

## Review of indicators on active ageing towards sustainable development in Thailand

Meena Laiphrakpam<sup>1,\*</sup> and Sayam Aroonsrimorakot<sup>1</sup>

<sup>1</sup>Faculty of Environment and Resource Studies, Mahidol University, Nakhon Pathom Province, Thailand

### Abstract

There is a growing importance in the research of longevity, active ageing and its indicators as ageing has profound social and economic consequences in the 21st century with implications for nearly all sectors of society. The 2030 Agenda for Sustainable Development sets out a universal plan of action to achieve sustainable development in a balanced manner and seeks to realize the human rights of all people. This article reviews previous studies on active ageing with an aim to explore the indicators of active ageing towards sustainable development in Thailand. There is a growing need of ageing people to be included as the active agents of societal development goals in order to achieve truly transformative, inclusive and sustainable development outcomes. For achieving these goals, research studies are needed to explore the indicators for active ageing, community participation, health improvement, social security, and societies or policy makers should provide enabling environments for them to do so. As populations become increasingly aged, it is more important than ever that governments design innovative policies and public services specifically targeted to older persons, including those addressing, housing, employment, health care, infrastructure and social protection [1]. The implications of this paper are expected to be beneficial in individual, academic and organizations.

**Keywords:** active ageing, longevity, sustainable development, indicators

**Article history:** Received 5 January 2018, Accepted 30 April 2018

### 1. Introduction

In the recent decades, there is a trend of rising proportions of ageing population of the world that affects all countries at a difference pace and level since the mid-twentieth century levels [2, 3]. This is due to the significant achievements of human medical technology such as improved health, decreasing mortality, greater longevity and declining fertility [4]. As a result, the global share of older or ageing people (aged 60 years or over) increased from 9.2 per cent in 1990 to 11.7 per cent in 2013 and will continue to grow as the proportion of the world population, is reaching 21.1 per cent by 2050. Globally, the number of older persons (aged 60 years or over) is expected to be more than double, from 841 million people in 2013 to more than 2 billion in 2050. Older persons are projected to exceed the number of children for the first time in 2047. Therefore, ageing of population is expected to be among the most prominent global demographic trends of the 21st century. This pattern is expected to continue over the next few decades with many important socio-economic and health consequences, including the increase in the old-age dependency ratio [5].

It is important to study longevity, ageing and its indicators as ageing has profound social and economic consequences in the 21<sup>st</sup> century with implications for

nearly all sectors of society. The 2030 Agenda for Sustainable Development sets out a universal plan of action to achieve sustainable development in a balanced manner and seeks to realize the human rights of all people. It calls for leaving no one behind and for ensuring that the Sustainable Development Goals (SDGs) are met for all segments of society, at all ages, with a particular focus on the most vulnerable including older persons [6]. To be prepared for an ageing population is important for the achievement of the goals as outlined in the 2030 Agenda for Sustainable Development such as poverty eradication, ensuring healthy lives and well-being at all ages, promoting gender equality and full and productive employment and decent work for all, reducing inequalities between and within countries, and making cities and human settlements inclusive, safe, resilient and sustainable. Older persons must be recognized as the active agents of societal development in order to achieve truly transformative, inclusive and sustainable development outcomes [7]. For achieving this sustainable goal, first and foremost indicator is the increasing priority to promoting the well-being of the growing number and proportion of older persons in most countries of the world. The Madrid International Plan of Action on Ageing (MIPAA), adopted in 2002 during the Second

\* Corresponding author; e-mail: meenajoy83@gmail.com

World Assembly on Ageing, highlighted the need to consider older persons in development planning, emphasizing that older persons should be able to participate in and benefit equitably from the fruits of development to advance their health and well-being, and that societies should provide enabling environments for them to do so. The growth of population ageing in Thailand is faster compared to other Asian countries and even more faster than other developed countries [8, 9] and proportion of ageing elderly is projected to reach more than 30% within the next three decades in Thailand [10]. Thai people's life expectancy has risen from 59 to 72 years between 1964 and 2005 [11], while the proportion of ageing population in Thailand, aged 60 years above, has been steadily increasing, from 4.6 per cent in 1960 to 9.5 per cent in 2000 [35]. In other words, the percentage of older persons will double within 30 years and will further increase to 25 per cent of the total in 2035, based on a recent population projection done by the Institute for Population and Social Research, Mahidol University [12]. This means that Thailand has to prepare the result of increase in longevity in life with issues related to the health, welfare, housing and long-term care of older persons with attempt to innovative policies and plans to encourage more and more individuals to reach old age in good health. Thus, an 'active ageing' approach to policy and programme developments has the potential to address the many challenges faced by both individuals and an ageing society [13]. This would help to offset the rising costs in pensions and income-security schemes as well as those increasing expenses related to medical and social care. Thus, one of the most important issues among the plans of government agencies is 'active ageing' for addressing the needs of ageing population in line with the policy framework launched by WHO in 2002 [14, 15]. As active ageing is a global goal in today's ageing world for meeting the challenges of elderly and for improving their quality of life, it is important to understand the determinant factors of active ageing and their indicators for developing policies and programs focused on active ageing in an ageing society like Thailand.

