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Thailand, Factor 13: Demographics

Demographics: Addressing the challenges and opportunities posed by population growth and urbanization

Thailand is a country located in Southeast Asia. The country borders Laos (Northeast 1,845 km), Burma (North and West 2,416 km), Cambodia (East 817 km), and Malaysia (South 595 km) along with the Andaman Sea and the Gulf of Thailand. Thailand is divided into four geographical regions: the North, the Northeast (the Korat Plateau), the Central Plain (Chao Phraya River basin), and the South (Southern Isthmus). The Northern region's terrain as a whole is very mountainous and consists of valleys, ridges, and forests. Only 30% of the land is suitable for agriculture, because the other 70% is too mountainous. The lower North has fertile soils, and the upper North is made up of mountains with small farms built along the ridges. The Thai Nuea (Northern Thai) tend to live in the valleys while the primitive tribes, originating from two primary families the Mon-Khmer and the Thibeto-Burmans, live in the mountains. The Northeastern region, which is arid and hilly, is the largest region and accounts for one third of the country. The Northeast has poor soil fertility, because it has a limited capacity to retain water, which often leads to droughts or flooding. The Northeastern plateau leans towards the Southeast and the Mekong river runs through it creating the eastern divide between Thailand and French Indochina. The Phuphan mountain range separates the Khorat and Sakhon Nakhon basins. The Lao, the Phutai, and the Mon-Khmer descendants live here. The Central Plain region is a valley abundant with vegetation. The Central Plain, like the lower North, has fertile soil and irrigation systems. The majority of the rice grown in Thailand is grown in this region, which is why it is referred to as the "Rice Bowl of Asia". Thai, Siamese, Cambodians, Annamites, Malays, and Burmans occupy this region. This region has become the epicenter of the country and contains Thailand's capital, Bangkok. The Southern region is mountainous, has forests, and is rich with raw materials such as minerals, ore, oil, and rubber. The South receives frequent rainfall which is used to cultivate tropical crops. The Thai and the Malayan's are the primary citizens who make up the region. As of 2011, the country's 51.2 hectares of total land area was classified into three category types: agricultural land (41.2% total, with 30.8% of that considered arable land, 8.8% permanent crops, and 1.6% permanent pasture); forest (37.2%), and land designated as "other" (21.6%) (CIA). The country's land area is 51.2 million hectares (1 hectare = 10,000 m²).

In 1960 the average Thai household held up to 5.6 people (Popcensus). In contrast, a typical Thai household as of 2016 has only 1.52 people (Worldometers). These averages represent families that typically have only 1-2 children and are similar to the demographics of countries such as China, Canada, and Germany (Dandc). There has been a 4.1 child decrease in fertility rates within five decades through the efforts of various government programs.

The diet of an average Thai family is diverse and colorful. The staples of Thai cuisine are white and sticky rice which are often made into noodles and dumplings. Beef, chicken, pork, and seafood (including fermented fish and crustacean paste) serve as a common source of protein-based nutrition. The side dish tends to be steamed vegetables. Many of these dishes incorporate hot chilies, curries, and spices for an

extra kick of flavor. Popular crops from the country include cassava, sugar cane, coconuts, mangoes, papayas, jackfruit, custard apples, longan, lychee, soybeans, and maize.

The Ministry of Education, Office of the National Education Commission (policy and development), and the Office of the Higher Education Commission administer the education. The current education policies in place are the National Education Act of 1999 and the 15-Year National Education Plan (2002-2016). These policies guarantee Thai citizens twelve years of free public school: six years primary, three years lower secondary, and three years upper secondary. The 15-Year National Education Plan guarantees two years of free preschool. The required amount of schooling in Thailand is nine years. Of the youth population, 91% are enrolled in primary, 79% are enrolled in secondary, and 48% are enrolled in tertiary, but the drop-out rates are high considering only 29% graduate out of the 48% enrolled. According to the Ministry of Education in 2009, 5,371,000 children (ages 6-12) were enrolled in primary, 4,893,000 children were enrolled in secondary (ages 12-17), 2,497,000 were enrolled in tertiary (of these 18% were private), and 1,706,516 were enrolled in universities (11% were private). The language of instruction spoken within Thailand's schools is Thai. As of 2012, there are 170 universities and colleges: 79 are public, 71 are private, and 20 are community colleges.

