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Prospects and Contexts of Demographic Transitions in Thailand

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Abstract

Thailand is facing an era of the "second demographic transition" in which the falling of fertility and mortality rates occur simultaneously. The country's birth rates are now below replacement, causing the labor force to shrink gradually, while population aging rates grow faster. These major demographic forces are putting Thai society into the so-called "demographic disruptions" period, which will transform Thai society considerably. The shifting of population configurations today now affect the country's social, economic, political, and public health landscapes to a certain degree. This article proposes that the emergence of Thailand's demographic burden today is a result of demographic transitions in both the distant and recent past. The purpose of the article is to review the country's demographic transitions from the beginning of the Rattanakosin Era in 1782 to the present. It traces historical evidence in the form of demographic statistics and preexisting research. The article emphasizes four different demographic stages related to the differing rises and declines of population including fluctuations in immigration levels while offering scenarios that may elucidate the changes that are contextualized and intimate trends of the future. The article also proposes recommendations that are potentially useful to other developing countries which may experience this stage of demographic disruptions in the future.

Keywords

Demographic transition; demographic structure; demographic history; population; aging tsunami, demographic disruption

Introduction

Many Asian countries shifted away from the so-called '*demographic bonus*' period when the proportion of the population that was of a capable working age was high to the so-called '*demographic tax*' period, when the total number of the population aged between 15-64 years declined while the proportion of individuals aged below 15 as well as 65 and over were rising precipitously (UNFPA, 2016), a phenomenon that continues to the present day. For a country experiencing this demographic transition, it can disrupt its economic strength and vitality. Several scholars have dubbed this demographic phenomenon 'disruptive demographics' or another epithet of 'demographic disruptions.' In Asia, Japan, Singapore, Taiwan, Hong Kong and South Korea they have faced these demographic disruptions already. The disruptions relate to two important demographic conditions. They include an aging work force, and a decline in the amount of individuals who are young adults (Asian Development Bank, 2011). They reshape

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demographic policies including fertility, retirement age, and labor force participation in those countries.

Thailand is not an exception. It is now entering the *'demographic disruptive stage,'* where two major demographic forces including a falling rate of fertility and a faster pace of an aging population happen simultaneously. This prompts the government to rework population and welfare policies, as well as to alert business investors to refigure new trends in the consumer market (Johnson, 2018; Roy, 2017). Currently, Thailand ranks as the 20th most populous country in the world, accounting for 0.91% of the total world population (United Nations, 2017). The Institute for Population and Social Research, Mahidol University estimates the population in 2018 will be at 66.2 million (IPSR, 2018). In 2017, the United Nations projected the country's number of children under 15 years old was at 17% of the population, the younger working age group (15-24 years of age) was 14% of the population, adults aged between 25 and 59 were 52% of the population, and the elderly (60+) was estimated as consisting of 17% of the population (United Nation, 2017).

Objective

This article attempts to analyze and contextualize demographic metrics to help elucidate past, present and future scenarios of population transitions in Thailand. The authors stress that the demographic changes that have taken place during the Rattanakosin Era (1782-present) are now playing out in Thai society and economy, and that an approaching aged society requires a new direction of population responses. Thailand's experience of demographic transitions should be regarded as a lesson for many developing countries in Southeast Asia and in other parts of the world to plan ahead for the future by realigning their population policies to avoid possible demographic disruptions.

Methodology

The article reviews demographic statistics, policies, and available historical evidence provided by preexisting research to trace back different demographic stages in the Rattanakosin Era from the early period to the present. Based on demographic transition theory, it contextualizes and analyzes past, current and approaching demographic trends as well as their consequences. Finally, it outlines some of the population policy responses that need to be addressed and adopted by the Thai government.

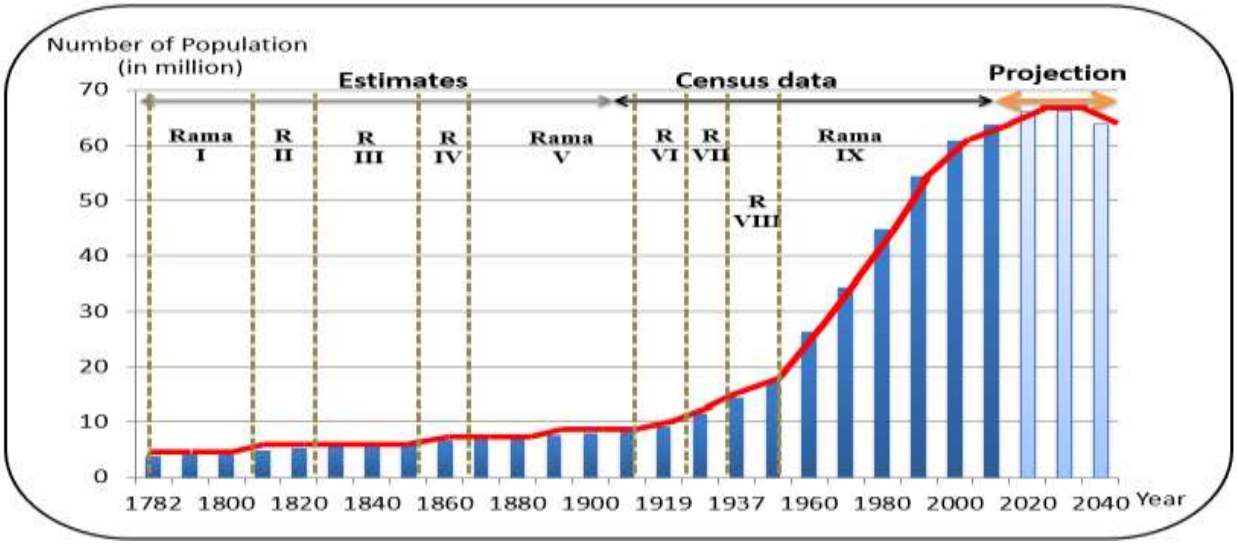
The Demographic Transitions in Rattanakosin Era (1782 to Present)

The demographic transition refers to a process in which a population passes through a period of change from one demographic regime to another (Cowgill, 1963; Thompson, 2003). Demographers believe that population transitions are affected primarily by births and deaths. According to the demographic transition theory, population growth evolves from the common

stage of low growth rates in the past due to high birth and high death rates to the situation of low growth rates again due to low birth rates and low death rates. During the transitional period, death rates drop first before fertility declines follow (Cowgill, 1963; Thompson, 2003). Thus, the time lag between mortality and fertility decline creates a gap during which relatively high population growth rate continues for some years (Cowgill, 1963; Thompson, 2003).

