

# T D R I

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SUMMARY OF TDRI ANNUAL  
CONFERENCE 2019 ON  
"LONGEVITY SOCIETY:  
MAKING THAILAND  
COMPETITIVE, HEALTHY  
AND SECURE"

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SOCIETY



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## WHAT WILL CHANGE... WHEN THAILAND BECOMES A LONGEVITY SOCIETY\*



\* Mr. Kittiphath Buabool, Researcher for Economic Intelligence Service (EIS), and Mr. Gunn Jiravuttipong, Researcher for Law for Development, TDRI, prepared this summary of the presentation by Dr. Somkiat Tangkitvanich, TDRI President, at the 2019 TDRI Annual Conference on “Longevity Society: Making Thailand Competitive, Healthy, and Secure,” held on May 13, 2019 at the Bangkok Convention Center B, 22nd Floor, Centara Grand Hotel, and the Bangkok Convention Center, Central World, Bangkok.

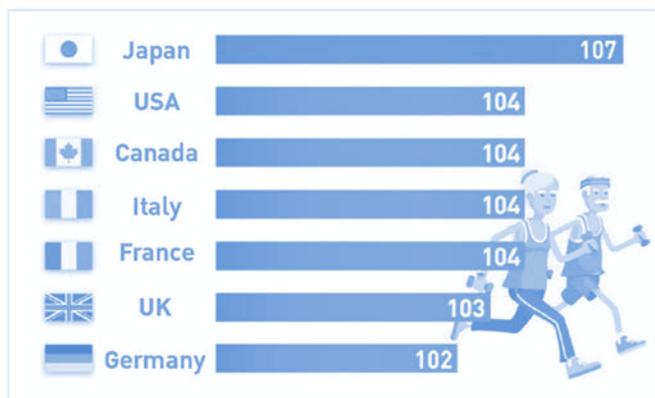
There have been signs of a longevity society emerging in many developed countries. Japan has ended “Sakazuki,” the tradition of giving a sake cup to a person who reaches the age of 100 years because there are too many centenarians. Similarly, in the United Kingdom, more staff members have to be recruited to help draft the Queen’s letters congratulating centenarians.

In most developed countries, the population born in 2010 will have a cohort life expectancy that exceeds 100 years. The development of technology is one of the factors contributing to increasing longevity. Thailand’s average life expectancy currently is approximately 75 years. Thailand Development Research Institute (TDRI) has estimated that the cohort life expectancy of Thais born in 2016 is between 80 and 98.3 years. Centenarians are no longer a rarity; according to a 2017 survey conducted by the National Statistical Office, more than 9,000 Thais were older than 100 years of age, and more than 160,000 Thais were 90-99 years old. Therefore, it will not be a surprise to see more Thais reaching the age of 100 years in the future.

Apart from the increasing life expectancy, most Thai older persons also expressed that they have become healthier and have better sensation than in the past. According to Situation of the Thai Elderly 2017 Report,<sup>1</sup> 85 percent of Thai elderly persons made a self-assessment that they have better health, which is an increase compared with the 75 percent figure in 2002. However, the number of elderly persons with non-communicable diseases has doubled, which includes such diseases as diabetes and hypertension. This is a result of the behavior of Thais, such as a decrease in their exercising routine among different age groups. Therefore, if a healthcare plan is appropriately developed and

<sup>1</sup> Thai Elderly 2017 Report, available at [http://www.dop.go.th/download/knowledge/th1552463947-147\\_0.pdf](http://www.dop.go.th/download/knowledge/th1552463947-147_0.pdf).

**Figure 1: Cohort life expectancy of population born in 2010 (years)**



Source: [www.100yearlife.com](http://www.100yearlife.com)

people follow it, Thais could live longer and also become more healthy.

Current Thai elderly persons are different from those in the past. Today they are better educated: the proportion of elders who graduated from university has increased from 4 percent in 2002 to 10 percent in 2017. Elderly persons also work longer because they need to compensate for foregone income that would have come from their offspring or spouse. Moreover, their savings are likely to have decreased. Many elders are living by themselves and tend to engage in activities according to their interest, rather than activities with other people in their community or village.

The classification of persons as “elderly” at the age of 60 may not be appropriate because Thais are currently living longer than in the past. Anthropological research has suggested other criteria to classify elders, such as the roles and activities they contribute to society, perceptions of themselves and others, social norms, or objective physical fitness. Therefore, there is a need to revisit the definition of “old” that is not limited only to a person’s date of birth.

People living longer also means an extended age span; the increasing age span has now become a “multiple age span.” Thus, if this change is not understood, the world may not be seen as it is. For example, it could be determined that the age when people are considered “old” is too low, which could result in insufficient investment in human capital, and a retirement age that is too young. All of these scenarios may mean that people live longer but less happily.

The most crucial issue is that the term “longevity society” is not about elder people only, but it is about everyone. A better understanding of longevity society will enable greater understanding of the new opportunities available and the challenges people will face on such issues as economic growth, urban development, healthcare, savings, work, and lifelong learning, all of which will require proper planning and preparation.

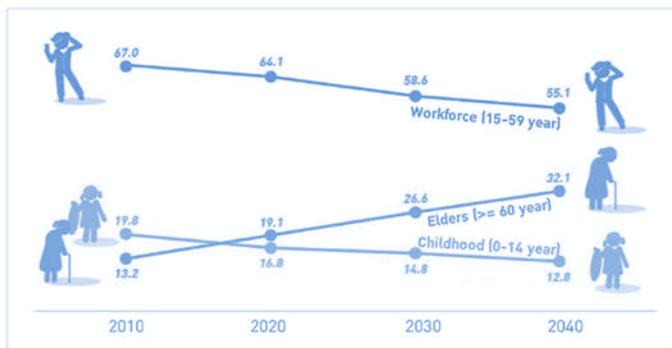
## CHALLENGES IN MAINTAINING ECONOMIC GROWTH

The workforce is decreasing in size while the number of elders is increasing. According to the United Nations World Population Prospects 2017, the current proportion of the Thai workforce is 64 percent of the total population, and 19 percent of the total population is composed of elders; however, in the next 30 years, the workforce will decrease to 55 percent, while the proportion elderly will grow to more than 52 percent of the total. Moreover, labor productivity tends to decline rapidly after workers reach the 50-59-year-old age group, which is one of the reasons why Thais in such cohorts leave the workforce.

As a result, economic growth will decline by 0.8 percent per year on average. According to Nonarit Bisonyabut, TDRI Senior Research Fellow, the following measures could help maintain economic growth:

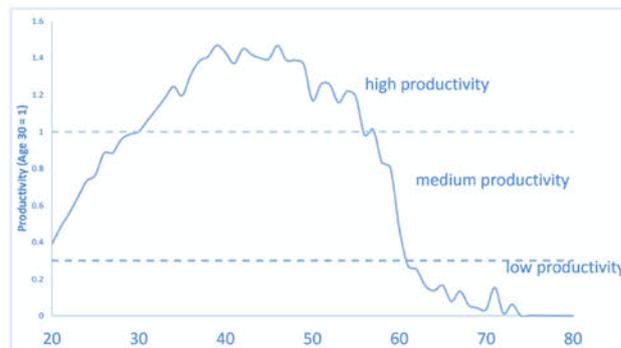
**Figure 2:**

**A: Proportion of population classified by age group (percentage)**



Source: World Population Prospects 2017 Revision.

**B: Labor productivity (Age 30=1)**



Source: Nonarit Bisonyabut and Jirawat Panpiemras, 2012, *Technological Progress, Aging Society and Economic Growth in Thailand*.

1. Retaining workers in the 50-59 age group by reskilling them and increasing the retirement age, which would soften the economic slowdown by 9.2 percent;
2. Bringing workers in the 60-69 age group back into the workforce by increasing labor productivity by 12 percent, which would improve the situation by another 1.8 percent;
3. Increasing the number of migrant workers by 100,000; this would also help improve the situation by another 3.1 percent. (These three solutions will only partially ease Thailand's economic problems. Other measures are needed to help resolve the problem more effectively, which includes the following.)
4. Increasing the use of machines, automation, and robots by investing at an additional rate of 1.1-1.6 percent per year (approximately 40 billion baht in 2018), which could tackle all challenges, or
5. Increasing the growth of total factor productivity (TFP) by 1.1 percent per year by creating innovation and new business opportuni-

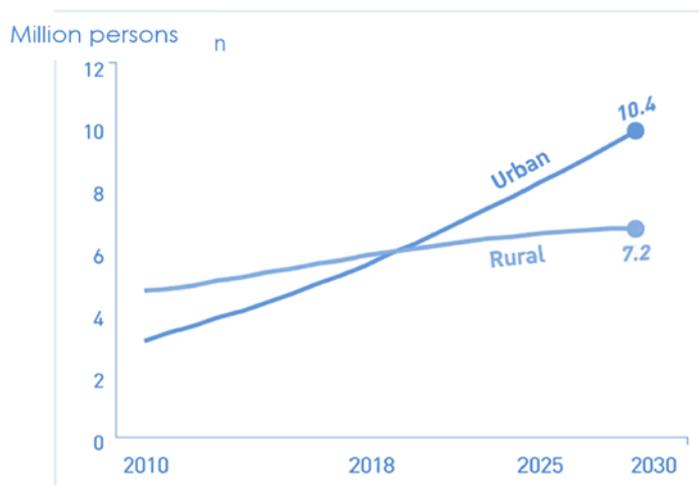
ties, which could also tackle all challenges.

## CHALLENGES IN BUILDING CITIES FOR ACTIVE AGING

The increasing number of Thai elderly persons, especially in urban areas, will lead to a population of 10.4 million elderly by 2030, according to an estimation by the Office of the National Economic and Social Development Council.

Together with the current growth of urbanization, the majority of older persons will be living in cities. Therefore, cities in a longevity society must be suitable for all age group, provide convenience for the elderly, and promote safety and security. A city well designed to support the elderly will help them contribute to the economy. However, cities in Thailand currently are not suitable for a longevity society. According to the TDRI annual public conference presentation by Dr. Sumet Ongkittikul, TDRI Research Director of Transportation and Logistics Policy, some examples of the current situation in Bangkok are listed below:

**Figure 3: Number of Thai elderly classified by urban and rural residence**



Source: Office of the National Economic and Social Development Council.

- The concentration of hospitals in the city center will create life-threatening risks for people needing emergency care, especially in rush hours when traffic is heavy.
- The lack of accessibility to parks can be seen from the fact that only one-fourth of the city's residents live within a 1.5 km radius of public parks. More than 43 percent of the elderly prefer to go to malls and department stores compared with only 8 percent of the elderly who prefer parks.
- Unsafe infrastructure, such as roads and sidewalks, make walking dangerous; according to international walkability scores, Bangkok received a score of 18 out of 40 marks because its footpaths are often too narrow, ridden with walking obstacles, and invaded by motorcyclists.
- There is a lack of accessibility to transport systems. The city's mass transit system is not designed for senior citizens and people using wheelchairs; 41 percent of urban train

stations do not have elevators and wheelchair ramps. In addition, existing elevators often are not functioning and ramps are built with tight corners, which makes them inaccessible. Moreover, many of the elderly face difficulties when using buses because only 30 percent of buses in the system have low floors to make access easy. Moreover, at most bus stops, low-floor buses are not able to stop to take on or discharge passengers. Lacking options, the elderly turn to driving motorcycles or taking motorcycle taxis. However, motorcycles are the leading cause of all types of road accidents in Thailand; 61 percent of elderly accident victims are motorcycle drivers or passengers.

- The lack of interagency coordination makes it difficult to develop idle spaces into public green spaces or to make footpaths walkable and safe. Lastly, people's participation is an important aspect which would help to make cities livable and safe.

## CHALLENGES IN HEALTHCARE

Maintaining good health is an important aspect of a longevity society. Although Thais will live longer, there will be a period in their life when they are at risk of disabilities. According to the World Health Organization, the average life expectancy for the Thai population is 75 years, but the health adjusted life expectancy is only 67 years. Consequently, Thai people on average could expect to have a disability for approximately eight years.

When the elderly reach a certain age, many will be housebound and bedridden with no caretaker, especially elderly women who tend to live longer than men. Moreover, in cases where there is a caretaker, the responsibility usually falls on daughters.