The Ministry of Public Health manages health and medical care and 99.5% of the population has health protection coverage. Universal Health Care coverage was created in 2002 and is made up of three different programs: Universal Coverage, Social Security for Private Employees, and Civil Service Welfare System for Civil Servants and their Families. In 2009, 4.3% of the gross domestic product went towards the national expenditure of health: 75.8% was provided by public sources while 24.2% was provided by private sources. In 2004, there were 2.98 physicians for every 10,000 people. The cause of mortality rates in 2008 was made up of non-communicable diseases at 55%, communicable diseases at 24%, and injuries at 22%. Currently, the major infectious diseases in Thailand are bacterial diarrhea, hepatitis, dengue fever, malaria, Japanese encephalitis, rabies, leptospirosis, and HIV/Aids.

According to the Central Intelligence Agency, 12.6% of the overall population was below the poverty line. A year later, in January of 2013, Thailand's government adopted the Nationwide Minimum Wage Policy that required employers pay their employees a minimum wage of 300 baht (\$10) a day, or risk six months in jail and a 100,000 baht fine for not complying. Thailand's labor force is divided into three different skilled sectors: agriculture, industry, and services. In 2014, 32.2% of the workforce population made up the agriculture sector, 16.7% were involved in the industry sector, and 51.1% worked in the service sector. The gross domestic product in 2015 was made up of 10.4% of the agricultural sector, 37.7% of the industry sector, and 51.1% of the service sector. As of 2015, the unemployment rate is 1%. The extremely low unemployment rate is due to the low birth rate, high retirement rate, lack of social insurance and the informal sector. The low fertility rates and high retirement rates cause a shift in the workforce; there are less people entering and retiring from the workforce resulting in a decreased labor force. The lack of social insurance makes it difficult for the unemployed, the elderly, and the disabled to get the economic assistance they need.

The informal sector is a subset of the unskilled sector which consists of self-employed citizens, and citizens who work part time jobs. This sector was created so citizens could be involved in the workforce even when working minimal hours a week. Street vendors, taxi-motorbike drivers, and prostitutes are all

examples of informal sector positions. In 2013, the informal sector made up 64% of the workforce population. The unemployment rate also does not take foreign workers into account; more than three million migrant workers from Cambodia, Laos, and Myanmar work in Thailand. The Thai government has taken steps to legally register these migrant workers, but even with documentation the language barrier often prevents foreign workers from becoming employed in the skilled sector.

Thailand is able to produce and harvest enough crops to support the population. Food poverty in Thailand is found in the rural areas of the country primarily in the North and the Northeast. Although rural farmers' tend to consume a portion of their overall produce, their nutritional needs are usually not met. In 2007, 37.8% of the average rural farmer's entire crop production was used for home consumption while 45.5% went towards crop sales in urban regions. The Thailand citizens living in these urban areas could then buy this produce from supermarkets, street vendors, and canoe vendors. Access to food is not an issue in the urban areas of Thailand, but the frequent increase in food prices can make it difficult for citizens to obtain it for consumption. Non-agricultural households, whose members may be involved in the industry and service sectors, yet experiencing poverty, are negatively affected by rising food prices because they are spending the majority of their overall income on food to survive. Rising food prices cause the overall consumption expenditures to increase for urban households. Urban and peri-urban citizens tend to grow vegetables on small plots of land around the outside edges of the cities by using production systems. These farmers have access to hybrid seeds which bring in a higher income, but there tends to be frequent use of harmful chemicals that can not only put the consumer's health at risk, but negatively affect the environment. Educational outreach programs sponsored by either the government or nongovernmental organizations will help alleviate this issue. Vegetable cultivation can be a primary source of income for some urban families. These vegetables can provide food sustainability when there are food shortages in other crops.

The Thai government has, and is currently, taking steps through various programs and policies to improve agricultural productivity, the employment wage, and the means to provide its citizens with sufficient nutrition through accessible food markets. In 1975, the Marketing Organization for Farmers was founded. This organization assists farmers in crop marketing and provides them the opportunity to purchase necessary equipment such as machinery and fertilizer at the lowest prices practicable. The Farmers Assistance Fund is a government policy that collects the proceeds made from agricultural export taxes and puts them into a welfare fund for the farmers. On March 11, 2010, the Food and Agricultural Organization (FAO) Bioenergy and Food Security (BEFS) Project and Thailand Technical Consultation took place. Fifty experts involved in the agriculture and bioenergy field from Thailand gathered to discuss the data they've found. The production of biofuels is economically competitive within the country and provides greenhouse benefits unlike fossil transport fuels. They came to the conclusion that improving the Thai farmer's productivity will contribute to the advancement of the 15-year Alternative Energy Development Plan, and also benefit the environment, the industry, and the farmers themselves in the process. The higher profits will lessen the release of greenhouse gas per unit of biofuel feedstock and also lessen the feedstock costs. The current barrier preventing farmers from producing higher yields is their lack of knowledge. The government has quality information concerning agricultural practices and land sustainability, but this information isn't necessarily passed on to the farmers for them to carry out. If farmers had easier access to this information instead of primarily relying on the market prices they would have a better idea of where to plant their crops and why. This would provide the farmers with a larger

