of percentage in infant feeding health care received the almost same percentage of 33 while 12% of the respondents said it was due to the integrated management of childhood illness for all children under 5 years old compared to that of the olden days.

CHAPTER V

CONCLUSION

5.1 Findings

This study is designed to explore the population trend along with its crude birth rate, crude death rate and child mortality rate and to analyze the causes of fluctuations in birth rate and death rate in Yangon Region. This study mainly focuses on the declining birth rate and the reasons why there is a decline behind this. This study used questionnaire and focused group discussion to get the objective of the thesis. The survey has been carried out in three townships in Yangon Region which are selected according to their location. The first part of the survey questionnaire focused on the personal profile of the respondents who are married women. The second part of the survey focused on the respondent and her mother and her grandmother who gave birth to more children than the respondent herself. The reason why asking three people in the same questionnaire is to find out how many children were born during these three generations so that the declining trend can obviously be seen. The third part focused on the reasons why respondents have fewer children nowadays. The fourth part of the survey focused on the death of under 5 years old and over 5 years old children in three townships and the reasons why the death rate is lower. The results are as follows:

In the first part of the survey, 70% of married women were found to be educated. They tend to have more higher education than their mothers and grandmothers. The respondents are working mothers who also raise their children at the same time. The second part of the survey resulted as the respondent's mother and grandmother were having more children than they actually have nowadays. It showed that the trend was declining and it is also projected to decline in future. The third part of the survey focused on the reason why they have fewer children. The reasons are that the cost of living gets higher than before, the cost of child rearing is greater than the olden days when the respondents were raised, and the married women were getting higher qualifications and so they have knowledge on family planning as well. Another reason is that due to lower number of married couples

nowadays who do not take marriage as a priority but having better standard of living and getting great career in life as their priority. Other reasons mentioned by the respondents include the condition when they are waiting to get married while fulfilling their needs and wants in life; the condition when the couples are waiting longer to have children; the condition of having financial concerns; the condition of having career focus and the condition of the effect of fertility treatments.

Moreover, during the 30 years period of the study on annual percentage of population trend show there is a steady decline in the trend of population which simultaneously show that there is a direct linkage between the family size and the education of mother of the households, there is a linkage between the higher living cost as well as higher cost of child rearing process and the birthrate decline. The consequences of the low birth rate might be higher number of dependency ratio and the labor force participation of young people will inevitably be lesser than the previous 30 years, which is quite a worrying matter for the country. On the other hand, labor force migration is taking place in Myanmar and so there will be a shortage in labor force which can be said in other words as brain drain. As in global scenario, demographic changes in Myanmar are more or less accompanied by industrialization, urbanization and socioeconomic status changes in women. When there is population growth and economic growth despite the low fertility, there are more chances of having polluted environment which will be harmful to the people's health. For this reason, attentive public health care should be done to improve people's life expectancy. According to the data from this Thesis, chances are that increasing in older age population will definitely demand more health care and social security. Therefore, with adequate health care financing system and social security scheme, future generation will have fewer burdens to population growth.

5.2 Suggestions

If Myanmar wants to transform increasing working age population to valuable human resource, it is necessary to do some investment for human capital because education contributes significantly to economic growth and development. There is a need to have high quality education to meet the skill-demand needs of the economy. The country's economy will benefit from its population growth and structure change. Therefore, the only infrastructure, which can help a nation prosper, is to give better education to the new generation so that only the qualified generation can help the country out of the misery.

As the government of Myanmar considers the country under-populated, no official family planning programmes have come into existence yet. Fertility decline in rural areas is slower than in the urban areas and therefore, the rural-urban differential in fertility has become more pronounced. Since Myanmar is a Buddhist country and Buddhism does not oppose any kind of contraception and because people are familiar with modern methods of contraception, if the government were to set up a family planning programme, fertility decline could be faster than in some neighbouring countries. Although Myanmar is still considered as under-populated, population growth must be controlled in order to bring about significant economic development. Since Myanmar is one of the less developed countries, economic development is certainly hampered by the currently moderately high population growth rate. Therefore, it is necessary to slow population growth by controlling fertility in order to achieve economic and social development in Myanmar.

Since the case study is in Yangon Region, the survey result showed that the rate of fertility is declining particularly at an alarming rate due to the reasons above mentioned. What can be considered to solve this problem is if policy intervention could be effective in raising very low fertility. Those interventions include, alongside a broader set of socio-economic policies, benefits to large families, family-focused policies to support new parents and improved parental leave. Moreover, policies should also be designed to facilitate work-life balance and encourage greater fertility which appear to have only a limited effect. Since those type of policies approach has gain some success to some extent in European states, the practice of these approaches will surely be helpful for the sake of the country's future where the growth of youth labor force can be witnessed.