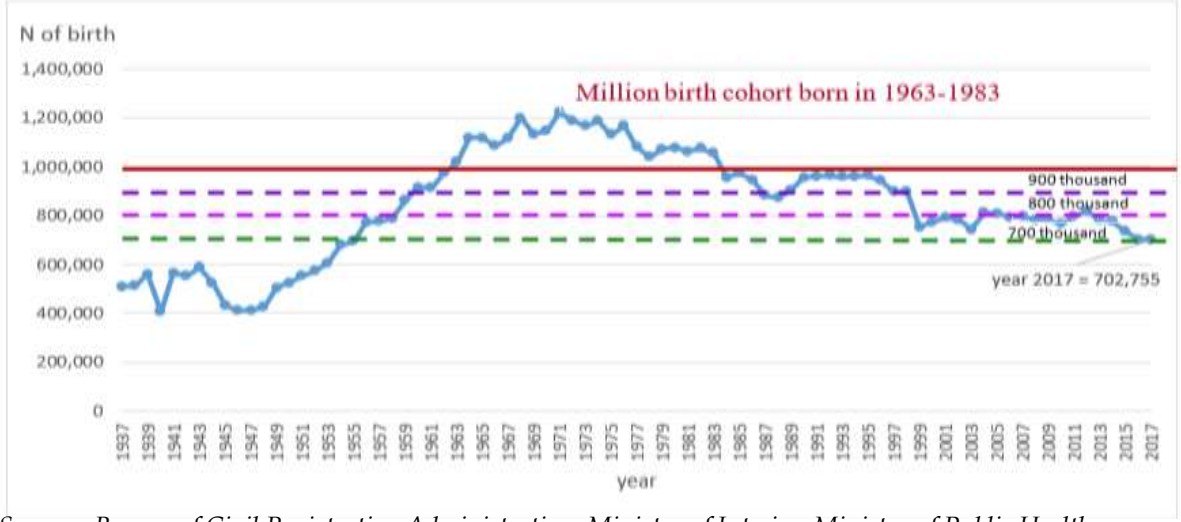
Figure 1 illustrates that Thailand's population rose sharply from 1782 to present. Also, the population size between the 1850s and 1960s changed extensively (Sternstein, 1965; 1984). It also increased approximately 17 times, from about 4 million in the early years of the Rattanakosin Era to almost 70 million at present. From 1960 to 1990, the population almost doubled. It was around 26.3 million in the 1960 census before becoming more than 54 million as shown in the 1990 census. However, fertility among Thai women began declining in the 1970s and dropped significantly from the 1980s onward. Evidence of fertility decline in Thailand was clearly seen by the downward trend in the yearly number of births, from over one million births per year from 1963 to 1983 to under 900 thousand in 1997, under 800 thousand in 2008, and an estimate of 700 thousand in 2017 (see figure 2).

Figure 1: Estimation of population change in Thailand between 1782 and 2040



Source: 1st-5th census by Ministry of Interior, 6th-10th census by NSO and projections estimated by Institute for Population and Social Research, Mahidol University

Figure 2: Trend of yearly number of births in Thailand (1937-2016)



Sources: Bureau of Civil Registration Administration, Ministry of Interior; Ministry of Public Health

This article classifies the demographic changes in Thailand from 1782 to present in four chronological stages. It also reexamines historical events that were specific to each demographic stage in order to understand the contexts, causes, and outcomes of demographic transitions. The hypothesis presented in this study is that the high population growth observed after 1850s was a consequence of a conflation of both natural population increase and immigration. The next sections present the four stages of demographic change in the Rattanakosin Era.

Stage I: High fertility and high mortality in early Rattanakosin Era (1782-1910)

This stage began from the first year of the Rattanakosin era in 1782 to 1910 when the first national census was conducted. Prior to the Rattanakosin Era, the estimated number of people residing in the Kingdom may have been around 4 million, and by 1900 it possibly reached 6 or 7 million (NESDB, NSO & IPS, 1974). These conjectures are, of course, in the absence of reliable demographic records of this period, so demographers have applied the demographic transition theory to estimate Thailand's demographic likelihood of this period.

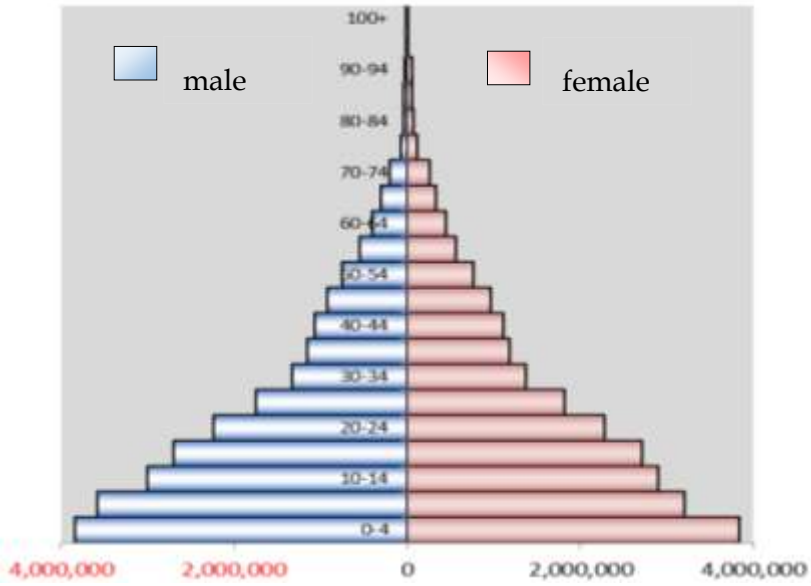
Based on the demographic transition theory the population between 1782 and 1910 is believed to have had a low growth rate due to a high birth rate and a high death rate. The assumption is that the fertility was high throughout this period. It is also assumed that the high birth rate was caused by natural fertility, the result of the population not using birth control methods. It can be inferred that a high mortality rate also prevailed in this stage. Historical evidence shows that people in the pre-modern kingdom of Thailand relied exclusively on traditional medicine, which was less effective in saving people's lives. This condition contributed to low life expectancy (Prasartkul & Vapattanawong, 2005).

People in the pre-modern period would have had lifespans that were significantly shorter with an average longevity that was less than 40 years (Prasartkul & Vapattanawong, 2005). The primary causes of death were infectious diseases such as cholera and smallpox. The outbreaks of

these diseases resulted in sporadic massive deaths in the Kingdom. The number of deaths among infants less than one year old may have been higher than 200 out of 1,000 babies (Prasartkul, 2013). The number of deaths among mothers may have been higher than 200-300 per 100,000 individuals annually due to complications of pregnancy and birth delivery (Prasartkul, 2013).