Currently, the cost of taking care of a housebound older person is about 120,000 baht

**Table 1: Life expectancy in 2016 (years)**

	Thailand			World (average)		
	Males	Females	Total	Males	Females	Total
Life expectancy	71.8	79.3	75.5	69.4	74.2	71.8
Healthy life expectancy	64.0	69.8	66.8	61.6	64.9	63.2
Difference	7.8	9.5	8.7	7.8	9.3	8.6

Source: World Health Organization.

per year; for the bedridden, 230,000 baht per year.<sup>2</sup> The number of housebound and bedridden patients will continue to increase in the future; it is expected that there will be at least 200,000 bedridden and 300,000 housebound elderly in Thailand by 2027. In 20 years, 1 million bedridden and housebound elderly can be anticipated.

## CHALLENGES IN FINANCIAL SECURITY

In a longevity society, if a person retires at the age of 60, how much would it cost for that person to live to 100 years? According to a National Statistical Office survey, the expense that would be incurred for a middle-income elderly person living in urban and rural areas from age 60 to 100 would be approximately 5.3 million baht and 3.4 million baht, respectively.

However, the future looks grim as the majority of older persons do not have enough savings to attain the longevity that could otherwise be possible.

**Table 2: Total cost required for Thai people living past age 60 years (millions of baht)**

Longevity (years)	Middle income		5 percent highest income	
	Urban	Rural	Urban	Rural
80	5.3	3.4	14.3	9.0
90	3.6	2.3	9.7	6.1
100	2.2	1.4	5.9	3.7

Source: National Statistical Office Survey 2017.

It will be harder to receive family support as the extended family is on the decline. Only 49 percent of people live in extended families compared with three decades previously when the figure was more than 80 percent. In the same period, nuclear families have increased from 7 to 20 percent and one-person households from 6.5 to 21 percent. Currently, 35 percent of parents receive financial support from their children, but parents in the future are not likely to have this benefit as the number of children per household has dropped from an average of 1.4 to 0.5.

Moreover, people cannot entirely depend on pensions from the government because social security funds may become bankrupt if no meaningful reform is undertaken by 2041.<sup>3</sup> Therefore, a major challenge is how to ensure enough savings for the people in Thailand's longevity society.

## CHALLENGES IN LIFELONG LEARNING

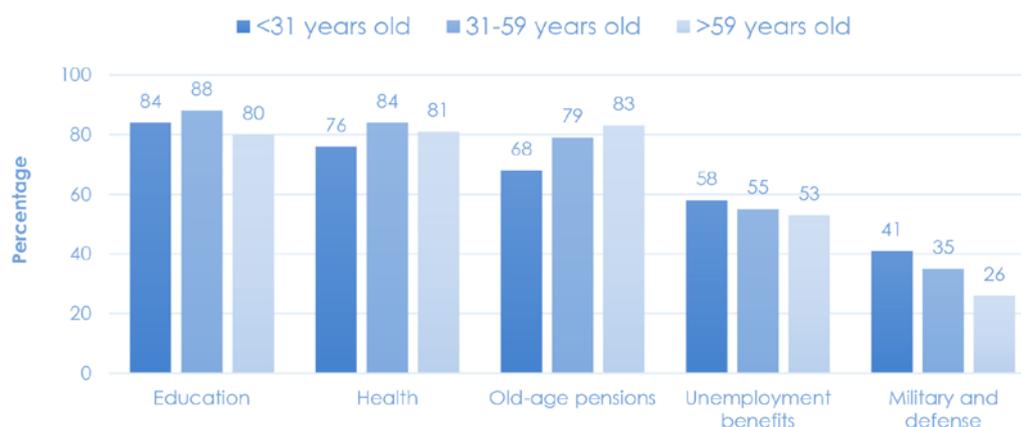
People's overall lifespan is increasing as well as each period of life. Therefore, the learning process during work is crucial. More investment in human capital should be encouraged, which includes the following:

- (a) Productive capital, such as knowledge,

<sup>2</sup> Worawan Chandoevmit and Yos Vajarakupta. 2017. *Long-term Care Insurance System for Thailand*. Bangkok: Thailand Development Research Institute.

<sup>3</sup> Worawan Chandoevmit, 2010. *Choice of Thai Social Welfare*. TDRI Working Paper No. 87, October. (in Thai)

**Figure 4: Opinion on areas where government spending should be increase**



Source: *The Role of Government Survey 2017, King Prajadhipok's Institute.*

skills, reputation, and relationships with co-workers;

(b) Vitality capital, such as health and relationships with others;

(c) Transformative capital, such as knowing one's self, openness to new things, and creating a network of diverse people.

In a longevity society, there are two factors that will determine the rate of return in human capital: (a) knowledge and skills, which will become outdated at a faster rate because of technology disruption, thereby decreasing incentives to invest; and (b) longer life span will expand the timeframe, which consequently would increase the rate of return. Therefore, the critical question is how to appropriately choose which type of knowledge and skills should receive investment.

## CHALLENGES IN INTERGENERATION CONFLICT

Thai people would like the government to be the leading agency responsible for providing services and increasing expenditure in many sectors, especially education, healthcare and pensions. According to a survey by King Prajadhipok's Institute (Role of Government Survey 2017), more than 83 percent of Thai elderly persons would like the government to increase spending on old-age

pensions, but only 68 percent of youth and 79 percent of the working-age population agreed on the issue. On the other hand, 58 percent of youth and 55 percent of those of working age would like the government to increase unemployment compensation, and 53 percent of elderly persons agreed on this issue.

It is clear that each age group has different responses to each policy. Therefore, the longer life span of Thais will lead to more challenges, in particular intergeneration conflict. In other words, in Thailand's longevity society, pensions and welfare for healthcare will receive more attention than welfare for children, and policies to maintain low inflation will be prioritized over policies to achieve a low unemployment rate. Moreover, elderly persons will tend to be more conservative than other groups. In order to maintain the proper equilibrium in society, it is necessary for the political system to represent diverse groups of people, reflecting the different needs of people in a longevity society.

In conclusion, Thailand's path to a longevity society will lead to new challenges which not only affect the elderly but also all other age groups. Every Thai must prepare for these changes in order to benefit from high-quality longevity. Without proper preparation, Thai people will only live longer but become less happy.

# HOW CAN THAILAND STAY COMPETITIVE AND KEEP GROWING IN A LONGEVITY SOCIETY?

Saowaruj Rattanakhamfu\*



\* Dr. Saowaruj Rattanakhamfu is Senior Research Fellow for Competitiveness Policy, TDRI. The article has been summarized from her presentation at the 2019 TDRI Annual Conference on “Longevity Society: Making Thailand Competitive, Healthy, and Secure,” held on May 13, 2019 at the Bangkok Convention Center B, 22nd Floor, Centara Grand Hotel, and the Bangkok Convention Center, Central World, Bangkok.

## INTRODUCTION

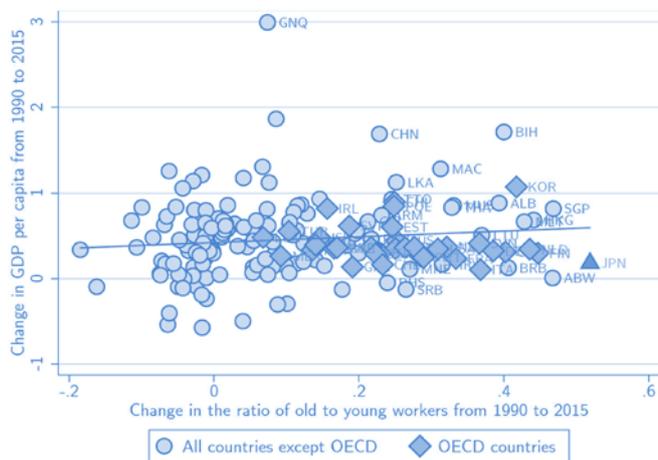
Why does Thailand need to create economic growth in a longevity society? In a longevity society, people expect the nation to provide public welfare and infrastructure, such as pensions for seniors, healthcare services for all, especially seniors, high-quality education for people at all ages to support multi-stage life-long learning, and public infrastructure to facilitate the activities of people of all ages. Therefore, if Thailand’s economic growth rate is low, Thailand would either not be able to respond to people’s high expectations on public welfare and infrastructure or create high public debt to support higher fiscal burdens.

To stay competitive and keep growing in a longevity society, Thailand needs to use robotics and automation to deal with labor shortages and to enhance productivity. In a longevity society, the number of young workers is decreased. Labor productivity is also decreased as workers age. At the same time, Thailand must create new business opportunities to serve the demand of Thai and foreign seniors. As Thailand enters an aging society faster than other ASEAN countries, Thailand should take the first-mover advantage to develop goods and services to meet the seniors’ demands, and later expand the market for aging products to neighboring countries.

## USE OF ROBOTS AND AUTOMATION TO SOLVE LABOR SHORTAGES AND INCREASE PRODUCTIVITY

**While an aging society does lead to a decreased number of workers and reduced labor productivity as the age of the labor force increases, the inevitability of lower economic growth is simply a myth.** Based on data from 169

**Figure 1: Percentage change in income per capita and change in the share of the aged population to young population, 1990-2015**



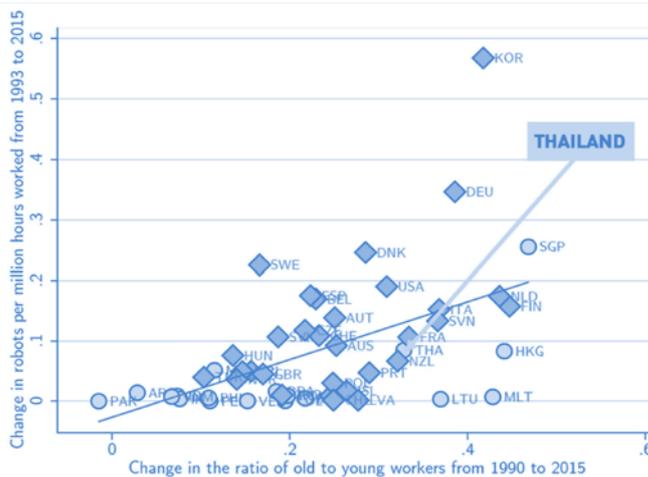
Source: Acemoglu and Restrepo, 2017.

countries, Acemoglu and Restrepo (2017)<sup>1</sup> showed that an increased share of older people in the total population does not necessarily lead to decreased income per capita (Figure 1). In an aging society, although the number of the working-age population and labor productivity decrease, a country can increase its economic growth by using robots and automation to replace workers and increase its total factor productivity through research, development and innovation.

**Countries becoming aging societies faster than others are likelier to use more robotics and automation.** For instance, Singapore, South Korea, Germany and the United States have a higher share of industrial robots per workers (Figure 2) than those with a slower rate of aging. This is because, in an aging society, the number of workers decreases and the wage rate increases, while the cost of robots decreases due to technology advancement (Figure 3). Consequently, businesses turn to use more robots and automation.

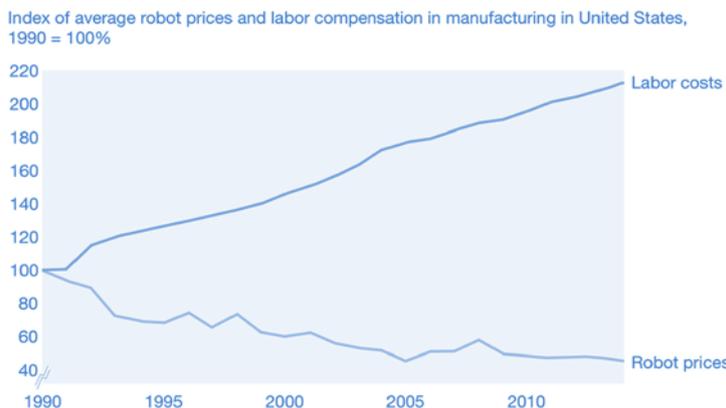
<sup>1</sup> Acemoglu, Daron, and Pascual Restrepo, 2017, "Secular Stagnation? The Effect of Aging on Economic Growth in the Age of Automation," *American Economic Review* 107, no. 5 (May): 174-179.