### 1.1 Active Ageing

In the present ageing world, active ageing (AA) is considered as a global goal for sustainable development for meeting the challenges of older persons and for improving their quality of life. The concept of active ageing has been defined by Walker (2002). According to him, active ageing is a profound strategy to maximize participation and wellbeing as people grow older [16]. Active ageing is a right for older persons, beneficial not just for older persons but also for their families and communities and societies in which they live [17].

The World Health Organization has defined active ageing as 'the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age' [13]. In other words, the essence of the term active refers to an ageing person to continue to participate not only in labour force but continue to be active in social, economic, cultural, spiritual and civic affairs that helps to visualize a positive image of ageing [18]. It is intended to realize the potential for being healthy and active throughout the life course as participants in society, and includes having security with adequate protection and care [19, 20]. In order to promote the ideas expressed in WHO's policy framework, it is considered necessary to take positive approaches to the ageing population [21, 22].

## 2. Methods, Definitions and Objectives

The present paper is based on the secondary source of data, from all sources such as journals, books and other electronic sources with a focus on reviewing indicators of active ageing towards the sustainable development in Thailand. A literature review seems to be a valid approach, as it is a necessary step in structuring a research field and forms an integral part of any research conducted. This helps to identify the conceptual content of the field and guides towards theory development for further study. The study is in the form of describing facts as it is from the review of literatures. The paper is divided into five parts as *introduction, methods and objectives, indicators on active ageing worldwide, indicators on active ageing in Thailand* and the *summary, conclusions and recommendations*. Active ageing is the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age [13]. The word 'active' refers to older persons who are independently and continuously interacting with others, both family members and others in the larger society - not just those who are physically active or who participate in the workforce. *The operational definition of active ageing is to enable older people to realize their potential for physical, social and mental well-being through their later life course and to participate in society according to their needs, desires and capacities*

This paper aims to explore the following objectives as:

- to review the important indicators of active ageing index for sustainable development
- to describe the importance of social participation, health and security indicators for active ageing and its association or affect with other indicators
- to investigate what indicators are important for active ageing among the Thais towards sustainable development in Thailand

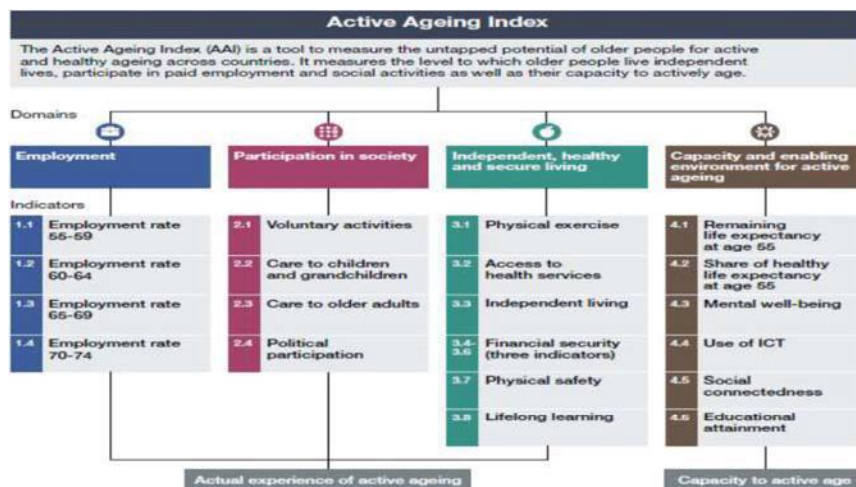


Figure 1: Analytical Framework, 22 indicators and 4 domains.