Given the fact that traditional birth control methods including induced abortion were unusual practices, birth rates were probably high in this period. Also, strong social norms and values encouraged early marriage and having a large family. Women living in this period may have been married at a young age, resulting in a high number of children in their reproductive years (Prasartkul & Vapattanawong, 2005). Thus, the population pyramid of this period is often illustrated by a large base to symbolize the effect of high fertility, and by a high-pitched top that is meant to suggest high mortality. According to figure 3, about half of the mortalities may have been that of children under 15 years of age. Only a small percentage may have been people who were 60 years old or older. The population in the early decades of the Rattanakosin epoch can be dubbed the "young population". In a population with high birth and death rates as such, there is a low proportion of elderly individuals.

Figure 3: Population model during Stage I of demographic transition



Source: Constructed based on regional west model life table, United Nations Population Division, World Population Prospects: The 2017 Revision.

Anthony Reid, a historian specializing in the history of Southeast Asia, proposed a nuanced view. He posited that prior to 1800, birthrates were probably low due to hardships that occurred during wartime. The effects of warfare and its aftermath disrupted people's daily lives and caused men and women to live apart for a certain period. These conditions affected people's ability to reproduce, leading to low fertility (Reid, 1987; 2001). Fears of warfare and its consequences resulted in late marriage and longer interregnums between pregnancies because women had to hide themselves in the jungle to avoid the fighting. In these circumstances, mothers who already had some children may have had more concern about these children's survival than thinking about having more progeny (Owen, 1987). At the same time, starvation and poor health during

wartime were probably likely factors culpable in the increase of mortality (Reid, 1987). From 1800, the interstate warfare between Thailand and its neighbors was over, and the country's internal peace was established. Subsequently, people were able to enjoy relative peace with stable social and economic conditions. This peaceful environment caused fertility to rise. Then, there was a marked rate of mortality decline and a significant increase in fertility (Reid, 1987; Carmichael, 2008).

Stage II: Mortality decline and continued rapid population growth (1910-1970)

In this period, the population of Thailand entered into the "first demographic transition" due to the striking fall of mortality. According to Lesthaeghe (2011), the first demographic transition (FDT) refers to declines in fertility and mortality. This demographic reality was first observed in western countries in the 18th and 19th centuries, and during the second half of the 20th century in developing countries. The theory of the demographic transition states that death rates would decline at the beginning of the transitional stage (Lesthaeghe, 2011).

The population growth in the Kingdom was likely affected by the decline of mortality. It was observed that after World War II, the death rates of Thai people fell sharply from about 30 deaths per 1,000 individuals to less than 15 per 1,000 in the mid-1960s (Rosenfield, Bennett, Varakamin, & Lauro, 1982). Declines in death rates were an outcome of the adoption of modern medicine and the improvements of sanitation in the country which began around the late 19th century (Carmichael, 2008). At that time, when death rates began to drop, birth rates were still high. This situation created a wider gap between these two vital events and it constituted a high rate of population growth in Thailand (TGRI, 2017).

Thailand's population growth rate continued to be observed in the 1960s which was as high as 3.2% per year (LePoer, 1987), and the wider gap between birth and death rates was obvious. At that time, the World Bank (WB) was the first organization that warned Thailand about the unfavorable impact of high population growth resulting from high fertility. In an attempt at addressing the country's need for further development in the mid-1950s, the WB recommended that Thailand reduce fertility so that the country's economic development would be unaffected (WB, 1959).

Stage III: Reproductive revolution: Widespread use of contraception (1970s - present)

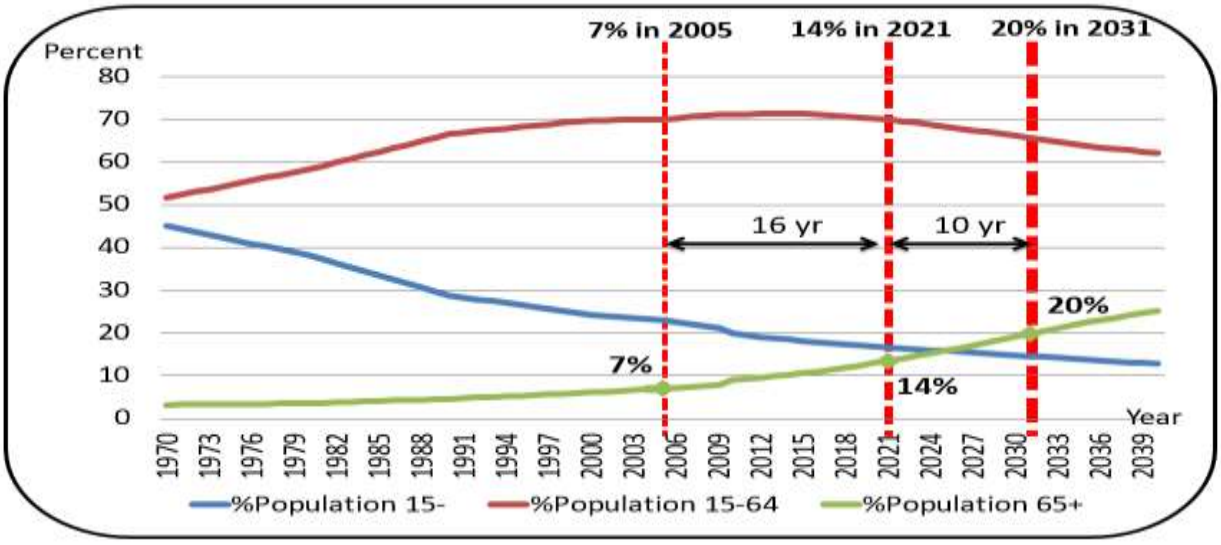
Fifty years ago the TFR of Thai women was almost 5 children per woman. This rate declined to only 2 children per woman in 1996 (Prasartkul & Chuanwan, 2017). In 2016, the TFR in Thailand was about 1.5, much below the replacement (Prasartkul & Chuanwan, 2017). Although infertility may play a role in the reduced population rate, it would not have been the major cause. Statistics about infertility in Thailand revealed that about 15% of Thai couples in reproductive years experienced fertility problems (Siangdang & Soonthorndhada, 2008). Declines in fertility were also furthered by the popularity and pervasive use of contraception, the result of the National Family Planning Policy announced in 1970. Marital fertility among Thai people began to decline during the 1970s and dropped dramatically in the 1980s, marking Thailand's "reproductive revolution" (Knodel, Chamratrithirong & Debavalya, 1987).