**Figure 2: Percentage change in the share of robotics per worker and change in the share of the aged population to young population, 1990-2015**



Note: Correlation between change in the ratio of old to young workers between 1990 and 2015 and change in robots per million hours worked between 1993 and 2014.  
Source: Acemoglu and Restrepo, 2017.

**Figure 3: Price index of robots and wages in manufacturing industry in the United States**

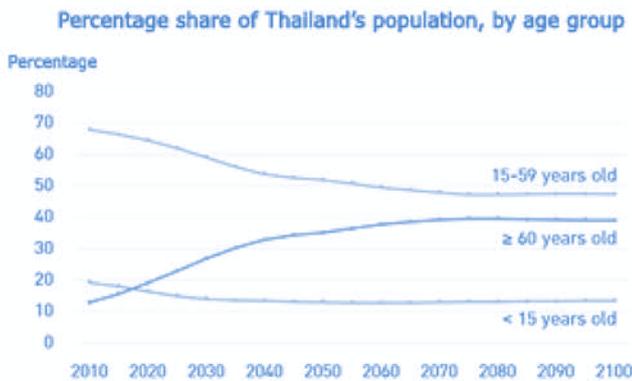


Source: Economist Intelligence Unit; IMB; Institut für Arbeitsmarkt- und Berufsforschung; International Robot Federation; US Social Security data; McKinsey analysis

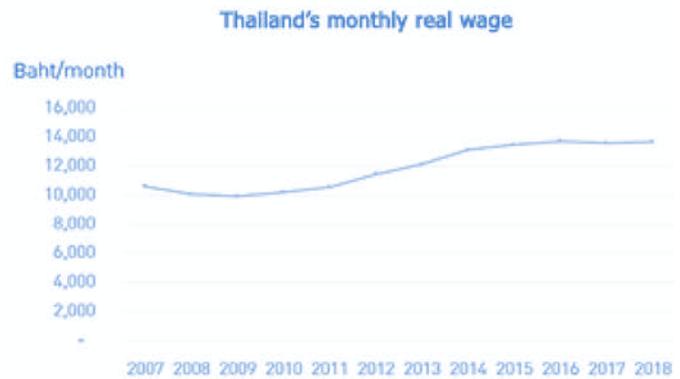
Source: Tilley, Jonathan. 2017. *Automation, robotics, and the factory of the future*. Available at <https://www.mckinsey.com/business-functions/operations/our-insights/automation-robotics-and-the-factory-of-the-future#>

**Other than the manufacturing sector, the agricultural sector can also benefit from robots and automation.** Japan is a world leader in using robotics and automation in the agricultural sector due to the country's shrinking proportion of

Figure 4: Thailand's population, by age and monthly real wage



Source: World Population Prospects: 2017 Revision.



Source: National Statistical Office and Bank of Thailand with author's calculation.

young farmers.<sup>2</sup> For example, Spread Co. Ltd. of Japan uses automation in almost all its processes to produce lettuce in its Techno Farm greenhouse. Due to the use of automation, its productivity has increased significantly from 21,000 to 50,000 units per day, while labor costs have been reduced by half.<sup>3</sup> Another example is Kubota's exoskeleton, which helps older farmers pick grapes by reducing their arm fatigue and increasing their productivity.<sup>4</sup>

**Similarly, businesses in the service sector can use robots and automation to increase productivity and reduce labor shortages.** For example, the Mayo Clinic in the United States uses AI to help diagnose endocarditis, which is a fatal condition if not properly treated. AI analysis provides results with a diagnosis precision level of 99 percent and reduces the number of cases requiring an invasive procedure.<sup>5</sup>

**As Thailand is becoming an aging society,**

<sup>2</sup> In 2015, there were 2.09 million Japanese farmers, 63.5 percent of whom were more than 65 years old, according to the 92<sup>nd</sup> Statistical Yearbook of the Ministry of Agriculture, Forestry and Fisheries, 2018. (Accessed from: <http://www.maff.go.jp/e/data/stat/92nd/index.html#3>).

<sup>3</sup> <https://www.theguardian.com/environment/2016/feb/01/japanese-firm-to-open-worlds-first-robot-run-farm>.

<sup>4</sup> <https://www.jnouki.kubota.co.jp/product/kanren/arm-1/>.

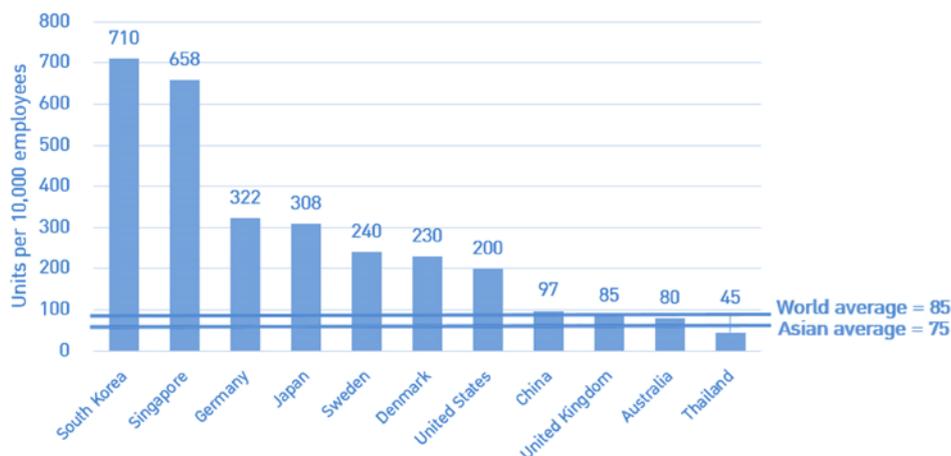
<sup>5</sup> [https://www.mdmag.com/medical-news/mayo\\_clinic\\_ai\\_software](https://www.mdmag.com/medical-news/mayo_clinic_ai_software).

**the number of workers is decreasing while real wages are increasing.** Figure 4 shows that the share of workers, aged 15-59 years old, continues to fall, while monthly real wages are increasing constantly. In 2019, Thailand already had more people older than 60 years than those younger than 15 years. Thailand will become an aged society in 2021, when the ratio of those older than 60 years reaches 14 percent of the total population. The country will become a super-aged society in 2031 when the ratio of those older than 65 years reaches 20 percent.

**The labor shortage in Thailand's manufacturing sector coupled with the government's policies are spurring the rapid uptake of industrial robots, although the adoption rate is lower than that of Asia and the world.** In 2016, the cumulative number of industrial robots in Thailand was 28,200, showing a compound annual growth rate of 17 percent during the period 2011-2016.<sup>6</sup> However, compared with other countries, Thailand's number is still lagging behind. The country is employing about 45 robots per 10,000 workers, lower than both the world's average rate at 85 robots per 10,000 workers and Asia's average at 75 robots per 10,000 workers (Figure 5).

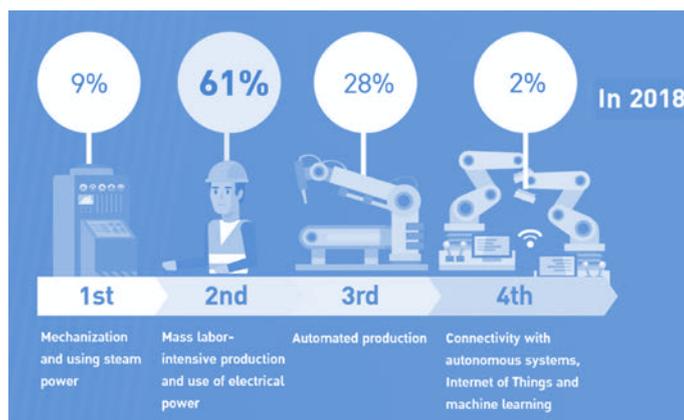
<sup>6</sup> *World Robotics Report (various years), International Federation of Robotics.*

**Figure 5: Number of robots per 10,000 workers in 2017**



Source: IFR World Robotics, 2018.

**Figure 6: Factories in Thailand at different stages of industrialization, 2018**



Source: Federation of Thai Industries, 2018.

Besides its below-average adoption rate of industrial robots, Thailand also has not taken up automation very much. Most factories are still stuck in the “Industrialization 2.0” era, focusing on mass production that is labor-intensive. Only 2 percent of factories have moved to the “Industrialization 4.0” era, moving to automation and data integration<sup>7</sup> (Figure 6).

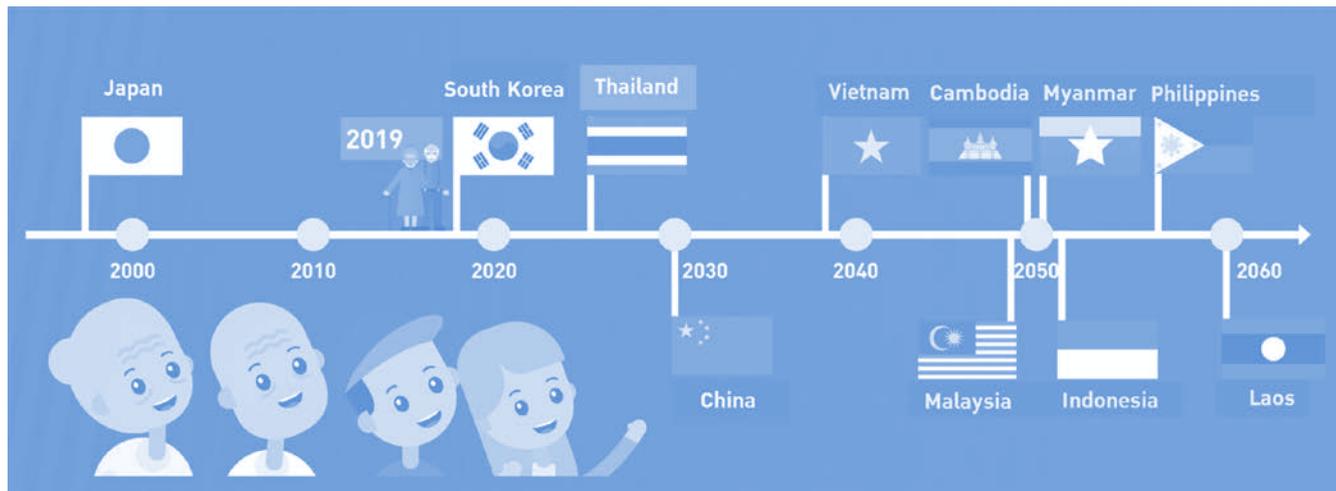
The adoption of automation and robots in Thailand is concentrated in large companies in all sectors and further raises their productivity. For

example, in the industrial sector, SCG Chemical Co., Ltd. has developed “CiBot” to monitor carbon levels in its olefin plants, which helps decrease the risk to workers in dangerous areas, and also increases monitoring speed seven times faster than human workers are capable of doing.

In the agricultural sector, Mitr Phol Sugar Corporation developed the Mitr Phol Modern Farm System, which enables farmers to share machines, such as sugarcane harvesters and tractors. The increase in the use of such machinery raises the farmers’ profitability, improves their quality of life, and makes the farming business more attractive for future generations.

<sup>7</sup> Manufacturing, trading and servicing capacity survey for raising productivity with robots and automation project, 2018. Department of Industrial Promotion and the Federation of Thai Industries.

Figure 7: Years in which each country will become an aged society



Note: “Aged society” means those countries in which at least 14 percent of the total population is 65 years of age and older.  
Source: World Population Prospects: 2017 Revision.

**In the agricultural-industrial sector,** the use of robotic arms by Betagro Co., Ltd. in dealing with food packages helps increase productivity, reduce labor costs, and decrease losses. Its investment in such technology has produced an internal rate of return (IRR) of 22 percent and a break-even point of 4.1 years.

**In the service sector and in the workplace,** OfficeMate Thailand successfully increased its productivity five-fold while also cutting down two-thirds of its labor force, thanks to automation in their inventories. SCG Chemical automates order processing tasks with robotic process automation (RPA), a software package designed to deal with large amounts of data and routine tasks. RPA increases processing speed by 3.6 times faster than was possible previously, cuts down the number of workers required by 40 percent, and achieves an accuracy rate of 96 percent. SCG Chemical can thus reallocate the freed-up workers to work on more valuable tasks. RPA yields an IRR above 70 percent.