Source: [16]

- to evaluate, monitor progress or recommend directions for mutual learning, future research or policy making on active ageing, health and longevity.

### 3. Review on Indicators of Active Ageing Worldwide

Zaidi [16] had presented a paper on active ageing index at the 6th session of OEWG (Open Ended Working Group) on July 16, 2015. In his presentation, he mentioned the following important points for active ageing:

1. As active ageing indicators do not capture fully the rights of older people ó additional rights with specific indicators are essential.

2. The Active Ageing Index (AAI) can offer a framework (methodology) for the baseline assessment and monitoring of rights of older people.

In addition, he stated the key feature of active ageing index as mentioned in The UN Commission for Social Development Program (2013-2015) in the following points:

- highlights the contributions of older people and identify their potential;
- evaluates and monitor progress, and engage policy makers for mutual learning.

He has given the analytical framework, consisting of 22 indicators and four domains of active Ageing Index, as given in Figure 1

Regarding the selection of Active Ageing Indicators (AAI), he mentioned to keep the following points in mind:

- Human capital of older people should be focused, promoting positive paradigms of ageing rather than viewing older people as dependent so as to lead ageing and development.

- The rights as well as responsibilities of older people are reflected by the indicators

- Denial of rights of older people will be reflected by low value of AAI indicators as:

Age discrimination → low employment  
 Healthcare services → independent living  
 Social protection → secured living

Douglas et al [23] made a study by reviewing literature to investigate the importance of the indicator of social participation in the life of ageing adults and also to provide information to health services researchers seeking to investigate social participation as an indicator of successful aging. The study was conducted through narrative review of studies investigating the association between social participation and health in adults aged 65 years and older, using three concepts of social participation as: *social connections*, *informal social participation* and *volunteering*. The measurement instruments used in the study were described and their associations with health were explored. The study discovered that all the three concepts used in the study have demonstrated associations with a chain of health indicators. Along with this, it is further revealed from prospective studies that social participation at baseline is positively associated with mental and physical health. Finally, the study presented a model of social participation on health, with evidence that all three concepts contributed to the association between social participation and health through their shared mechanisms of social support and social relation with the wider community. Thus, the study concluded that by using social participation indicator, researchers of health services can discover the relative effect of each form of participation on the health of older adults. The literature review of many studies in Australia also

**Table 1:** Determinant factors (theoretical) of active ageing and their important aspects

Determinant factors	Aspects/ Indicator Variables
Personal	Biology and genetics, psychological factors
Behavioral	Smoking, physical activity, food intake, oral health, alcohol, medication
Health and social services	Health promotion and disease prevention, curative health services, continuous care, mental health care
Social environment	Social support, violence and abuse, education
Economic	Income, social security, work
Physical environment	Friendly environment, safety houses, falls, absence of pollution
Gender and culture	

Source: [13]

indicated that each concept shared a positive relationship with health in older adults, regardless of the measure of health that was used [24, 25].

#### 4. Review on Active Ageing in Thailand

Haque et al [26] found six active ageing determinant factors for female and male older persons in Thailand based on the model of WHO (2002) as given in Table 1. The study tested similarity of factor structure, relationships of indicator variables with determinant factors of active ageing for female and male elderly and also the directions of relationships of active ageing level with important indicators. The data for this study have been collected from all regions of Thailand by using two stages stratified sampling method, conducted through the survey of older persons in Thailand (SOPT) by Thailand's National Statistical Office (NSO) in 2011. There were in all 23,801 individuals, aged 60 years and above as sample comprising of 14,369 female and 9,432 male. The results revealed different factor structure of active ageing for female and male elderly and concluded that the active ageing level of elderly is yet to be improved in Thailand as it is far behind the sustainable goal. The study has a drawback as it did not validate as how does the model fit with the sample data. In addition, the study pointed out the needs to consider the variations of active ageing in different regions of Thailand as each region in Thailand has its own unique cultural features [26]. The study concluded that special emphasis should be given to Central region of Thailand, which have lower level as compared to other regions. For increasing active ageing level of elderly in Thailand, government policy should be focused for the welfare of the elderly to improve health needs, economic security, to promote longer working lives, to arrange lifelong learning program, and to improve economic conditions for increasing their active ageing level. These policies should be integrated into one package as Integrated Active Ageing Package (IAAP). The IAAP should include health program such as curative care for illness and continuous mental health care, easy access for assistive devices and promotion of

health care measures. The Ministry of Social Development and Human Security (MoSDHS), Thailand, may lead the implementation of IAAP.