income. The Nationwide Minimum Wage Policy was put in place to increase the minimum wage and overall income of the Thai citizens, but it really only benefited the male working professionals between the ages of (25-49). The minimum wage policy doesn't have much of an effect on the women, the elderly, and the low-educated Thai people which causes an even larger inequality between the total incomes necessary to live. Many citizens are involved in the informal sector, either self-employed or working a part time job, and aren't necessarily impacted as largely as some employed in the skilled sector of the workforce. The citizens in Thailand are paid by the day not by the hour. Food markets are very accessible, but not all of the citizens are getting the necessary nutrition they need. The Ministry of Public Health has a limited amount of funds which can prevent programs from being implemented properly. The Prevalence of Undernourishment project (2008-2010) discovered that 5.5% (3.8 million people) of Thailand's population are undernourished. From 1990 to 1992 the malnutrition levels were at 26% which affected around 15 million people. Thailand has made significant progress in decreasing the hunger rate before 2015 due to the Millennium Development Goal (MDG) 1.9 hunger indicator and the World Food Summit (WFS) target.

Thailand produces more food than its population can consume; the agricultural sector surpasses the annual domestic consumption, because of the country's natural resources and raw materials, applied technology, and the government policies. Although there is an abundance of food, the Thai citizens don't necessarily gain the nutrient requirements they need and it doesn't guarantee future food security. Many of the foods grown in the urban areas of Thailand are treated with toxic pesticides that can be harmful to the consumer. In July 2012, the consumer action group (a United Kingdom forum that analyzes customer rights) ordered that four carcinogenic pesticides (methomyl, carbofuran, dicotophos, and EPN) frequently used on recurrent vegetables grown in the Thai community be banned, because the toxic levels were 100 times the European Union guidelines. The chemical companies are requesting that these toxins be added to the Thai Dangerous Substances Act, so they can continue to be utilized. The Dangerous Substance Act is an act that legally registers chemicals to be sold for public use. The Khon Kaen University, in 2014, discovered that Thailand should ban 155 different kinds of harmful pesticides with 14 listed as dire: Carbofuran, Methyl Bromide, Dichlorvos, Lambda-cyhalothrin, Methidathion-methyl, Omethoate, Zeta Cypermethrin, Endosulfan sulfate, Aldicarb, Azinphos-methyl, Chlorpyrifos-ethyl, Methoxychlor and Paraquat.

The most recent generation of Thai citizens are becoming more aware of the quality of domestic food and the health precautions necessary to keep consumers safe. Thai consumers are beginning to believe that imported foreign produce is of a higher quality than the produce being grown in local urban areas. Roughly 30 million middle to upper class citizens are purchasing processed food from other countries and are perceiving brand names to be more desirable. On average a Thai household spends 35% of their total income on meals. Increasingly prevalent imported processed foods in the last ten years include items such as fruits and vegetables, Japanese seafood and delicacies, grain and cereal, chocolate and sweets, 100% fruit juice, jams and spreads, dairy products and milk powder, spaghetti, salted snacks, ready-to-eat meals, and meat-by-products. Picking up these new trends from Westernized cultures have the potential of negatively affecting the overall health of Thailand's people: morbid obesity, heart disease, diabetes, and more. Although the majority of Thai customers still prefer fresh food markets, such as farmers markets, there has been a prompt rise in supermarkets and convenience stores. These processed foods are accessible at hypermarkets like Big C, Foodland, Tops, The Mall Group, Tesco Lotus, and Mackro.

Roughly 90% of Thai citizens living in urban areas purchase food at Big C and Tesco Lotus once a week or more; this 90%, on average, also uses convenience stores around thirteen times per month. On average 8.3 million citizens usually between the ages of 15 and 35 (students and people involved in the workforce) buy processed instant meals. In 2012, the consumer expenditure on meals was US\$ 63 billion. This is shifting the focus of purchasing fresh ingredients used for home cooking to eating processed ready-to-eat meals, buying fast food on the go or dining out at restaurants to obtain more time to do other things. The rapid increase of Thailand's food service sector is predominantly due to the tourism. In 2013, a total of 26.7 million tourists (19.6%) visited Thailand. While the service sectors continually experience growth, the Thai government and its citizens need to develop awareness of how their declining population needs to be distributed between food production and food service. With the increase in urbanization and the decline in the country's overall population, the rural population needs to be provided with more resources and incentives to promote continued agricultural development.