From the 1970s, the Thai way of life, norms, values, and attitudes changed tremendously, affecting marital life as well as reproductive behavior. The nuptial platitude of "Be fruitful and multiply," or more in line with the Thai proverb, "Have children to fill your house, and grandchildren to fill your city" became unrelated to younger generations. Career aspirations, the high cost of raising children, and the worries about raising children in such an uncertain world have made an impact on the choice not to have children (Kanchanachitra, Tadee & Suttikasem, 2017)

Stage IV: Second demographic transition: Swift population aging (present and future)

A declining birth rate and longer life expectancy create a population that is aging. Population aging is conventionally measured by the proportion of older persons aged 60 and over in contrast to other segments of the population. When this percentage increases, it means that the population is aging (UNFPA, 2013). Since the 1980s, fast declines of fertility and increasing life expectancy have resulted in changes in the percentages of children and of the elderly. Figure 4 shows the speed of population aging in Thailand. The proportion of older persons in 2005 is estimated to grow from 7% to 14% in the space of 16 years, and will increase to 20% or one-fifth of the total population by 2031. In 2010, the proportion of the population aged 65+ was estimated at 8%, but the proportion of aging population is projected to be over 15% in 2030 (Prasatkul, Vapattanawong & Thongthai, 2011).

Figure 4: Speed of population aging in Thailand



Sources: - Population and Housing Census: 1970, 1980, 1990, 2000 and 2010. NSO - Population Projections for Thailand, 2010 – 2040. NESDB

It should be noted that, while the population ages, not only does the age structure change, but the sex composition of the population changes as well. Due to the fact that females' life expectancy is longer than that of males, the population at more advanced ages will have a higher ratio of

females to males. In 2015, among the population aged 60 years or over, the sex ratio was 81 males to 100 females, and among the elderly who were octogenarians, this ratio was only 64 males to 100 females (NESDB, 2013).

Population projections for Thailand conducted by the NESDB (2013) predicted that the total fertility rate of Thai people will be declining further from 1.6 in 2015 to 1.3 in the next 20 years. Life expectancy will in all likelihood be in an upward trend from 74 years at present to 80 years in the next twenty years (NESDB, 2013). Combined with the fact that the "million birth cohort" or "population tsunami" born between 1963 and 1983—who are now becoming elderly—a precipitous increase in the rate of population aging in the near future can be expected (Prasartkul, 2013). The dependency ratios of the elderly population in Thailand will reach 54% in 2050, which will be above the average for Southeast Asian countries (26.6%), and the country will rank the 24th in the highest old-age dependency ratios in the world (IIASA, 2018).

Thailand's Rapid Population Growth Between 1800-1970

Population changes in Thailand during the Rattanakosin Era appear to follow the demographic transition model. However, the real demographic situation may show some deviations from the model due to unforeseen happenings in particular periods. However, in order to improve the accuracy of observations about demographic evolution in the Rattanakosin Era, it is best to concentrate on major historical events taking place in each specific period that affected population growth.

In tracing population changes in Thailand, the most rapid growth of population in this period was observed between 1850 and 1875 (NESDB, NSO & IPS, 1974). Contrasting 1910 when the first census was conducted to 1960 when the second census was carried out, the country's population is shown to have grown rapidly. In this timespan, the population increased from 8.3 million to 26.3 million (about a four percent increase per year). There were three related circumstances that affected the rise in the Thai population in this period. They include the country's economic expansion, having a stable territory, and relative peacetime due to an absence of interstate warfare (Carmichael, 2008; Sternstein, 1984).

This article puts forth that the extraordinary demographic growth during this particular timeframe was the effect of multiple and intersectional demographic forces including natural increase of population and immigration. It should be stated here that the natural increase rate is the difference between the birth and the death rates, whereas the population growth rate refers to the rate of the natural increase combined with the effects of migration in and out of a country (Kuznets, 1980). Also, inaccuracy in the previous censuses might have played a part in this demographic figure. The next paragraphs discuss three circumstances that might have contributed to the rapid population growth during this period.

The natural increase

One major factor contributing to Thailand's population growth between 1800 and 1970 was the natural increase rate. Increased fertility played an important role. Historical contexts and available data support the idea that a higher degree of economic stability, internal peace, and an

absence of wars that characterize this period created an environment for people to think about having a relationship, build a family, and have more children, thereby causing fertility to rise (Reid 1987, 2001; Carmichael, 2011).

The expansion of the rice export economy played a vital role in fertility. It is likely that the families of rice farmers wanted to have more children in order to ensure that they had enough labor to grow rice (Carmichael, 2011). The Bowring Treaty which Thailand signed with England in 1855 contributed to the Kingdom's population growth because it enlarged people's economic security (NESDB, NSO & IPS, 1974). In addition, the proclamation of the Land Title Deed Act in 1901 granted land tenure to commoners (Chitchang, 2006). Likewise, the abolition of slavery and the corvée labor systems, in which men had to provide labor services three months per year to their local rulers, created opportunities for high fertility that continued throughout the mid-20th century (Carmichael, 2011). Moreover, high fertility was observed around the mid-20th century and afterward, in the areas once regarded as the country's remote frontiers. Increased access to land ownership and the increased ability to support a larger family as well as to bequeath land to their children, may have induced individuals to have more children (Van Landingham & Hirschman, 2001).

The adoption of modern medicine from the West decreased mortality rates significantly (Carmichael, 2011). The Western medical practices were introduced into the Kingdom for the first time in the Ayutthaya Period around the 16th-17th century by French missionaries (Charuluxananan & Chentanez, 2007). During the Rattanakosin Era, after spates of significant cholera outbreaks in Bangkok in 1820, the elites sought western medicine from the British colonial administrator, John Crawfurd, and his physician teams who made a diplomatic trip to Bangkok in 1822 (Puaksom, 2007). Most importantly, during the reign of King Rama III, Dr. Daniel Beach Bradley, who was an American missionary and physician, arrived in Bangkok in 1835. He provided surgery as treatment for some of his patients and introduced smallpox vaccines into the Kingdom (Puaksom, 2007).

However, the change of Thai medical practices started in the reign of King Rama IV (1851-1868), and were developed all the more during the reign of King Rama V (1868-1910). King Rama V founded Siriraj Hospital in 1886. This was the first public hospital in Thailand and was open to the public in 1888 (Porapakkham, 1986). In the same year, the first modern medical school was founded and began receiving medical students in 1889. Midwifery programs were then open to female students in 1896. (Porapakkham, 1986). Also, a smallpox vaccine center was set up in 1901 and it became the basis for the development of the National Vaccine and Serum Laboratory (Carmichael, 2011).