Yangon region is also seeing dwindling birth rate and rising life expectancy. Aging populations are leading to greater spending on healthcare and pensions, but the number of people working and paying taxes is steadily going down. As a result, Yangon region is at risk of becoming "demographic time bombs" signifying a crisis of too few working people. Therefore, in order to make a slight rise in the country's fertility, the government should take steps to encourage married women to have children. The government should offer cash incentives to people who have more than one child so that they can maintain a stable population.

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APPENDIX 1

Survey Questionnaire

This is Myint Thuzar Aung who is a student of EMDevS at Yangon University of Economics. I am doing my thesis right now and conducting a research in “A study on the changes of demographic trend in Yangon.” I would greatly appreciate your input in this research. There is no right or wrong answer, only your opinion. Your feedback will be voluntary and anonymous and also it will be dealt as strictly confidential. Please help me to complete this survey.

Demographic Profile of the Respondents

1. Age group
 - 18 – 28 years
 - 29 – 39 years
 - 40 – 50 years
 - Over 50 years
 - Prefer not to say
2. Region
 - Tharketa Township
 - Sanchaung Township
 - South Dagon Township
3. Education Level of the Respondents
 - Illiterate
 - Under-graduated
 - Graduated
 - Post-graduated
 - Prefer not to say
4. Occupation of the Respondents
 - Own business
 - Government Staff
 - Company Staff
 - Unemployed
 - Others, Please specify _____
 - Prefer not to say

5. Monthly Income Level
 - Under 150,000 MMK
 - 150,000 – 300,000 MMK
 - 300,001 – 450,000 MMK
 - 450,001 – 600,000 MMK
 - 600,001 – 750,000 MMK
 - Over 750,000 MMK
6. Religion
 - Buddhist
 - Islamic
 - Christian
 - Others, Please specify _____
7. Number of children ever born (respondent)
 - 0
 - 1 – 2
 - 3 – 4
 - 5 +
8. Number of living children (Respondent)
 - 0
 - 1 – 2
 - 3 – 4
 - 5 +
9. Marital Duration
 - 0 – 4 years
 - 5 – 9 years
 - 10 – 14 years
 - Over 14 years
10. Husband approval of chance to have a child
 - Approve
 - Disapprove
11. Respondent approval of chance to have a child
 - Approve
 - Disapprove

12. How many family members do you share your house?

- Under 3 family members
- 3 – 6 family members
- 7 – 10 family members
- Over 10 family members

Demographic profile of Her Mother

13. Age group

- 18 – 28 years
- 29 – 39 years
- 40 – 50 years
- Over 50 years
- Prefer not to say

14. Region

- Thaketa Township
- Sanchaung Township
- South Dagon Township

15. Education Level of her Mother

- Illiterate
- Under-graduated
- Graduated
- Post-graduated
- Prefer not to say

16. Occupation of her Mother

- Own business
- Government Staff
- Company Staff
- Unemployed
- Others, Please specify _____
- Prefer not to say

17. Monthly Income Level

- Under 150,000 MMK
- 150,000 – 300,000 MMK
- 300,001 – 450,000 MMK
- 450,001 – 600,000 MMK
- 600,001 – 750,000 MMK
- Over 750,000 MMK

18. Number of children ever born (Her Mother)

- 0
- 1 – 2
- 3 – 4
- 5 +

19. Number of living children (Her Mother)

- 0
- 1 – 2
- 3 – 4
- 5 +

20. Marital Duration

- 0 – 4 years
- 5 – 9 years
- 10 – 14 years
- Over 14 years

Demographic profile of Her Grandmother

21. Age group

- 18 – 28 years
- 29 – 39 years
- 40 – 50 years
- Over 50 years
- Prefer not to say

22. Region

- Thaketa Township
- Sanchaung Township
- South Dagon Township

23. Education Level of the Her Grandmother

- Illiterate
- Under-graduated
- Graduated
- Post-graduated
- Prefer not to say

24. Occupation of the Her Grandmother

- Own business
- Government Staff
- Company Staff
- Unemployed
- Others, Please specify _____
- Prefer not to say

25. Monthly Income Level of Her Grandmother

- Under 150,000 MMK
- 150,000 – 300,000 MMK
- 300,001 – 450,000 MMK
- 450,001 – 600,000 MMK
- 600,001 – 750,000 MMK
- Over 750,000 MMK

26. Number of children ever born (Her Grandmother)

- 0
- 1 – 2
- 3 – 4
- 5 +

27. Number of living children (Her Grandmother)

- 0
- 1 – 2
- 3 – 4
- 5 +

28. Marital Duration

- 0 – 4 years
- 5 – 9 years

- 10 – 14 years
- Over 14 years

Plan to have a child

29. Do you have a plan to have a child?

- Yes
- No

30. If No, please choose the following reasons: (please tick one box)

- 1 = strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = agree
- 5 = Strongly Agree

Reasons	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Economic problem					
Couple approval of plan to have a child					
Health issue of husband or/and spouse					
Higher cost of living					
Inadequacy of income					
Women employment					
Higher cost of rearing a baby					
Sterilization method is improved and developed in government hospital					
Health Education of child planning is improved and developed					
Increasing migrant workers to foreign countries					

Marriage at old age					
Not evaluating or gynecological problems					
Divorce with husband					

31. Which one do you prefer: baby girl or baby boy?

- Baby boy
- Baby girl
- It does not matter.