## NEW BUSINESS MODELS FOR SENIORS IN THAILAND AND ABROAD

**In addition to alleviating the labor shortage with automation and robots, Thailand also needs to build new engines to drive the economy in the longevity society.** Special attention should be paid to the development of new business models for seniors in Thailand and abroad, especially in the ASEAN countries and China.

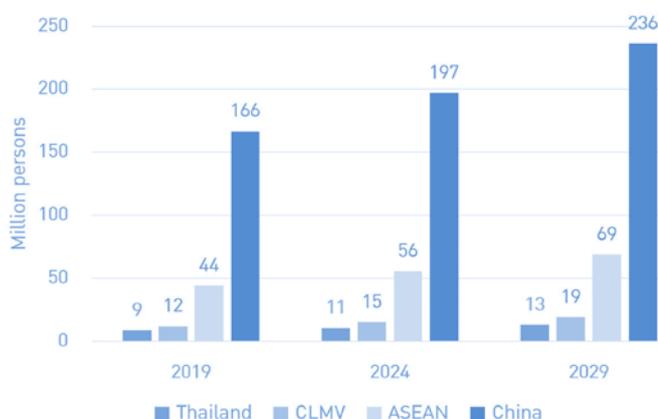
### Market for Seniors

**Entering an aged society earlier than China and most countries in ASEAN,<sup>8</sup> Thailand has the opportunity to be the first mover in developing goods and services for seniors** (Figure 7). When the rest follow, Thailand should aim to expand the market to serve seniors in other countries.

**The much larger size of the markets in ASEAN and China is the reason why Thailand should pay attention to them** (Figure 8). In 10 years, the number of the elderly population in

<sup>8</sup> World Population Prospects: 2017 Revision.

**Figure 8: The population of people aged 65 and older in ASEAN countries and China**



Source: *World Population Prospects: 2017 Revision*.

ASEAN is expected to reach 69 million, roughly the size of Thailand’s current population, and China’s is expected to reach 236 million. In contrast, it has been estimated that during the period 2019-2029,<sup>9</sup> the size of the elderly population in Thailand will be only 9-13 million people.

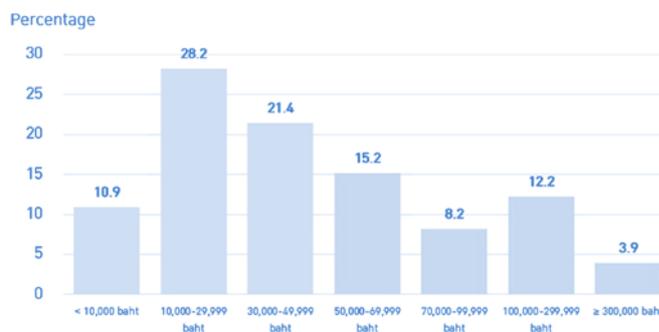
**The market for seniors in Thailand is small and has little room for growth.** The consumption of people older than 50 years in 2017 was about 2.8 trillion baht (about 18% of the country’s GDP).<sup>10</sup> Moreover, most of the seniors have low purchasing power, with 60 percent of them having an annual income below 50,000 baht (Figure 9). Market growth is also unlikely, since people tend to consume less as they get older. In 2017, for instance, the consumption of people aged 50-59 totaled 83,573 million baht; 10 years from then, as they reach the 60-69-year-old cohort, this group’s consumption will be valued at only 65,657 million baht,<sup>11</sup> a 21.4 percent decrease in value.

<sup>9</sup> *World Population Prospects: 2017 Revision*.

<sup>10</sup> *The 2017 Survey of the Older Persons in Thailand*.

<sup>11</sup> Calculation based on the 2017 Survey of the Older Persons in Thailand, assuming that the consumption behaviors of people aged 50-59 years in the next 10 years will be the same as those of people then aged 60-69 years.

**Figure 9: Distribution of people aged 60 and older, by annual income, 2017**



Note: Total income is from all sources both financial and material supports.

Source: *The 2017 Survey of the Older Persons in Thailand, National Statistical Office*.

### *High-potential Businesses in a Longevity Society*

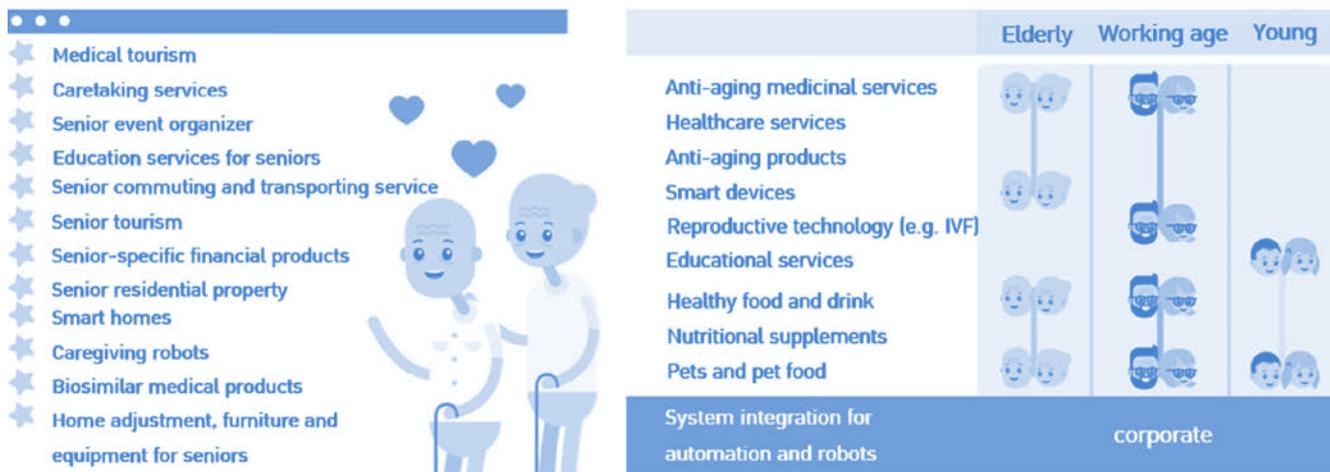
In a longevity society, several high-potential business opportunities may be tapped, 20 examples of which are given in Figure 10; these are categorized into two groups: senior-specific goods and services, and goods and services for changing lifestyles in a longevity society.

#### 1. Senior-specific goods and services

Businesses in this group specifically target senior people and serve their increasing needs for healthcare and lifestyle changes.

- Medical tourism
- Biosimilar medical products
- Senior commuting and transporting services
- Senior tourism
- Caretaking services
- Caregiving robots
- Senior residential property
- Home adjustment for seniors
- Smart homes
- Furniture and equipment for seniors
- Senior-specific financial products (e.g. residential loans for seniors)

Figure 10: 20 high-potential businesses in a longevity society



- Senior event organizers (e.g. ballroom dancing, yoga, etc.)
- Education services for seniors

## 2. Goods and services for changing lifestyles in a longevity society

Businesses in this group target people across several generations living in a longevity society and serve the changing lifestyles as socio-economic structures evolve. In a longevity society, people will become more health-conscious, have fewer children at later ages, and as the population shrinks, the need for robots and automation will rise.

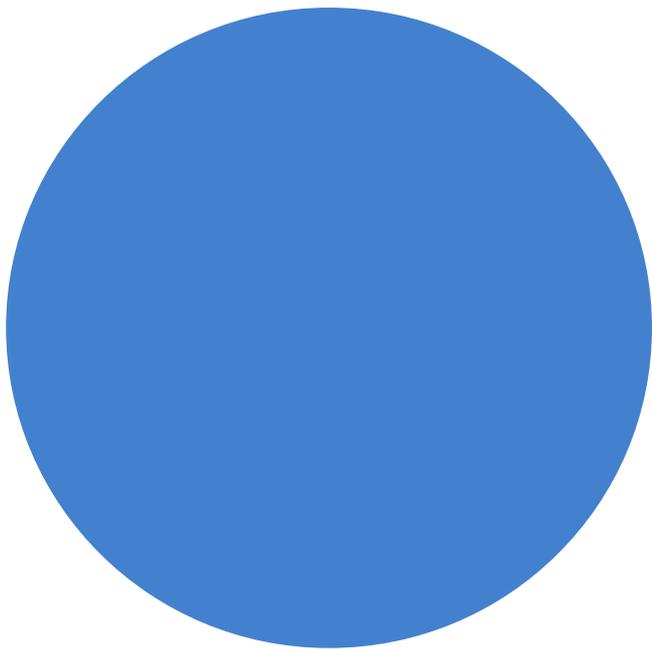
- Healthcare services
- Smart devices
- Healthy food and drink
- Nutritional supplements
- Anti-aging medicinal services
- Anti-aging products
- Reproductive technology (e.g. IVF)
- Educational services
- Pets and pet food
- System integration for automation and robots

Some of the examples are already in practice:

- **Senior residential services** – *Jin Wellbeing County* and *Kamala Senior Living* combine residential areas with health centers, hospitals, and resorts.
- **Smart home** – *SCG's DoCare Protect* offers security solutions for seniors, including notification of abnormal activities and collecting data to aid seniors in terms of preventative healthcare and enable distant medical consultation.
- **Anti-aging products** – *Snail White*, *Snail 8*, and *Ardermis* are only some of the names in anti-aging products, which are worth 3 billion baht, about one-third the value of the facial products market in 2018.
- **Reproductive technology** – Most of the current clients of IVF are from China and the CLMV countries.<sup>12</sup>

**Development of goods and services for the elderly requires an understanding of the experiences of older persons, and the participation of the elderly in the development process is**

<sup>12</sup> Cambodia, Lao People's Democratic Republic, Myanmar and Vietnam.



**valuable.** For example, SoundFun’s speaker “Mirai,” targeting people with hearing impairments, was developed by 67-year-old Yoshio Sakamoto and Nobuhiro Miyahara.

## CONCLUSION AND POLICY RECOMMENDATIONS

**Despite the shift to becoming an aging society, Thailand still has the potential to grow economically by using automation and robots to alleviate the labor shortage problem and to increase productivity.** The agricultural sector should utilize more machines. The industrial sector should employ more automation and robots. The service sector should embrace more software solutions and AI. New business models should target seniors both in Thailand and overseas, and aim to deliver good-quality products at reasonable prices to serve people’s changing needs.

**Finally, to support such changes, Thailand’s public sector should play the role of a supporter, as follows:**

**First, the public sector should encourage small and medium-sized enterprises and farmers to adopt more automation and robots.** For example, the government may subsidize consulting fees and training costs and/or offer tax benefits and low-interest-rate loans for investment in equipment.

**Second, the public sector should build appropriate ecosystems to cultivate high-potential businesses.** For example, developing personnel in occupations that are high in demand, such as medical specialists, caregivers, and system integrators. The public sector should also ensure that the market works well and protects elderly consumers from fraud and unfair conduct. It should also speed up the registration of regulated goods (e.g. medicines and cosmetics). Finally, it should support research and development activities to develop goods and services which better serve the needs of seniors.

## WEALTH AND HEALTH FOR LONGEVITY\*



*\*Ms. Wannapha Kunakornvong and Mr. Kanyaphak Ngaosri, Researchers, Social Security Policy, TDRI, prepared this summary of the presentation by Dr. Worawan Chandoevwiit, Khon Kaen University, and Dr. Nada Wasi, Puey Ungphakorn Institute for Economic Research, Bank of Thailand, with Dr. Supavut Saichua, at the 2019 TDRI Annual Conference on “Longevity Society: Making Thailand Competitive, Healthy, and Secure,” held on May 13, 2019 at the Bangkok Convention Center B, 22nd Floor, Centara Grand Hotel, and the Bangkok Convention Center, Central World, Bangkok.*

Thailand’s demographic profile has changed over three decades: the size of families has become smaller as the extended family norm decreased from 80 percent of the total in 1986 to 49 percent in 2018. By contrast, nuclear families increased from 7 percent of the total to 20 percent in line with the rise in the number of people living alone. The number of children in households decreased from an average of 1.4 to 0.5 children over this period. These changes and people’s lifestyle influence people to focus on their wealth and health in preparation for their old age in a longevity society.