Modern sanitation in Bangkok was initiated in the late 19th century, with the purpose of protecting both local residents and foreigners alike from outbreaks of major infectious diseases such as cholera and smallpox. The Royal Sanitation Act was endorsed in 1897 followed by the establishment of the Department of Sanitation under the Ministry of Bangkok Administration to administer Bangkok's sanitation needs (Varavarn, 2000). In 1908, the Provincial Sanitary Organization Law was issued which made all towns in the Kingdom set up local sanitation to improve public hygienic conditions (Puaksom, 2007). The Ministry of Public Health was established in 1942 which led to the improvement of the national public health system (Charuluxananan & Chentanez, 2007). All of these interventions helped to improve the state of health in Thailand.

After World War II, Thailand received a great deal of international aid for health development which was intended to reduce early mortality amongst Thai people. The western model of medical schools and curriculum improved Thai healthcare significantly due to the partnership between the Thai government and Rockefeller Foundation (Baker, 2013; Donaldson, 1976). Modern medicine, public health and nursing educational programs were developed further in Siriraj Hospital under the financial support from the foundation, and expanded to other regional universities which were able to develop healthcare further with more physicians and other health care personnel for the country. Physicians, nurses, and modern midwives were trained and posted in district health stations and provincial hospitals that were established across the country (Porapakkham, 1986). In 1950, the government built the Women's Hospital and its nursing school, the Children's Hospital, and other hospitals in the provinces to improve maternal and child healthcare as well as to help people living outside Bangkok to gain access to healthcare services (Suwannathat-pian, 1995). Consequently, modern medicine became more commonplace in the Kingdom. Early mortality began to decline rapidly in the early 20th century and continues to decline now with further modern developments (Carmichael, 2011).

Meanwhile, the birthrate remained high since the majority of women and men of reproductive ages had not yet been introduced to modern contraception (NESDB, NSO & IPS, 1974). During and after World War II, the Thai government led by Primier Pibunsongkram implemented a pro-nationalist policy as a part of the 'Nation-Building' project. Several measures were launched to encourage single adults to marry early and to have many children. For instance, the government set up the Marriage Promotion Organization under the Ministry of Public Health in 1942 to provide health education and advise couples to take care of their health and to raise healthy children. The government arranged social gatherings between the sexes and group wedding ceremonies for couples (Praditsila, 1990). In 1943, a contest of "Mothers having high numbers of children" was started and it was held annually in subsequent years (Praditsila, 1990). In 1956, the government enacted the welfare law to financially support families that had up to 12 or more children (Government Gazette, 1956). This pro-natalist policy lasted throughout the 1950s (Rosenfield, Bennett, Varakamin & Lauro, 1982).

The role of migration

This study maintains that population growth in Thailand during this period was not due to birth and deaths alone. Some historical evidence indicates that the country's population size between 1910 and 1960 resulted in the combination of natural population increase rates and immigration. It can be argued that Thailand's population growth rate at 4 percent per year between 1910 and 1960 was too high to be the consequence of birth and death rates alone. According to a global analysis of demographic trends, the rate of natural increase in less developed and developing countries was normally lower than 4 percent per annum (Kuznets, 1980). It was likely that migration played a significant role in the population change of Thailand in the first fifty years of the 20th century (Carmichael, 2011). Available historical evidence about immigration reveals that people from China and from former Indochinese countries (Vietnam, Laos, and Cambodia) contributed significantly to the rise of the population in this period. Moreover, immigrant fertility may have also affected the host country's population growth.

Chinese immigrants in the Rattanakosin Era came mainly from the southern region of China (Baker & Phongpaijit, 2009). The first significant wave of Chinese immigration was between 1850 and 1870. Factors influencing the Chinese decision to migrate to Thailand was associated with

the Bowring Treaty. This treaty created a booming rice economy for Thailand, resulting in a huge demand for hired laborers from outside the country. In addition to the demand, the supply was provided by Chinese migrants who left their homeland and relocated to Thailand due to economic hardships and threats to life caused by the Taiping Civil War in Southern China between 1850 and 1865 (Grabowsky, 1996).

The arrival of Chinese immigrants helped Thailand to meet labor force demands in rice production and exports. It was recorded that by 1850 there were around 15,000 Chinese immigrants travelling to Thailand each year (Caldwell, 1967). At that time, Thailand's labor forces were still in the hands of either the central or local noblemen. The slavery system *(rabob that)* had not yet been abolished. At the same time the corvée system *(rabob prai)* was imposed on adult males, demanding them to provide labor services of three months each year for their local rulers. If they did not want to do so, they had little recourse outside of paying a levy instead. The noblemen's labor control systems triggered a scarcity of labor forces in Thailand during the expansion of the rice economy, which grew quickly after the Bowring Treaty (Carmichael, 2011).

The second wave of Chinese immigration was observed during the first half of the 20th century. From 1900 to 1910, at least 40,000 Chinese people immigrated to Thailand. Although both slavery and the corvée system were abolished in 1905, the number of Chinese immigrants persisted at very high levels between 1910 and 1930, accounting for at least one-third of all population growth (Caldwell, 1967). The greatest number of Chinese immigrants was observed from 1927 to 1928 and after the end of WW II in 1945 (Skinner, 1967). In 1929 Thailand's third census documented the number of overseas Chinese in the country at 2.5 million, which accounted for one-fifth of the population at that time (Lin His-Chun, 1936).

Skinner, an American anthropologist, estimated that the number of Chinese immigrants in the Bangkok-Thonburi area in 1955 was higher than 1 million, accounting for 45% of the total population in the area. He also estimated that around 50% of Chinese living in Thailand in 1957 were children of Chinese immigrants who relocated to Thailand between 1918 and 1931 (Skinner, 1967). It can be concluded that the rapid rise of population in Thailand occurred between 1910 and 1960 was certainly associated with the rise of Chinese immigrants as well.

Another group of immigrants entering Thailand during the first half of the 20th century came from the former Indochinese countries, especially that of Vietnam. The French reoccupied Indochinese territories between 1945 and 1946 and, in so doing, inadvertently caused the emigration of Vietnamese who had been living in Laos. It is estimated that Thailand received around 46,700 Vietnamese refugees in this period (Poole, 1967). Although the Thai government sent home many Vietnamese refugees in 1959, it is estimated that approximately 40,000 Vietnamese refugees and another group of Vietnamese immigrants began living in Thailand in the 1960s (Poole, 1967).