32. Is there any death or miscarriage of under 5 years children of mother?

Grandmother –

Mother –

Respondent –

33. Is there any death of over 5 years children of mother?

Grandmother –

Mother –

Respondent –

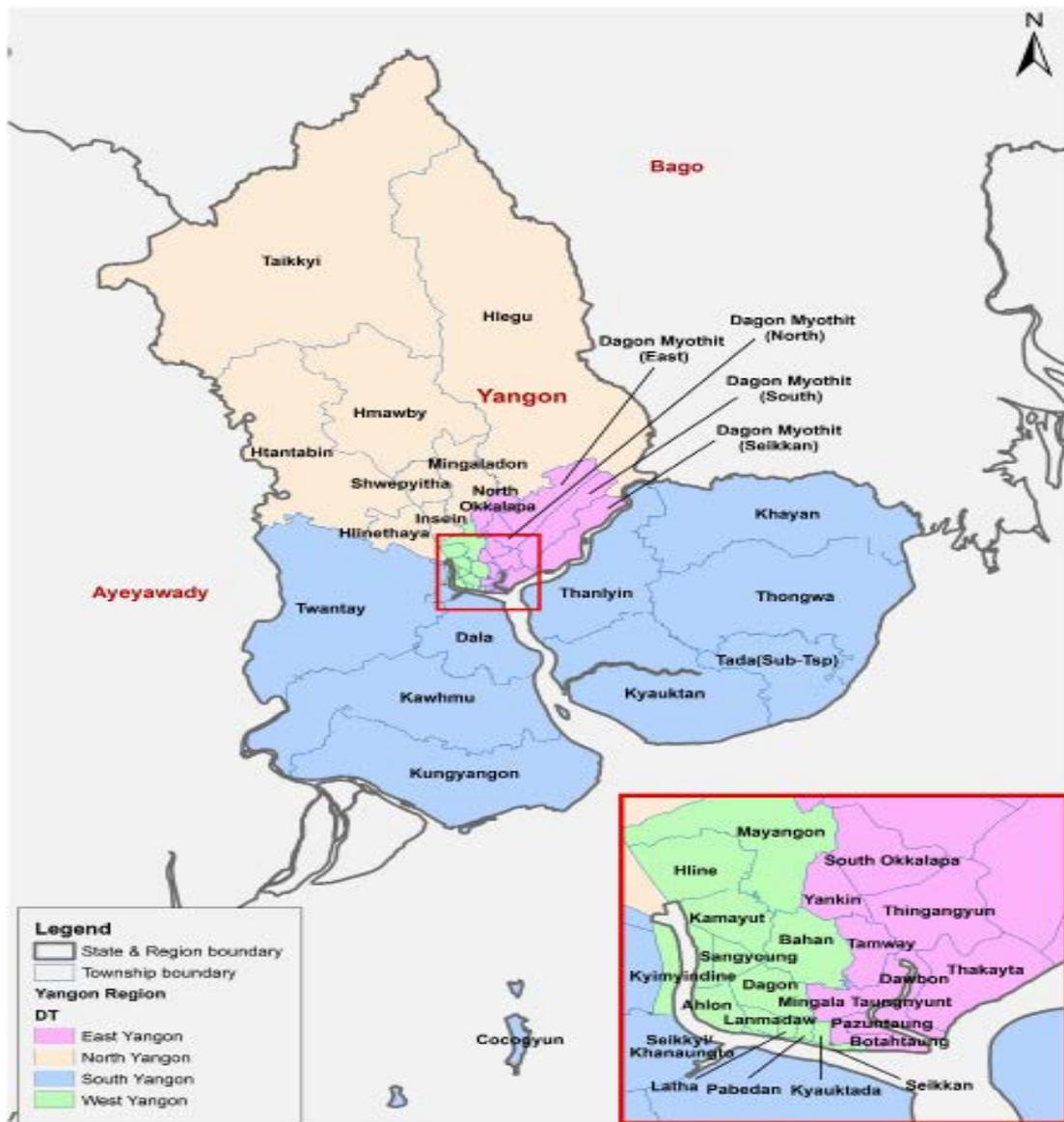
34. Reasons why the death rate of children is decreased