Economic incentives should be used to promote a return to agrarian development. There are current tax incentives in place under the Investment Promotion Act. According to Thailand's Board of Investment (BOI), 2015 tax incentives include exemption/reduction of import duties in machinery, reduction of import duties for raw or essential materials, exemption of corporate income tax and jurisdiction person income tax, a 50% reduction of the corporate income tax, double deduction from the cost of transportation, electricity, and water supply, an additional 25% deduction of the cost of installation or construction of facilities, and exemption of import duty on raw or essential materials imported for use in production for export (Boi). In addition to these incentives, a microloan program similar to the ones used in India and Singapore should be implemented. The micro loan program would allow small companies and individuals greater access to capital. Greater access to capital would allow small companies the ability to purchase additional resources and permit individuals to start new businesses.

The current population of Thailand is 68 million and the country's urban population is rapidly increasing causing the rural areas population to decrease. In just six years the urbanization rate has risen by 7.2%; as of 2016, urbanization makes up 51.1% of the country's population. As of 2011, fertility rates have dropped to around 30% below what the replacement level would be to maintain population stability. The current birthrate in Thailand is 1.6 children per woman. The birth rate needs to be 2.1 children per woman in order to keep the population constant without migration. The life expectancy in 1960 was 55 years and the current life expectancy has increased to 74 years. In 2010 citizens 60 years or older accounted for 15% of the population and has continued to increase. The World Bank calculates that this percentage will rise to 35% by 2060.

A dependency ratio is a measurement that represents the number of dependent (age 0-14 and over the age of 65) to the total population (age 15-64) within the workforce (Investopedia). According to the Labor Force Survey in December 2015, the overall amount of people, ages fifteen years or older, involved in the labor force was about 55.41 million. 39.16 million of the 55.41 million were involved in the workforce or looking for work (38.87 million were employed, 0.25 million were unemployed, and roughly 40 thousand were employed, but dealt with offseason) while 16.25 million citizens, primarily students and the elderly, weren't capable or legally allowed to work. 25.24 million made up the non-agricultural sector of the workforce while the agricultural sector was only made up of 13.63 million of the 38.87 million employed (Web). The percentage of people capable of joining the workforce will begin to decline in 2020.

Thailand's dependency ratio is 56% (Dancd). According to World Bank forecasts, it will top 100 % by 2070 (Dancd).

The Population and Community Development Association (PDA) is a non-governmental organization founded by Mechai Viravaidya in 1974. During the 1970's, Thailand was experiencing population overgrowth. Through education and implementing family planning practices throughout Thailand (with concentration in rural communities) population began to reduce. The plan was to help combat poverty and infant mortality in rural areas. The Association implemented free condoms, access to birth control, slogans to encourage smaller family size and incentives for women to not have children. The PDA was so effective in its initiatives that over the next 20 years Thailand went through a fertility transition faster than most any other country. Now that Thailand is moving in the opposite direction as far as population growth in citizens under the age of 29 a different approach needs to be implemented.

A multistep approach needs to be implemented to raise the birth rate. The approach should be a mixture of tax incentives, a modification of the National Education Act and changes to the work environment. The government needs to enact an income tax reduction plan for families that takes the amount of children into consideration, tax deductions for mothers in the workforce, and authorization for working parents to leave work early if their children are sick and need to be tended to with the assurance that their position is secured along with child support welfare. Also, the government should modify the National Education Act to include the establishment day care centers. The day care centers could be established under a plan similar to the one used in Denmark. In Denmark, all children are guaranteed a place in daycare. The daycare centers are operated under a regional control and offer different programs based on the child's age. Businesses should also be strongly encouraged via tax incentives to have staffed day care centers on site. Business should use day care as an incentive to attract more local workers. Parents should be given the option of using either an on-site day care facility (if feasible) or a nationally established facility.

Thailand is unique in Southeast Asia as it is a net exporter of food and endowed with abundant natural resources. Despite these attributes, the future of Thailand will be challenging as its labor force is aging. The government of Thailand needs to implement a series of changes based on tax incentives, banking programs and day care centers to stimulate the birth rate. The current birth rate of 1.6 children per woman needs to change to at least 2.1 children per woman to insure that there is a sufficient work force to meet the needs of Thailand.

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