The imprecision of the censuses

This study supports the idea that the sharp increase in population growth mentioned as having occurred from 1910 to 1960 might be associated with the imprecision of the early censuses, although those carried out from 1960 onward are fairly accurate owing to improved infrastructure, transportation, technology, and data quality, as well as the higher literacy of the data collectors. Grabowsky (1996) pointed out that the 1910 census did not document the number of ethnic people and that both the 1910 and the 1919 censuses undercounted the population by

5% to 10%. However, it is necessary to admit that this might have had only a small effect on the measurement of population growth.

Thailand's Population Shift during the 1960s and Onward

Population explosion from the 1960s to 1970s

During the three decades after World War II, the population of Thailand increased at a very high rate. The death rate dropped to a low level of about 5-6 per 1,000 individuals per year, while the birthrate remained high at about 35, and together, this caused the rate of population change in this period to be about 3%. The proportion of children was about 40%, and of the elderly over 60 years, though increasing, was still less than 5% of the total (Prasartkul & Vapattanawong, 2005).

This increasing trend in the yearly number of births is assessed from information found in the birth registration data at the Ministry of the Interior. The rate of about 500 thousand births per year after the war rapidly increased to 900 thousand in 1960 and then to one million in 1963. During 20 years from 1963 to 1983, the number of registered births in each year was higher than one million. In 1969, the yearly number of births reached the peak of 1.2 million (Prasartkul & Vapattanawong, 2005). People who were born during this specific period have been dubbed the epithets of "million-birth cohort" and later called the "population tsunami" (Prasartkul & Vapattanawong, 2005).

While the yearly births of more than one million, which constituted the crude birth rate (CBR) of higher than 40 per 1,000 population per year, the yearly number of deaths was less than 300 thousand—making the crude death rate about 10 per 1,000 individuals (Prasartkul & Vapattanawong, 2005). Thus, the natural growth rate was very high at over 3% per year during the period of the 1960s and 1970s. This high rate of population growth, if it had remained constant, would have doubled the population in only 23 years. The issue of population explosion was raised to public consciousness as a potential obstacle to the social and economic development of the country during the same period (Prasartkul & Vapattanawong, 2005).

Thai people's multiphasic responses to high population growth rate

The multiphasic response is a theoretical perspective in modern demography. It conceptualizes the ways in which households or individuals would respond to population pressures and demographic impacts created by long-lasting low mortality and high fertility. The theory hypothesizes that households or individuals counteract demographic pressures in different ways and may use multiple means to respond (Bilsborrow, 1987). They include taking contraceptives, delaying marriage, reducing fertility, staying single, and choosing induced abortion and emigration (Davis, 1963). This theory also addresses changes in economic-related behaviors such as expanding farmlands, increasing agricultural production, or finding work outside the farm (Bilsborrow, 1987).

Thailand has experienced a fall in mortality while fertility has remained high, resulting in a high growth rate during the 3-4 decades after World War II. The population explosion in Thailand has occurred during a period of accelerating social and economic development; thus the use of birth

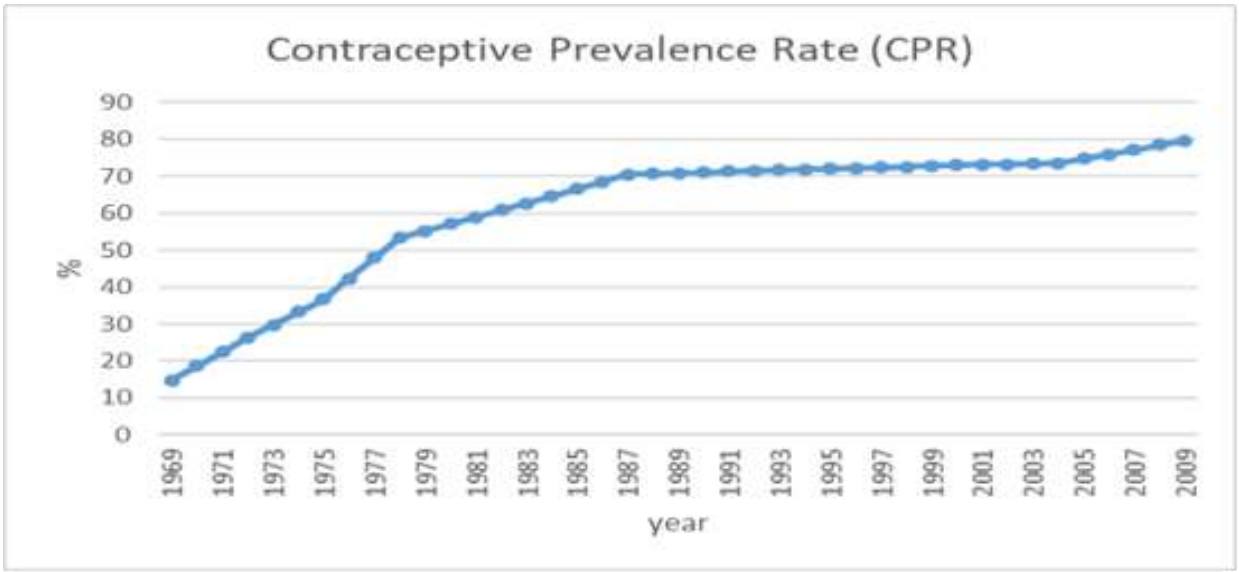
control and delayed marriage became Thai people's primary multiphasic behavioral responses to the population pressure.

Using of birth control

The obvious response that Thai people have made to rapid population growth is an increased use of modern birth control methods. Contraceptive use rapidly spread in Thailand, especially after the establishment of the National Family Planning Program (NFPP). The contraceptive prevalence rate (CPR), or the percentage of married couples using modern contraceptive methods in 2016 was 78.4% (World Bank, 2018). Prior to 1970, the contraceptive prevalence rate in Thailand was less than 15%, but the usage increased to almost 60% in 1980 and to over 80% in 2009 (see figure 5).

The success of NFPP in bringing down the rise of high fertility could be a mixture of a strong demand for contraceptives on the part of women and men from the start of the program and community-based innovative efforts complemented by a strong commitment of the Thai government (Bennett, Frisen, Kamnuansilpa & McWilliam, 1990). Furthermore, the increase in women's educational attainment and their labor force participation probably had an indirect influence on this as well (Richter, Podhisita, Chamratrithirong & Soonthorndhada, 1994). It is likely that people's need to limit the number of their children, and, with the exception of the southernmost provinces, an absence of cultural as well as religious barriers, were keys to this success.