Wealth is defined as a tangible asset. People incur expenses at all stages of life; however, those able to work and accumulate income and assets, which is necessary for living and longevity, do so during working ages, i.e., 15-64 years. *The 2017 Survey of the Older Persons in Thailand*, conducted by the National Statistical Office reported that monthly expenses of middle-income persons for basic necessities, such as food, clothing, medicine, rent, water, electricity, travel and communication, totaled 7,000 baht in urban areas and about 4,500 baht in rural areas. Meanwhile, minimum monthly expenses for the richest 5 percent of older persons in urban areas were 19,000 baht and in rural areas, 12,000 baht.

Thus, for 100 years of longevity for people who live in urban areas, the total expenses of middle-income elderly persons aged between 60 and 100 years would be approximately 5.3 million baht, the assets for those aged 60 years should be about 4.3 million baht. The expenses of the richest elderly would be 14.3 million baht, and their assets should be about 11.5 million baht.

However, the situation of Thai elderly persons accumulating assets is not the same as dreaming about doing so. The previously mentioned 2017 survey by the National Statistical Office reported that one-third of the elderly rely on income from children, a situation which would change as the

number of children in a household decreases over time. Almost a third (31%) of the elderly had to work to meet their daily expenses; 20 percent of the elderly rely on the government-supplied old-age allowance. Only 2 percent covered the expenses of daily life by drawing on interest and assets; 42 percent of the elderly had savings but only 11 percent of them had assets valued of more than 1 million baht, which amount could be used to cover monthly expenses of 7,000 baht for only 10 years.

There are two main groups in employment: formal and informal workers, each of which has different states of welfare assistance. There is compulsory saving for formal workers, such as the Government Pension Fund and the Social Security Fund, as well as voluntary savings, such as a providence fund, Retirement Mutual Fund/Long-term Equity Fund (RMF/LTF). For example, a formal worker enrolled in the Social Security Fund, who had been working for 20 years receiving a monthly salary of 15,000 baht, would after he retired get a monthly pension of about 4,125 baht and an elderly allowance of 600 baht; in total, his annual income would be 56,700 baht. If he was living in an urban area, his annual expenses would be 84,000 baht, which exceeds his income. However, if he lived in a rural area, his annual expenses would be 54,000 baht; in this case, his income would be enough for only two years. The amount of pension and allowance is not enough in both cases.

For 100 years of longevity, middle-income persons in urban areas should have savings or accumulated assets worth at least 2.85 million baht, and richer elderly persons should have savings or assets worth at least 10 million baht. Middle-income persons in rural areas should have savings or assets worth at least 1.35 million baht, and richer elderly persons should have savings of about 5.9 million baht.

The savings of informal workers are different; only voluntary savings funds, such as with the

National Savings Fund and the Retirement Mutual Fund/Long-term Equity Fund, are available to them. For example, when saving with the National Savings Fund since age 15, the worker's total annual savings would be 12,650 baht; thus, he or she would get a monthly pension of about 7,000 baht when aged 60. If the worker starting saving since age 30, he or she would get a monthly pension of only about 3,601 baht.

Without sufficient state welfare assistance, the majority of people in a longevity society would have to depend on their own savings for financial security in old age. Therefore, the government needs to give more support, such as extending state welfare assistance, increasing accessibility to the National Savings Fund for formal workers and to the Social Security Fund for informal workers.

While early savings is necessary to achieve financial security in old age, investing in good health early in life for an active social life in old age is also important. Health is defined as an intangible asset. Thais are living longer; their life expectancy at birth in 2017 reached 74.3 years for men and 82 years for women. However, when considering health adjusted life expectancy (HALE), men lived 8.6 years with a disability; the figure for women, 10.7 years. Currently, the elderly face health problems mainly from non-communicable diseases (NCDs), such as diabetes, high blood pressure, stroke and cardiovascular diseases. As social determinants of health, including social and economic factors, physical environment, health behavior and healthcare factors, health behavior is the main factor that affects health status and the risk of NCDs. These factors are diet, exercise, smoking and alcohol consumption. Furthermore, health problems increase with age; when the elderly reach their 80s and 90s, many of them become disabled and remain housebound and bedridden.

The previously mentioned survey by the National Statistical Office reported that there were

approximately 329,580 disabled elderly persons in 2017, 126,391 of them bedridden and 203,189 housebound. Of these, 9 percent had no one to look after them. Most of the caretakers were family members; 39 percent of bedridden men were being taken care of by their spouse and 37 percent by their daughters. However, this situation of declining health will be a problem mainly for elderly women because they live longer than their husbands (70% of elderly women are widowed); thus, the responsibility for care usually falls on their daughters (48%).

As of now, the cost of caring for the housebound is about 120,000 baht per year and 230,000 baht for the bedridden, which costs are the responsibility of the family.<sup>1</sup> Some communities provide long-term care (LTC) services for disabled elderly in the form of community welfare; for example a volunteer club in Umong sub-district in Lamphun Province, day-care center in Sa-at sub-district in Khon Kaen Province, and LTC integration of parties by the Rangsit local government in Pathum Thani Province. However, such community welfare depends on social capital in each area. By their community nature, welfare services are limited, whereas the elderly live everywhere nationwide. When the number of housebound and bedridden older persons exceeds 1 million in two decades, the government will need to give more support to health and care services for the old and old elderly.

The LTC Insurance Fund is one of the alternatives. Some other countries provide long-term care as one of health services under different management systems. LTC systems in Belgium and the Netherlands are managed as a social security fund. The budget for it is from three sources, the main budget is from the contributions of the beneficiaries; other sources are from a general tax and user co-payments. For LTC systems in Sweden

and the United Kingdom, the budget is collected from general tax mainly and a small amount of user co-payments. Japan also has an LTC system, collecting funds from general taxation, premiums from people aged 40-65 years and user co-payments. The LTC benefits include home care and community care, or institutional care.

The previously mentioned study by TDRI and the Puey Ungphakorn Institute for Economic Research, Bank of Thailand, on the possibility of setting up LTC insurance for Thailand estimated the following benefits/attributes of such insurance: (a) basic LTC materials and orthotics; (b) subsidy to cover the cost of caregivers; (c) home visits by care manager; and (d) daycare centers and varying premiums from 300 to 2,000 baht. The majority of people expressed interest in buying LTC insurance, but the amount of premiums they are willing to pay and the types of care services they need vary. Thus, the implementation of LTC insurance in Thailand would depend on the decision of policy-makers and stakeholders. LTC insurance could be a universal program or a multiple-tier program in terms of accessibility and equality.

Thus, preparations for a longevity society would benefit not only the elderly but also everybody in the society. Without good health and enough savings, a long life will not mean more happiness, but rather more difficulties in old age. Thus, amassing savings, both on a compulsory and voluntary basis, and preparing to live longer and be healthier are essential, as is improving the healthcare system for a longevity society.

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<sup>1</sup> *Worawan Chandoevmit and Yos Vajarakupta. 2017. Long-term Care Insurance System for Thailand. Bangkok: Thailand Development Research Institute.*

# THE CITY FOR A LONGEVITY SOCIETY\*



*\*Ms. Napaphat Sirikasemchai and Mr. Chonlavit Panpakdeediskul, Researchers, Transport and Logistics Policy, TDRI, prepared this summary of the presentation by Dr. Sumet Ongkittikul, Research Director for Transport and Logistics Policy, TDRI; Ms. Nichamon Thongphat, Researcher, Transport and Logistics Policy, TDRI; and Dr. Niramon Serisakul, Director of Urban Design and Development Center, at the 2019 TDRI Annual Conference on “Longevity Society: Making Thailand Competitive, Healthy, and Secure,” held on May 13, 2019 at the Bangkok Convention Center B, 22nd Floor, Centara Grand Hotel, and the Bangkok Convention Center, Central World, Bangkok.*

## BACKGROUND

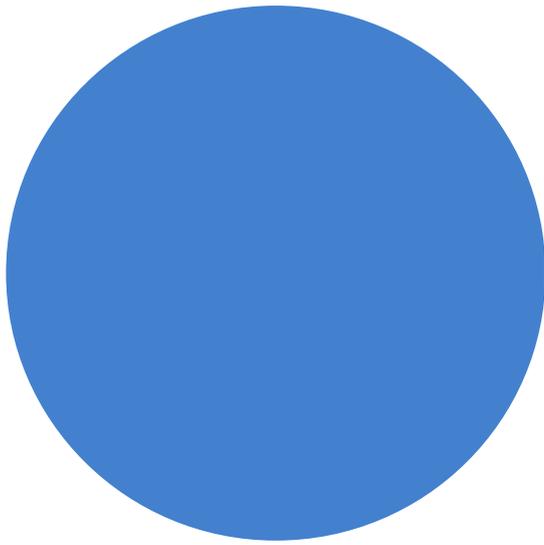
Currently, one of the main challenges that Thailand faces is becoming an aging society. A report published in 2013 by the Office of the National Economic and Social Development Council (NESDB) pointed out that, in the next 30 years, about 60 percent of the total Thai population will live in cities,<sup>1</sup> rather than countryside, rising from 51 percent in 2018. Accordingly, in 2030, approximately 10.4 million elderly people will be living in cities, and only 7.2 million elderly will be living in the countryside. With growing urbanization and an aging population, there are going to be “urban senior living communities.”

Because positive migration is influencing aging in urban areas, it is high time for rethinking urban planning. Cities must encourage the full potential of people of all ages for performing the activities of daily life (necessary activities) as well as creative and social relations, and improvement activities. The ideal city should encourage the elderly to happily participate in their desired activities, particularly important ones, without obstacles. Therefore, the cities that support active aging must have appropriate public spaces, such as parks, stadiums, libraries, and art galleries. Also, they must be accessible to walkers via a proper public transport system.

## HOW IS THE HUMAN DIMENSION OF CITY DESIGN BENEFICIAL IN A LONGEVITY SOCIETY?

Neglect of the human dimensions in the process of city design can create burdens for people. The case of Brasilia, established as the capital of Brazil in 1956, demonstrates the conflict between “urban designs” and “people’s needs.” Despite being named as a World Heritage site in 1987 due to its

<sup>1</sup> National Economic and Social Development Council. 2013. *Population Projections for Thailand 2010-2040*.



beautiful landscaping, people merely reside in the city. Its distance from facilities, working places, and public spaces, as well as the inaccessibility of public transport, are reasons why its citizen have been pushed out of the city. Therefore, the human dimensions of urban design must consider public places and mobility for all.

### Public space design for all ages

In Paris, 70 percent of available spaces and roads are used by cars. For this reason, the French government has attempted to reduce road space for vehicles and return public spaces for the use of the people. It redesigned the path along the Seine River, then created more open spaces and walking streets. Not only have economic benefits been realized, but this renovation also is providing people with more opportunities to carry out a range of activities, in a setting where there is less pollution from automobiles, and a better urban environment.

As was done in Seoul, the government of South Korea decided to demolish about 5.8 kilometers of highways located over the Cheonggyecheon Canal and created public spaces and a park along the canal. Convenient walkways, a private car ban and accessible public transport, as well as many

species of trees attract visitors and have turned the surrounding area into a lively neighborhood. After the redesigned area was finished in 2005, it heightened people's quality of life and has become a landmark in Seoul, attracting about 64,000 visitors per day.

Furthermore, many aging cities have begun to invest in public spaces for the elderly, particularly in their own neighborhoods, as shown in the following case studies. In Beijing, more than 4,000 urban parks must provide facilities and equipment for older people, according to government requirements. Despite the spaces limitation in Hong Kong, the government has adopted the "Hong Kong 2030+ Plan" for a livable, high-density city which promotes good health and active living of the citizens and provides them with easy access to appropriately designed public spaces.

### Walkable city design for all ages

Not only is public space development a critical concern of government but so is the support of pedestrian mobility with quality walkways. The location of such places within walking distance and the physical condition of sidewalks are two highlighted aspects. Hence, public transport stations, shopping centers, educational institutions, workplaces, recreational areas, and various transaction services must be connected by walkways, which must be designed for walking conveniently and safely for people of all ages.