Reasons	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Improved health Education of Parents					
Health Care Service is Improved					
Health knowledge of printed media					

Health knowledge from Social Media					
Increasing health care centers in each township					
Appropriate home care and timely treatment of complications of newborns					
Expanded programme on immunization					
Infant feeding health care is increased					
Integrated management of childhood illness for all children under 5 years old					

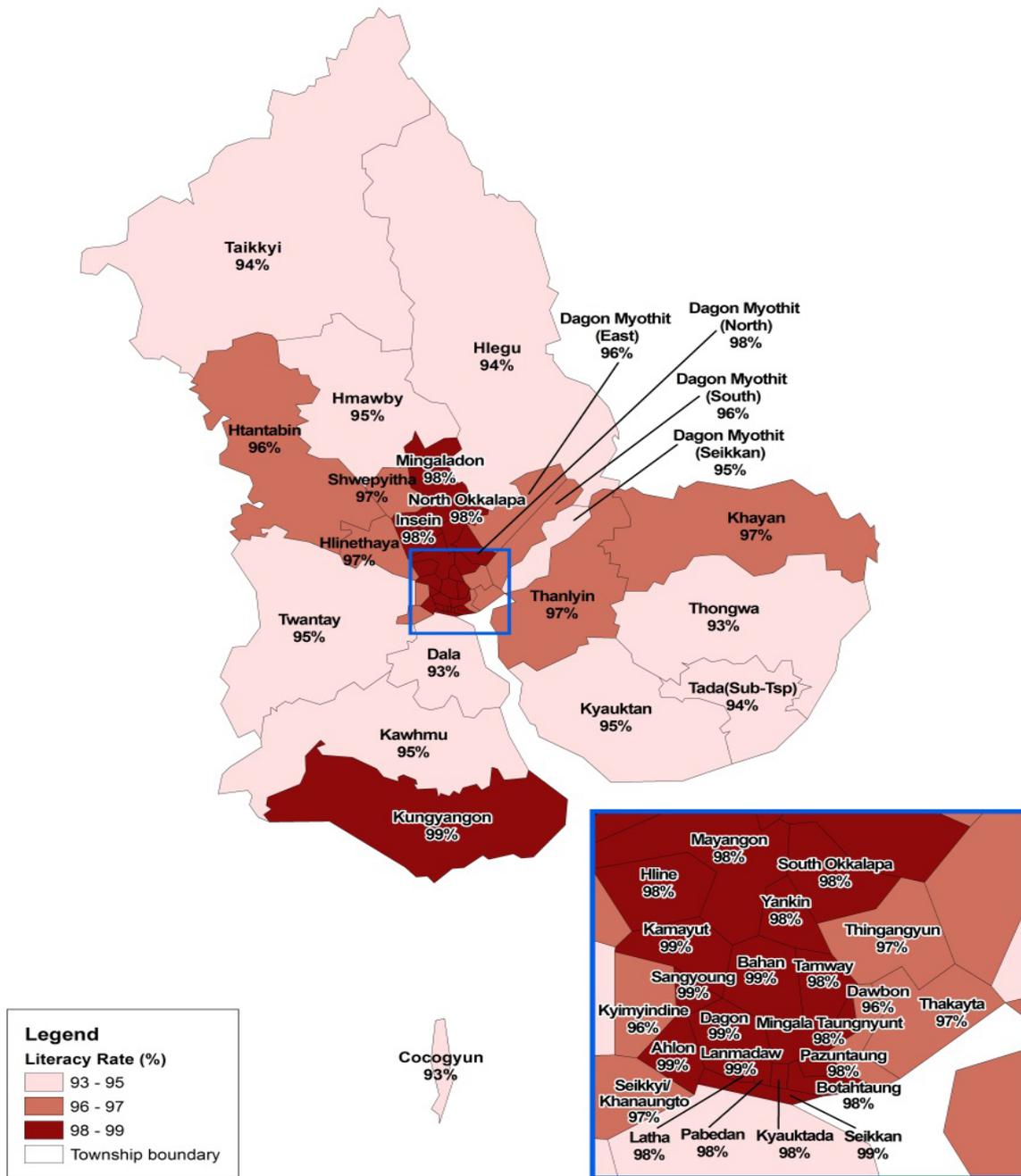
APPENDIX II Maps of Townships

Figure 4.2 Map of Yangon Region which shows the township



Source: 2014 Myanmar Population and Housing Census

Figure 4.3 Map of Yangon Region which shows the townships



Source: the 2014 Myanmar Population and Housing Census

Figure 4.4 Map of Yangon Region showing townships



Source: 2014 Myanmar Population and Housing Census