Figure 5: Trend of contraceptive prevalence rate in Thailand, 1970-2009



Source: Prasartkul & Vapattanavong (2005); National Statistical Office (2010)

Delaying marriage

Another behavioral change in response to the high population growth rate concerned marriage. For both Thai men and women, it could be postponed for years or even indefinitely, with preference given to being single. This trend was noticed as far back as 1960 (Knodel, Debavalya, Chayoan & Chamratrithirong, 1984; Wayachut, 1993; Jones, 2007). One factor amongst the many reasons for the changing marital behavior at that time was the higher status of women due to the country's social and economic development process. Components of social development expanded the coverage and raised the educational attainment for Thais.

Data on educational attainment amongst Thai people from the year 1960 onward reveals that, even more than men, women have benefited from educational development (NSO, 1960, 1990, 2010a). The higher educational attainment of women enabled them to obtain jobs in the formal employment sector. Therefore, both attending higher education and participating in labor market delayed their marriage. The data from census 2010 shows that the age at which Thais choose to have a first marriage has increased to 29 years for males and 25 years for females (NSO, 2010b).

The great effects of the National Family Planning Program

After the end of World War II, Thailand joined the global trend toward massive development to enhance the country's economic capacity. Meetings about the social and economic impacts of rapid population growth were held several times over the years. However, there were both pros and cons to the family planning policy. In 1964, the Cabinet proposed a solution by launching a trial project on family health in Ratchaburi Province between 1964 and 1969, which was known under the name "Photharam Project" (NESDB, NSO & IPS, 1974). The Center of Population Studies at Chulalongkorn University, was assigned the task of studying the KAP (knowledge, attitudes and practices) regarding fertility among rural women in a pilot project in that district. The study found high fertility among Thai women in rural areas, and at the same time it discovered that the number of children the women wanted was less than the actual number that were born. It also found that the majority accepted contraceptive use to limit the number of children (IPS, 1971). These findings supported the government's decision to avow a specified family planning objective on March 17th, 1970 stating that the support for the use of modern birth control methods on a voluntary basis (NESDB, NSO & IPS, 1974).

The Ministry of Public Health (MoPH) was assigned to provide the FP services. Besides the MoPH, the non-governmental organizations working on the FP programs such as the Family Planning Association of Thailand, Community-Based Family Planning Service, and the Thai Association of Voluntary Sterilization (TAVS) were established to help deliver the FP campaigns and services to Thai people (Viravaidya, 2016; Ratana-Olarn, 1991). Throughout the 1970s and 1980s, population policy was made as an integral part of the National Economic and Social Development Plan (Thai Health Working Group, 2012).

Second Demographic Transition in Thailand: Present and Prospect

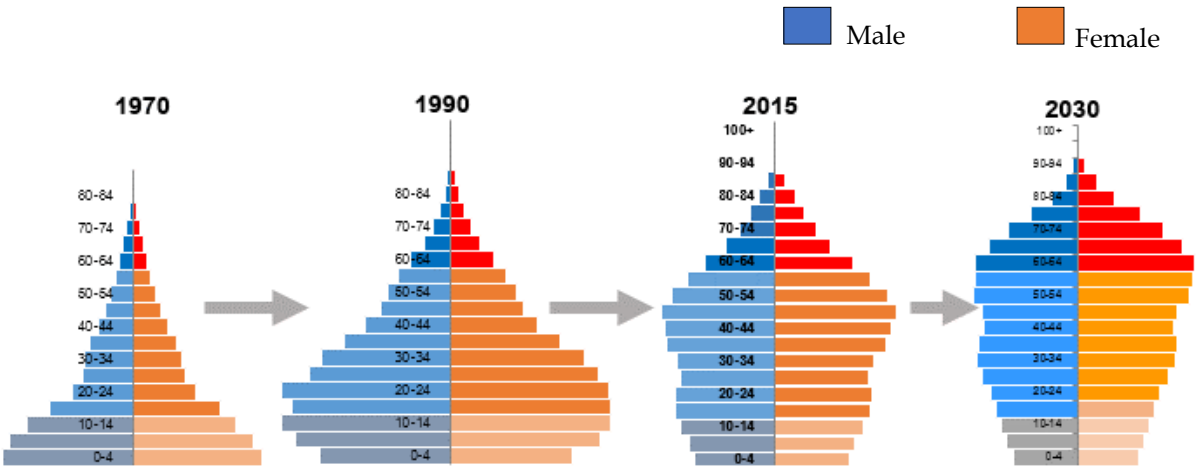
A theoretical concept about the *"second demographic transition"* is relevant here. The concept usually refers to the demographic phase when the death rate surpasses the birth rate because of the ageing process and higher life expectancy. Lesthaeghe argues that a second demographic change occurred in developed countries, especially that of the United State of America and Scandinavia, and that this change began roughly in the 1950s (Lesthaeghe, 2011). This second demographic stage is noted for its increase in delayed marriage, the frequency of cohabitation, postponement of parenthood, high divorce rate, and the decline of fertility. This framework helps to anticipate a sharp decline in births as well as the transformation of family units and family relations. The major cause of this prevailing conversion is a shift in public perception. The ideologies, attitudes and norms were based largely on fulfilling one's freedom and potential (Lesthaeghe, 2011), rather than engaging in family formation (Lesthaeghe, 2011).

As for Thailand, any informed prognostication of its demographic situation in the next two decades intimates that it too will fully enter the second demographic transition. Thai fertility rates have dropped since the 1970s, and it is estimated as being 30% lower than replacement levels (Jones, 2011a), while the total fertility rate for women in 2015 was around 1.4 (Ministry of Public Health, 2018). Fortunately, Thailand continues reaping the "demographic bonus" of boosting its economic growth (Jones, 2011a). But, this favorable demographic structure is giving way to an aging society in which the proportion of retirees are growing at an unprecedented rate. However, the population has not yet stopped rising due to a high proportion of women in reproductive ages (Jones, 2011b). These figures reflect the reality of present-day Thailand's demographic situation. This situation eventually marks the second demographic turn in Thailand which is characterized by an individual's complete control over his/her own fertility. This is indicated by the fertility which now stays at a rate that is below replacement levels.

Meanwhile, the million-birth cohort constitutes most of Thailand's labor forces today, and this demographic structure will soon develop into an aging tsunami, or *"grey tsunami,"* a popular metaphor used to describe a phenomenon when a society has a massive number of an aging population (Amanda, 2013). Thailand's labor forces will shrink and the number of aged people will increase at unprecedented rates. More and more people are getting older and living longer due to good health conditions which raises their life expectancy. The effect of fewer births and longer life expectancy on the population age structure can be clearly seen in Figure 6, with males shown on the left and females on the right. The fewer births narrow down the base of the population pyramid, while longer life expectancy expands the top part of the age structure.