The silver zone policy of Singapore is a best practice for the promotion of pedestrian mobility in an age-friendly city. Measurement is focused on the concentration of senior citizens living areas by reducing vehicle speed and providing pedestrians with more convenient crossings. All drivers in silver zone areas must reduce speed due to the design of the infrastructure, such as curved roads, narrow streets, and speed bumps, as well as law enforcement

with speed limited to no more than 40 kilometers per hour. Pedestrians are the priority concern, particularly when crossing roads with well-designed traffic islands that are large enough for two wheelchairs taking a rest halfway. In addition, “LOOK” markings painted at roadsides help pedestrians to be cautious before crossing a road. Finally, there are new engineering techniques and technologies for vulnerable walkers, such as tactile tiles facilitating visually disabled people’s navigation and an extra six seconds crossing time for seniors. This policy could reduce the accident rate involving senior pedestrians within silver zones by 75 percent; the government thus plans to expand the zones to another 50 locations by 2023.

### **Public transport design for all ages**

Public transport is the most efficient mode of travelling in the city; thus, the government should provide this service for all adequately in order to help people to carry out their daily activities. The policy on service accessibility improvement is a critical concern in a country experiencing an aging society, such as Japan. The enactment of a barrier-free law in 2006 has established an accessibility standard for existing and new buildings so that everyone can gain access to public transport and public spaces. As a consequence, all public transport stations must have elevators, redesigned parking spaces, and building ramps for people with disabilities as well as the elderly. Japan’s barrier-free law provides the necessary mechanism to force the government, building owners, transport operators, and relevant stakeholders to follow the standard established under the barrier-free law. Moreover, the local government in Chigasaki implements a shared taxi technology application to help older people access various places easier as a door-to-door service. Hence, the elderly in the outskirts could travel at a lower cost than that charged by a regular

taxi since this technology enables many commuters to travel in one vehicle at the same time.

### **HOW FRIENDLY IS BANGKOK TO PEOPLE IN A LONGEVITY SOCIETY?**

Many cities in Thailand could not attain the characteristics of age-friendliness owing to limited facilities and public spaces, ignored pedestrians, as well as inaccessible public transport. This study examines the situation in Bangkok as representative of a big city with a high level of migration. The first issue concerns the impediments posed by the accessibility of medical centers. Hospitals are concentrated mostly in the city center and distributed only sparsely in the suburb, especially in the east of Bangkok. Heavy traffic during peak periods worsens the condition of patients, particularly the elderly. Experiments with the geographic information system (GIS) revealed that 22.5 percent of the area in Bangkok requires more than 30 minutes of travel time to get to the nearest hospital during rush hours. As a consequence, patients face a higher burden in terms of travelling costs due to the longer time spent in heavy, slower traffic.

In Bangkok, public green spaces, which improve air quality and people’s health, are also inadequate and unreachable on foot. Analysis of park accessibility using GIS shows that only 19.4 percent of the Bangkok area involves a walk of not more than 1.5 kilometers to reach a public park. Such an area could serve 1.5 million people (28 percent of the total population of Bangkok), which includes 312,000 elderly (31 percent of the total elderly population in Bangkok). Further, the result of this accessibility analysis conforms with the survey of older people’s activities conducted by TDRI in 2019. That study showed that 43 percent of seniors aged between 60 and 80 years usually spend time at department stores, whereas only 8 percent of the total prefer to visit public parks. Although the city’s

hot climate means that fewer people do outdoor exercises, the provision of more reachable public parks with sufficient facilities and equipment would be an alternative to cool the city's temperature and act as an incentive for people to stay healthy free of cost.

Moreover, other public spaces promoting creativity, such as museums and theaters, are also virtually unreachable. The previously mentioned GIS investigation discovered that 78 percent of them are concentrated in the inner city area of Bangkok. Whereas commercial places, such as department stores, are more spatially distributed throughout the city, or almost 70 percent of the city. Also, the distribution of these public spaces could support the reason why most older adults visit department stores very often, as revealed by the survey.

Apart from public places being deficient and unreachable on foot, the quality of sidewalks is another factor that impedes pedestrians from roaming independently. An evaluation of the Urban Design and Development Center showed that 77 percent of footpaths in Bangkok are only at the mid-level of quality (scoring 18 out of a possible 40 points) owing to the inferior aspects of safety conditions and proper facilities. Furthermore, public transport in Bangkok is not "friendly" to all passengers. Analysis of public transit accessibility with GIS discovered that only 24 percent of the Bangkok area can access rail and bus systems within walking distance (500 metres from stations or bus stops). This coverage area could serve 1.92 million people, which includes 401,000 elderly persons (39 percent of the total elderly population living in Bangkok). Also, improper infrastructure design is non-functional and impedes users' public transport accessibility. The study revealed that 59 percent of the total 77 MRT and BTS stations with 201 entrances are equipped with lifts and ramps. In addition, only 30 percent of the buses available in Bangkok have low floors and experience difficulty when using traditional bus stops.

Without better alternatives, people have to

rely on private vehicles and motorcycles, a situation which results in higher mortality from road crashes, especially among older people. Road accident death statistics, integrated by the Department of Disease Control and the Department of Provincial Administration, show a near doubling of elderly mortality, from 9.4 percent in 2011 to 16.8 percent in 2017. This higher death rate implies higher risks from road accidents involving the elderly. Furthermore, 61.5 percent of elderly mortality due to road crashes involved motorcycles.

## POLICY RECOMMENDATIONS

In conclusion, Bangkok is not an ideal city for active aging due to inadequate public parks accessible within walking distance, the low coverage of creative public spaces in the outskirts of the city, inconvenient sidewalks, and passenger-unfriendly public transport. The local government should play a stronger role in the provision of open spaces as well as public facilities and services. It should provide more green spaces accessible on foot, particularly in residential areas, and encourage more creative public spaces around Bangkok. Pedestrians must be the priority for infrastructure design instead of private vehicles, so that walkways and public transport facilities, both vehicles and stations, will be improved for people of all ages.

Moreover, to transform Bangkok into an age-friendly city for people of all ages, the government should increase the engagement of stakeholders in more reachable open spaces and improve mobility. The private sector should be incentivized to provide more open creative spaces. Public transport operators and building owners should provide facilities that help everyone, particularly the elderly, to access such service. Lastly, people should acknowledge their civil rights to such infrastructure as the availability of open spaces in their neighborhoods, the quality of sidewalks, and the accessibility of public transport services.

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# AGE-FRIENDLY WORKPLACE AND LIFELONG LEARNING: HOW THAILAND CAN THRIVE IN A LONGEVITY SOCIETY\*



\* Ms. Nicha Pittayapongsakorn, Ms. Kotchakorn Khwam-chareon and Ms. Nattanan Ammarananthasak, Researchers, Education Policy Reform, TDRI, prepared this summary of the presentation by Ms. Nicha Pittayapongsakorn, with Mr. Supavit Sanguankumthorn, Black Box Team Co., Ltd., at the 2019 TDRI Annual Conference on “Longevity Society: Making Thailand Competitive, Healthy, and Secure,” held on May 13, 2019 at the Bangkok Convention Center B, 22nd Floor, Centara Grand Hotel, and the Bangkok Convention Center, Central World, Bangkok

<sup>1</sup> National Statistical Office, *Survey on the Older Persons in Thailand 2017*.

<sup>2</sup> National Statistical Office, *Elderly People’s Employment 2017*.

<sup>3</sup> Foundation of Thai Gerontology’s Research and Development Institute, *Situation of the Thai Elderly 2017*.

<sup>4</sup> Calculated by TDRI research team.

## WORKING BEYOND RETIREMENT AGE IS INEVITABLE FOR INDIVIDUALS AND ORGANIZATIONS IN THAILAND

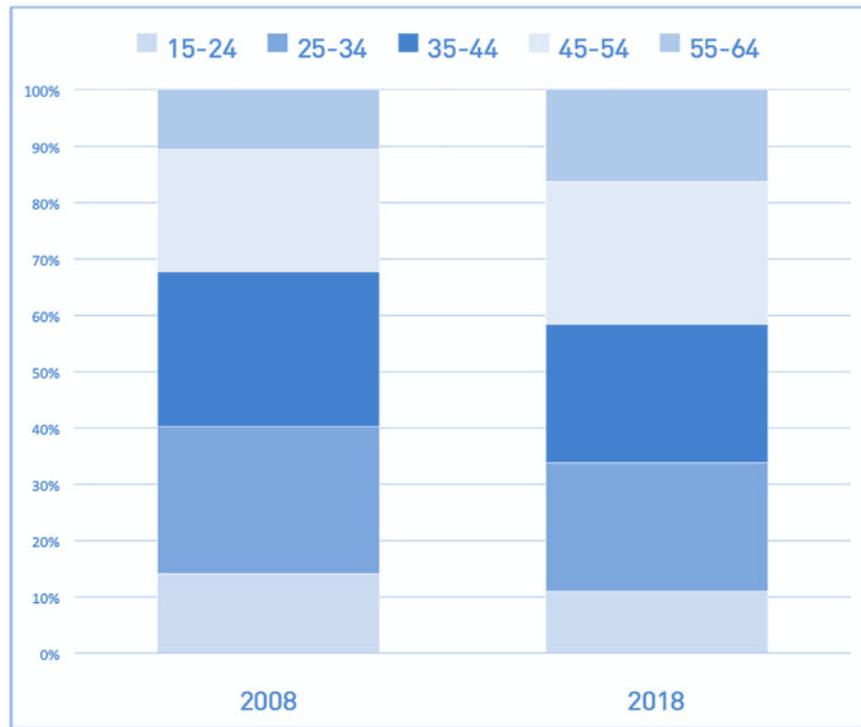
Within the past few years, the number of workers aged 60 and older has recently seen an upward trend, rising from approximately 2.5 million in 2007 to 4.2 million in 2017.<sup>1</sup> Thai people are seemingly “actively aging,” even after retirement. However, 88.2 percent of these active senior workers, or 3.85 million people, are engaged in informal employment without access to social security. More than 60 percent work in the low-paid agricultural sector.<sup>2</sup> In fact, only 2 percent of the total senior population live on their pre-retirement savings.<sup>3</sup> That is to say a large share of the mature population in Thailand are working beyond retirement age on the basis of necessity, rather than voluntariness.

Entrepreneurs also become increasingly interested in hiring older workers. Several Thai companies have begun targeting their job announcements toward older workers. Running out of young talented candidates, Home Product Center (Public) Co., Ltd., for example, has recruited senior workers for three years now. The initiative resonates with the national labor market trend, where the proportion of young labor is shrinking, and senior labor is expanding. The 2018 Labor Force Survey revealed that workers aged 45 to 64 years constitute 41 percent of the total workforce, an increase from 33 percent in 2008.<sup>4</sup> In other words, the older population is becoming the majority of the national laborforce. The number of young talents is also diminishing. Senior employment is thus no longer an alternative, but a requirement for the private sector to survive.

## EARLY-RETIREMENT LABOR OUTFLOW

Apart from the falling birth rate, early

Figure 1: Percentage of the Thai workforce, by age group



Source: 2018 Labor Force Survey, National Statistical Office.

retirement is also one of the reasons contributing to the shrinking number of the working population in Thailand. Each year about 300,000 workers leave the labor market at the age of 45. This is especially the case of low-paid female workers attaining an educational credential lower than lower secondary school; they make up 81 percent of the total female laborforce retiring at 45 years of age.<sup>5</sup> Their decision is heavily influenced by their family responsibilities. This in fact reflects an effect of an aging society where family in general has a larger share of elderly members with a rising life expectancy and requiring a longer period of care. Other factors leading to early retirement are decreasing productivity among older workers, individual health conditions, and disincentivizing policies, such as the set age where workers can receive social security pensions at 55.

## UNFRIENDLY WORKING ENVIRONMENT FOR ALL AGES

According to the *Non-formal Labor Force Survey 2018*, 680,000 older workers admitted to having had their physical health adversely affected by their working environment.<sup>6</sup> Working posture constituted the largest obstacle (55%), followed by air pollution (21.4%), and insufficient lighting (12%). Moreover, 790,000 older workers suffer injuries or have accidents in the workplace. The top three most frequent injuries or accidents are: getting cut by sharp objects; slipping and falling; and bumping into something. The adjustment of the working environment to

<sup>5</sup> Bank of Thailand, 2018, *Aging Society and Challenges of Thai Labor Market*.