The demographic realities have also changed in reference to children, the working age population, and the elderly. The proportion of children aged under 15 years has been declining from 43% in 1960 to 18% in 2016 while that of the elderly aged 65 years and over increased from less than 3% 50 years ago to about 11% at present (NSO, 1960; NESDB, 2013). In the immediate future Thailand will experience the so-called *"disruptive demographic era"* because of this disequilibrium of the population age structure which will bring about political, social and economic challenges. There are several considerations for the Government and the general population when living in the threat of this imminent reality.

Figure 6: Changing age structure of Thai population



Sources: Calculated from population census, 1970, 1990 and 2010 and population projection for Thailand, 2010-2040, NESDB

Dealing with shrinking labor force

Thailand's TFR has now reached an extremely low level (Jones, 2011a). This has resulted in a change in the population age structure which will significantly lessen the size of the labor force of the country in the next two decades. In 2015, it was estimated that there were 43 million people who were of a working age (15-59 years). In the next 20 years, the labor population in this age group will decline to be only 35 million (NESDB, 2013). Thus, Thailand needs to initiate measures in order to mitigate the impact of a shrinking labor force with other policy options, which can be done feasibly.

Welcoming the international migrant workers

Importing migrants from other ASEAN countries or other parts of the world to replace internal labor losses may help to maintain the country's economic productivity. Although the management of cross-border migrant workers will be an important challenge to the government, it may need to align it with a relaxed immigration policy. For example, it can raise expenditures on education, healthcare, and other public services for migrant workers and their family members who may move to live with them. Moreover, the government may need to make sure that other human rights that are related to migrant workers are monitored well, including fair wages and non-discrimination in all circumstances. In 2016, the Thai Ministry of Labor reported that there were roughly 2 million documented migrants working in Thailand, and that most of them came from Myanmar, Cambodia and Lao PDR (IOM, 2016). However, the exact figure of unregistered migrants is still unknown.

Eliminating ageism in employment

Another response is retaining the elderly in the labor force. For this policy, there should be a strategy and measure of support to employers or businesses to ensure that they retain the elderly in the labor force for as long as possible. Furthermore, eradicating age-related bias in society should be a new political agenda for the government as any attempt to alter this perception will make it easier for those who are healthy and want to continue working to continue to do so. It should be a major objective of the government to help them receive fair treatment and justice as equal citizens and contributors to society.

Adopting the pro-natalist policy

Also, the government may have to take on a pro-natalist objective and encourage higher fertility rates, thereby increasing the labor force for the future. This response will ensure the country has sufficient manpower in the long run. As a qualified labor force of the future is nurtured with the polices of today, the importance of bonus payments for parents having a newborn baby, longer parental leave, provision of childcare facilities, and significant tax deductions should be emphasized.

Improving the quality of local laborers and/or replacing human with technologies

Improving the quality of the labor force and/or using technology and machines to replace the use of human laborers should be considered as a practical means for decreasing the labor force. The quality of any work includes skills and productivity; and these should be developed to compensate for the declining number of local laborers. It still resonates as true that the principle of quantity is not as important as quality. Technologies and machines, including robots, should be applied more in the process of production in various industries to replace manual labor.

Managing the impact of population aging

At present, the population structure in Thailand is moving away from a young population to an aged society and will become the latter fully in the near future. This certainly will affect people's living conditions in all levels, from individual, family, and community to the nation. In society and at the community level, the increasing proportion of older people has been already observed as aging persons are noticed more frequently in public places. The elderly are expected to live longer, with a certain period of dependency that is unavoidable, while the burden of caring for the elderly who are not working will increase. There will also be an increasing number of the elderly living alone (Knodel & Chayovan, 2008). This being said, there are two crucial issues that the Government needs to consider to plan ahead for the future and they are stated below.

Securing people's income in old age

Expenditures to ensure financial security of the elderly population becomes an inevitable concern for society. In Thailand, when people reach a retired age (mostly at the age of 60) they will be out of the labor force, so it will be difficult for them to earn their own income. The rapid increase in

the number of the elderly and monetary inflation may lead to a situation of dire poverty for a large portion of the elderly in the future. The government may have to set up an effective income insurance system or seek some sources of money to cover the rapid expansion of the elderly population. For Thai senior citizens with low income, a policy that offers a certain amount of monthly allowance to support them is critical.

At present, Thailand already has a pension scheme for retired officials, and for some retired workers in higher paid private sectors a social security fund has been established. However, Thailand needs to improve the pension system to secure that there is income of the elderly who used to work in informal sectors such as self-employed workers, construction workers, housemaids and farmers. Recently, the Government has set up a pension scheme to provide a monthly welfare allowance of around 20-30 US dollars per a month to elderly individuals. To receive this pension those aged 60+ must register at the local administrative organization where they are residents. Those who are eligible must be neither governmental nor non-governmental organization retirees (Government Gazette, 2018).

Ensuring health security and wellbeing for the elderly

Expenses for health care among the elderly will increase tremendously. When the population ages, the higher the age, the faster the population grows. As people age, they will have higher risk of various diseases such as cardiovascular problems, respiratory illnesses, cancer, and diabetes. Most illnesses among the elderly are chronic which need long term care. More importantly, the cost of treatment and medication for chronic illnesses is high. If the government has a policy to ensure health security for an older population, the extensive expenditures should be foreseen and well planned out in advance. The government may have to seek additional revenue, and housing and living places should be redesigned and readjusted to be suitable for this aging population. Furthermore, innovative programs and activities to increase intergeneration bonding between senior citizens and the young should be developed in order to foster mutual support between these two generations.

Conclusion

This article discuses different stages of the population transition in Thailand from the early Rattanakosin Era to the present. The authors argue that the transitions are undoubtedly associated with the history of immigration in the first century epoch, increasing longevity, as well as declining fertility in the second century of the Ratanakosin Period. The intersection between these three significant demographic forces has crafted a new demographic regime in Thai society. Foremost, this article stresses that now it is a pressing need for Thailand to become aware of the reality of "*demographic disruptions*" and to put in place some important population measures to approach the new demographic phase confidently.

The authors recommend that the Government rework its development direction by adopting stronger welfare policies for all in order to make sure that the young, the aging population, and posterity will not be adversely affected by this new population realignment. Public expenditures should be increased to improve further social welfare. Also, housing and the health care system and services must be made more relevant to the ageing society. At the same time, reciprocal

relationships and support must be created between the young and the elderly, and this should be a priority. Last but not least, discrimination against the elderly in employment sectors should be eliminated.

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