<sup>6</sup> National Statistical Office, *Elderly People's Employment 2018*.

physical changes among older workers can help reduce such injuries and accidents, delay age-related deterioration in workers of all ages, and level up the productivity rate.

## ADJUST WORKING ENVIRONMENT TO INCREASE PRODUCTIVITY RATE OF OLDER WORKERS

In 2007, the manager of the BMW car manufacturing plant in Dingolfing, Germany, initiated a pilot experiment to prepare for rising worker ages and its effects on the plant's productivity. A mix of workers, with the average age of 47 years, the predicted average age of plant workers in 2017, was assigned to the pilot line. Consultation with ergonomists and physiotherapists, together with brainstorming of all the workers in the production line, led to 70 adjustments in their working environment, such as changing to a wooden floor to minimize foot pressure when walking, providing magnifying glasses to support the eyesight of workers, providing chairs well adapted to older workers' physiology, and job rotation to avoid repetitive physical strain. As a result, this production line later showed a 7 percent increase in productivity, equaling the productivity of other lines with younger workers. They also managed to reach their output targets. By 2009, absenteeism of this pilot line dropped to 2 percent, below the plant average.<sup>7</sup>

Apart from adjusting the physical environment, altering work conditions is also another significant approach toward older workers' employment. For example, Cho Heng Factory in Nakhon Pathom Province sets no age limitation for retirement, but rather adjusts roles and responsibilities of the aging workers according to

their health conditions. This ranges from shifting to less labor-intensive roles; to those without time constraints; to advisory roles; or to mentor new employees. Despite the adjustments on roles and responsibilities, salaries remain the same. These specific treatments toward older workers not only build loyalty among present employees, but also serve as incentives in attracting their second and third generations to work with the factory.<sup>8</sup>

The aforementioned case studies show that companies' attitudes are an important factor in creating new organizational practices that support older workers' employment. Both companies perceive older workers as significant human resources with a wealth of knowledge and treat them likewise. Therefore, governments in many countries entering an aging society put emphasis on shaping the companies' new attitude toward senior workers, so that they recognize their importance and take on the mission of establishing an age-friendly workplace. This happens in parallel with the introduction of new policies and law. Finland, for example, facilitated the customization of working conditions by developing the Work Ability Index, which provides inputs for employers to individualize the working conditions of their older workers.<sup>9</sup> The assessment was later practiced across Europe. Singapore has set up a tripartite committee through which representatives from the private and public sectors, and labor unions work together to formulate specific policies and practices for older workers' employment, and establish tripartite standards, used as criteria to award employees that adopt fair and inclusive employment practices.<sup>10</sup>

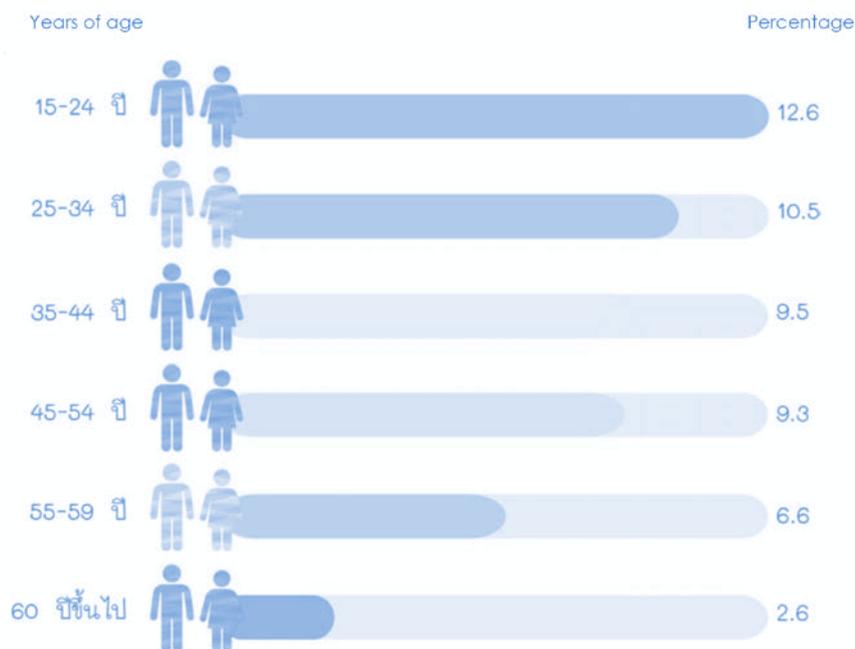
<sup>7</sup> Christoph Loch, Fabian J. Sting, Nikolaus Bauer, and Helmut Mauermann, "How BMW is defusing the demographic time bomb," *Harvard Business Review*, March 2010.

<sup>8</sup> *Foundation of Thai Gerontology Research and Development Institute, 2016, "Best practices of older workers employment in private sector."*

<sup>9</sup> <https://healthy-workplaces.eu/previous/all-ages-2016/en/tools-and-publications/practical-tools/work-ability-index>

<sup>10</sup> <https://www.tafep.sg/tripartite-standards>

**Figure 2: Percentage of Thai population's demand for training and development in 2018, by age group**



Source: National Statistical Office, 2018.

As seen above, the public and private sectors can take many different approaches to facilitate an extended working life for the Thai workforce. This includes using technologies to heighten productivity, improving ergonomics, and offering employment flexibility according to the individual life condition of workers of all ages. The latter is to enable those with family responsibilities to continue their full-time employment.

An age-friendly workplace is essential for the Thai workforce to enjoy the extension of their employment and eventually gain enough savings for their post-retirement life. Yet, without in-demand skills, it could be difficult for employers to welcome them. Therefore, the government needs to support Thai people to constantly reskill and upskill themselves so that all Thais can benefit from a longer working life.

## SITUATION OF LIFELONG LEARNING PARTICIPATION IN THAILAND

A 2018 survey on the Thai population's

demand for training and development revealed that,

- Only 8 percent of the Thai population older than 15 years or, 4.76 million persons, want to reskill and upskill. The main reasons for not wanting reskilling and upskilling are time availability (42.7%) and the need to rest (15.1%)
- The older one gets, the less willing that person is to learn. While 12.6 percent of workers aged 15 to 24 years show willingness to reskill and upskill, only 2.6 percent of those aged 60 and older do. This resonates with the findings on adult participation in lifelong learning among countries that are members of the Organisation for Economic Co-operation and Development (OECD) where younger adults tend to have a higher participation rate in lifelong learning than older adults<sup>11</sup>

<sup>11</sup> Richard Desjardins, 2015, "Participation in adult education opportunities: Evidence from PIAAC and policy trends in selected countries".

- Adults with a tertiary degree are less enthusiastic in reskilling and upskilling than those with secondary or primary education credentials
- Of total participation in adult learning, 74.2 percent are involved in training provided by the private sector, while the remaining 25.8 percent are pursuing programs offered by the public sector and others

In brief, time availability, age and personal attitudes are the major obstacles to lifelong learning in Thailand. Since the private sector is the main provider of trainings, the Thai government should recognize their contribution to lifelong learning and support them.

The public agencies that play a major role in providing adult learning are the Skill Development Department, Ministry of Labour, and the Office of Non-formal and Informal Education (NFE), Ministry of Education. In 2018, there were 4.98 million Thai workers who received training programs from the Skill Development Department,<sup>12</sup> and 4.02 million workers in non-formal education provided by NFE.<sup>13</sup> Overall, the public trainings cover merely 1 in 4 of the total working population in Thailand.

In addition, their trainings serve mostly the low-paid workforce with a low educational attainment level. Whether such trainings contribute to the development of skills for a knowledge-based economy is still in question. Rather than offering higher level skills, NFE programs offer opportunities for dropouts to finish their basic education and obtain a high school diploma. However, of all the

participants each year, only 11 percent finish the relevant programs.<sup>14</sup> As for the Skill Development Department programs, the learning goals are vocational skills of limited industries, such as agriculture and manufacturing.

In parallel with providing training programs targeting certain groups in the workforce and upgrading their quality, the Thai government should coordinate the partnership between educational institutions, private organizations, non-governmental organizations and local governments to build up a flexible and relevant lifelong learning model.

## COMMUNITY-BASED LEARNING AND WORKING OPPORTUNITY

When compared with school-age children, adults have different learning goals and contexts. Their lifelong learning model thus should enable them to maintain responsibility for their workplace and family, while improving their skills. This particular model has already emerged in some parts of Thailand to help develop employability skills for disadvantaged groups in rural and remote areas.

Located on the border in Chiang Mai, Buddy Homecare is a community enterprise that targets its aid toward ethnic dropouts.<sup>15</sup> Apart from granting scholarships, it offers them an elderly caregiver training program, designed by the Foundation for Older Persons' Development and the Faculty of Nursing, Chiang Mai University. After finishing the training program, the well-trained ethnic youth are assigned to take care of older persons who have been left without support in villages. In short, the initiative succeeds not only in upskilling disadvantaged youth in rural Chiang Mai, but also

<sup>12</sup> A total of 589,898 received training from training centers of the Skill Development Department, and 4,391,901 from their employers, according to the Annual Report 2018, Ministry of Labour.

<sup>13</sup> Limited to non-formal education, not including informal education, according to the Performance Report in Fiscal Year 2018, Office of Non-formal and Informal Education.

<sup>14</sup> A total of 2,100,265 were registered in semesters 2/2017 and 1/2018, 224,854 of whom finished the courses, according to the Performance Report in Fiscal Year 2018, NFE.

<sup>15</sup> <https://fopdev.or.th/บัตตี้โฮมแคร์/>

in tackling the increasing number of older persons left without support.

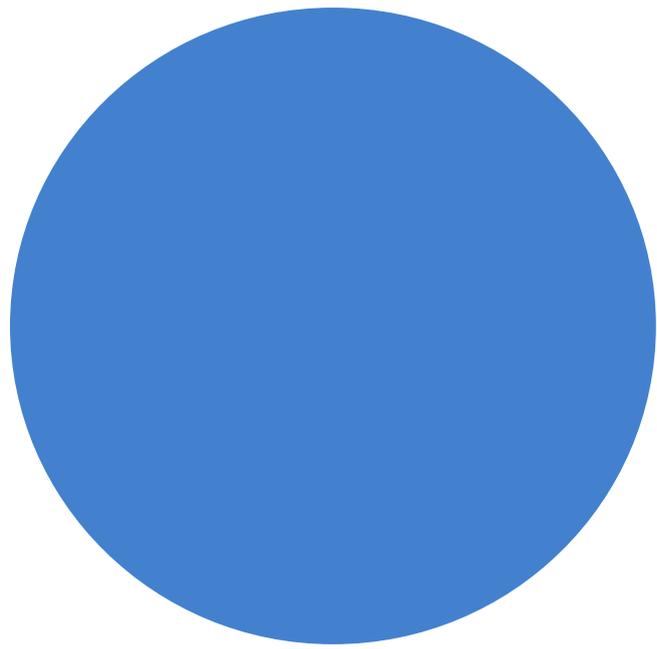
Despite being located in a different part of Thailand, Wanita<sup>16</sup> shares Buddy Homecare's aspirations. This social enterprise's mission is to empower women affected by violence in the country's "Deep South." Its members include female-dominated community enterprises which earn profits from their hand-made traditional crafts. To add value to their crafting skills, Wanita offers them entrepreneurial skills, such as product development, marketing and accounting. It also helps provide the community enterprises with market access and funding. These supports altogether enable local housewives to produce more value-added products and earn higher income to feed their families without the need to emigrate. However, Wanita works closely not only with the Occupational Association in the area, but also connects with Oxfam, an international non-governmental organization, and hotels in tourist destinations.

It is evident in these two cases that collaboration between organizations and understanding about local contexts are necessary to design practical and relevant lifelong learning models.

### **INVESTMENT IN EARLY CHILDHOOD: A MUST FOR SUCCESSFUL LIFELONG LEARNING**

Lifelong learning consists not only of non-formal education provided by private and public agencies, but also informal education planned according to individual interests. The ability to lead this self-directed learning is, however, heavily influenced by life experiences during young persons' early years.

Executive functions and self-regulation are



foundation skills of self-directed learning because they enable each individual to initiate, plan, make decisions, and regulate his or her emotions.<sup>17</sup> These skills result from the appropriate development of the brain's pre-frontal cortex, which happens during the first 3-5 years of life. If a child suffers from toxic stress and improper care during this window of opportunity, he or she would be much more likely to experience troubles in learning when growing up. The government can help support the development of these early developments by providing high-quality childcare centers, developing early learning and development guidelines, and raising parents' awareness on the significance of this prime period.

For Thai youth to grow up as self-directed learners, basic education also needs to put more emphasis on developing curiosity, and skills and competencies in "learning how to learn." Policies on education reform should be aimed at bringing about changes in classrooms and transforming teachers into "learning facilitators."

<sup>16</sup> <http://www.wanita.in.th/about/>, <https://www.creativecitizen.com/wanita/>, <http://www.setsocialimpact.com/Company/Profile/81>

<sup>17</sup> Center on the Developing Child, 2012, *Executive Function (InBrief)*.

### **Box: Self-directed learning**

Self-directed learning, or andragogy, is a principle that became widely known because of Malcolm S. Knowles, an American educator who specialized in adult learning in the United States. Self-directed learning requires learners to:

- Design their own learning goal
- Work on real-world problems
- Analyze their learning needs and create their own learning strategy (what one wants to learn and what are the methods required to learn it)
- Reflect on their learning and design the next learning plan

Another contribution of Knowles is his five assumptions on adult learners, which are

1. Self-concept: As a person matures, his/her self-concept progresses from one of being a dependent personality toward one of being a self-directed human being.
2. Adult learner experience: As a person matures, he/she accumulates a growing reservoir of experience that becomes an increasing resource for learning.
3. Readiness to learn: As a person matures, his/her readiness to learn becomes oriented increasingly toward the developmental tasks of his/her social roles.
4. Orientation to learning: As a person matures, his/her time perspective changes from one of postponed application of knowledge to immediacy of application. As a result, his/her orientation toward learning shifts from one of subject-centeredness to one of problem centeredness.
5. Motivation to learn: As a person matures, the motivation to learn becomes internal.

Therefore, experiential learning suits adult learning because it requires learners to learn by doing, solve problems that interest them, and make use of their accumulated knowledge.

*Source: Knowles, M. 1975. Self-Directed Learning: A Guide for Learners and Teachers. Chicago, IL: Follett Publishing Company.*

### **LONGEVITY SOCIETY: A BLESSING OR CURSE?**

The concurrence of a longevity society and technological disruption makes separation of working and learning impossible and calls for innovative policy responses. The government, public agencies, entrepreneurs and educational institutions should collaborate and take action together to establish a new learning landscape where Thai people of all ages can learn and work happily throughout their

extended life expectancy or increased longevity.

The longer life expectancy implies that greater investments in early childhood and basic education can yield greater returns. These investments, together with adjustment on working conditions, will enable Thai people to work longer, while still maintaining their physical and mental health conditions. As a result, Thai people will be able to make contributions to themselves, their family and the country, making longer life a blessing to all Thai people.

# HOW TO MAKE THAILAND COMPETITIVE, HEALTHY AND SECURE IN A LONGEVITY SOCIETY\*

## WHY AND HOW SHOULD THAILAND PREPARE FOR A LONGEVITY SOCIETY?

Thailand is moving toward becoming an aging society when 20 percent of its total population will be aged 60 years or older in 2021. It will become a super-aged society in the next decade when the population over 60 years of age will account for 25 percent of the total population, according to an estimate of the Office of the National Economic and Social Development Council (NESDB). The situation has resulted from the fact that people are living longer while the birth rate has decreased.

A longevity society is one in which the share of the old-age population is increasing compared with that of the working-age population. This means that future workers not only must work to support themselves but also to financially support retirees through the payment of income taxes. The

financial burden is expressed through the old-age dependency ratio. In 2017, that ratio was 16 percent, meaning that six workers must work to support one retired person. However, this ratio will deteriorate, increasing to 42 percent, which means that only 2.5 workers would have to provide the support needed for one retired person.

This change in demographic structure has raised serious concerns about the sustainability of pension systems and will have negative effects on the Thai economy. While it is agreed that the status quo scenario is not desirable, no concrete public policy has yet been introduced to prepare Thailand for the changes in the years ahead. However, designing public policy for a longevity society does not mean designing one to support only the elderly; it also means a society for all ages. The government must introduce economic and social policies to prepare future workers for new industries and design new public services suitable for the elderly.

The private sector needs to prepare for the fast-paced business world and changing labor market that will characterize that of the relatively near future, while individuals and households can prepare for a longevity society with a well-designed savings plan and career path. All well-prepared stakeholders will help to make Thailand more competitive, secure, and healthier in the forthcoming longevity society.

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*\*Mr. Tippatrai Saelawong, Senior Researcher, and Ms. Urairat Jantarasiri, Researcher, Good Regulatory Policy, TDRI, prepared this summary of the panel session at the 2019 TDRI Annual Conference on "Longevity Society: Making Thailand Competitive, Healthy, and Secure," held on May 13, 2019 at the Bangkok Convention Center B, 22nd Floor, Centara Grand Hotel, and the Bangkok Convention Center, Central World, Bangkok.*

*The panelists were:*

- 1. Clinical Professor Emeritus Dr. Udom Kachintorn, M.D. Former Deputy Minister of Education*
- 2. Dr. Kobkan Chunhasawadeekul, M.D. Chief Clinical Operations Officer, Jin Wellbeing County Project, Thonburi Hospital Group*
- 3. Mrs. Phonnee Pupasert Director of Health Promotion for Specific Population Groups Thai Health Promotion Foundation (ThaiHealth)*
- 4. Mr. Supavich Sanguankamthorn Founder and facilitator of knowledge creation, Black Box Team Co. Ltd.*

*Moderator: Mr. Nakarin Wanakijpaibul, Executive Editor, The Standard.*

## HOW ARE "HEALTHINESS" AND "SECURITY" DEFINED?

Healthiness and security are among the main objectives of a longevity society. Dr. Udom suggested that healthiness and security mean two important things: good quality of life and good health.

In this context, good quality of life is defined as living conditions which favor senior people so that they can be self-reliant and able to work for decent remuneration. Good health refers to both good physical and mental health.

In addition to the above definitions, Mrs.

Phonnee added that good health and wellbeing can broadly comprise four dimensions: health literacy, guaranteed minimum income, safe living environment, and opportunities to participate in social activities.

## HOW TO PROMOTE QUALITY OF LIFE IN A LONGEVITY SOCIETY?

There are at least two policies to promote the quality of life for seniors: encouraging them to remain active in the workforce with a decent income, and developing an elderly-friendly infrastructure.

First, remaining in the workforce for longer to obtain at least a basic income would enable seniors to maintain their quality of life and be self-reliant. The best practice of this can be found in Japan where seniors remain in the laborforce. The Japanese private sector and social enterprises are encouraged and get support from the government to hire seniors with jobs suitable for them and paying decent wages.

The Thai government should help the country's senior population to remain active by promoting lifelong learning, which would help not only seniors but also workers of all ages to reskill themselves and boost the value of their careers. Lifelong learning is necessary considering that the labor market tends to evolve at a fast pace. The government should start by incentivizing universities and the private sector to offer more short professional development programs and non-degree courses which would teach in-demand skills.

Universities should make the teaching methods and classroom schedules flexible for different ages and professions, and eliminate the upper age limit for admission. This reform would encourage more working-age people and seniors to study at universities and reduce the empty seats that many universities are facing as a result of the country's low fertility rate, i.e., below the replacement level.

Second, the government should provide or improve an elderly-friendly infrastructure, such as footpaths and public transportation, and develop urban spaces designed to be accessible for people of all ages.

Mahidol University's Salaya Campus is adopting a universal design concept to improve facilities and campus spaces. It is introducing more public transportation and building more sidewalks and bicycle lanes around the campus. The University expects that this effort will become the model of a green campus, an age- and environment-friendly space that can be replicated city-wide.

## WHAT HAS THE GOVERNMENT DONE TO PREPARE THAILAND'S PUBLIC HEALTH SECTOR FOR A LONGEVITY SOCIETY?

The Thai Health Promotion Foundation (ThaiHealth) has launched the Active Aging project with the objective of preventing seniors from facing harmful risks to their health. The project is focused on lonely and poor seniors because extreme social isolation and poverty pose health risks among seniors. The project promotes senior health in four dimensions as follows:

### *1. Providing health literacy*

ThaiHealth aims to educate people on how to take care of themselves to prevent health issues. Disease prevention costs less than treatment. Apart from ThaiHealth, the Ministry of Public Health has established Genomics Thailand, a collaborative human genome research network to advance precision medicine. If achieved, this initiative will enable hospitals in Thailand to provide precise diagnosis and treatment of many rare genetic or chronic diseases, such as cancer. It will help save more lives and healthcare costs.

In addition to the government, the private sector is another important healthcare service provider. Wellness and healthcare businesses are flourishing in Thailand. For example, Thonburi Healthcare Group launched Jin Wellbeing County,

a residential complex with healthcare services and facilities designed especially for retirees. However, this service targets high-income seniors; thus, it is unaffordable for average seniors.

Fortunately, Buddy Home Care, a social enterprise in Chiang Mai established by the Foundation for Older Persons' Development, provides homecare services for low-income seniors in rural areas. It also trains young and disadvantaged people to work as a home-care workers in their communities.

## **2. Improving financial literacy**

Financially unprepared young workers are vulnerable to falling into poverty when reaching retirement age. This issue will be aggravated when seniors incur healthcare expenses 5-10 times higher than when they were young. A Thai retiree is advised to save a minimum of 4 million baht for his or her long basic life after retirement. Therefore, basic financial knowledge, such as a savings attitude for retirement, is necessary. The younger are workers when they start to save, the better they will be prepared financially when they retire.

## **3. Building an age-friendly environment**

The elderly are at high risk of falling at home, which sometimes can lead to fatal injuries. As a result, ThaiHealth collaborated with five universities: Chulalongkorn, Thammasat, Chiang Mai, Prince of Songkla, and Mahasarakham, to start the Universal Design Center (UDC) to provide people with advice on improving safety in their houses for the benefit of seniors and people with disabilities. UDC also conducted a study to devise an innovative design for age-friendly homes.

## **4. Creating social activities for seniors**

Social connections keep seniors physically, emotionally, and mentally healthy and reduce the generation gap in society. ThaiHealth in collaboration with the Department of Older Persons and many local administration offices established 1,400 senior schools serving as lifelong learning centers for the elderly. The schools offer courses

on social, economic and financial knowledge, and leisure activities.

Seniors can also access similar knowledge and activities online through a mobile application called Young Happy, through which they can receive newsletters on offline activities, such as volunteering for a “time bank” to collect points exchangeable for a health checkup discount.

## **HOW CAN BUSINESSES SEIZE OPPORTUNITIES IN A LONGEVITY SOCIETY?**

The demographic transition offers many business opportunities. The Thai private sector should adopt a new business model to respond to new potential demand as early as possible. Thonburi Healthcare Group's Jin Wellbeing County is a good example.

Healthcare services can be one of Thailand's key drivers of economic growth. Thailand can compete with other countries in this industry owing to its abundance of well-trained and service-minded medical professionals, high-quality medical infrastructure and reasonable healthcare fees compared with similar offerings in other countries. NESDB has estimated that Thai hospitals and medical clinics received more than 4.23 million foreign patients in 2017. Many of them were Chinese and Japanese. This number has the potential to grow as it accounts for only 6.9 percent of the total number of patients treated that year nationwide.

In addition to hospitals and clinics, such non-medical care businesses as nursing homes have the potential to grow due to increases in the size of the aging population.

Other examples of new services which can potentially grow in the future are the training of people in in-demand skills, the provision of health insurance, and reverse mortgage loans. Both working-age and old-age people are ready to “unlearn” old ways and relearn new skills, which would create business opportunities for education-oriented businesses.