Another study in Thailand by Thanakwang and Soonthornhdhada [27] made an attempt to identify and estimate active ageing attributes among ageing population in Thailand using the concept of 'Active Ageing' and the World Health Organization framework, consisting of three dimensions as *health*, *community participation* and *security* in relation to socio demographic characteristics. The data of the study was obtained from the 2002 National Survey of the Elderly in Thailand, conducted by the National Statistical Office and covering 22,825 persons aged 60 years and over. The study applied the indicators for active ageing recommended by the Active Ageing Taskforce of the Western Australian Government [28]. There were a total of 15 indicators: six indicators for health, three indicators for community participation, and six indicators for security. These are given in Figure 2.

An index of the mentioned above three dimensions was constructed by choosing minimum and maximum value as each underlying indicator. Performance in each dimension was expressed as the minimum and maximum value between 0 and 1 in accordance with the construction method of the Human Development Index developed by the United Nations Development Program [7] as follows:

$$\text{Dimension index} = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$$

According to the WHO's concept of active ageing, health, participation and security are inextricably linked. The active ageing index (AAI) is computed in a straightforward manner. It is a simple average of these three indices according to the formula below:

$$\begin{aligned} \text{Active ageing index} &= 1/3(\text{health index}) \\ &+ 1/3(\text{participation index}) \\ &+ 1/3(\text{security index}). \end{aligned}$$





**Figure 2:** Active Ageing Index, 3 dimensions indices and 15 indicators  
Source: [27]

Each index was classified into three levels based on the UNDP [7] criteria of human development level, which constitutes an indicator of the quality of life, as follows:

- (1) Index score less than 0.5 is low level;
- (2) Index score between 0.5 and 0.79 is moderate level;
- (3) Index score equal or higher than 0.8 is high level.

On analysis of data, it was found that the Thai elderly had a moderate level of active ageing attribution. Active Ageing indicators among Thai was influenced by gender, education, occupation and income. Thai males have higher active ageing attributes than females influenced perhaps by social and cultural factors [28]. Gender inequality was taken into account as it may affect health, economic, or security problems to women than men especially those women who are single, divorced, or widowed [29]. It was indicated that the most vulnerable of the elderly were women, especially those who were widows and who had received low levels of education. Therefore, study concluded that in the context of active ageing policy in Thailand, accurate gender analysis is essential to ensure that women will have equality in health care, community participation and security in later life.

Among important findings highlighted by this paper were: one fourth of the Thai elderly had poor health and more than half had a low level of community participation, whereas most had a moderate to high level of security. Active ageing groups were found mostly among males, younger and married elderly, with a rather higher strata prestigious occupation and high levels of education, suffering from no chronic illnesses. Active ageing among the Thai elite elderly consisted of three attributes: (a) continuous activity, which means that older persons continued to perform their favourite activities and to participate in activities in the organizations in which they were members; (b) good health, which means that the elderly were able to appropriately care for themselves

with regard to physical, mental, social and spiritual levels of health and (c) security, which means that older persons felt safe and free from worries about income, housing and who would take care of them[30].

#### 4.1 Health Indicators

The health index of ageing Thai was constructed based on three indicators of health and wellness and three indicators of physical activity. The analysis of data indicated that the majority (69 percent) of ageing Thai had a health index at a moderate level, males have better health than females, married were generally healthier than those who were single, widowed, divorced or separated. Educated have better health status than low education or uneducated ageing population. Similarly occupational status also influenced the health status. The higher the occupation, the healthier the status of the ageing Thai. In addition, the health status was influenced by the place of residence, as who lived in Bangkok and urban areas were healthier than those living in other regions and rural areas. This may be due to the fact that there are a lot of health-care facilities ó hospitals, clinics and drug stores, etc. ó as well as better sanitation, etc. in Bangkok and other urban areas. Therefore, old people have more easy access to those health-care services. These findings support the findings of previous studies in Thailand [31-36].

#### 4.2 Community participation indicators

An important aspects of successful ageing is community participation (1998). It was measured using three indicators: *participation in the workforce*, *participation in clubs/groups* and *participation within the family in terms of the support provided to family members*. There were differences in the participation level in terms of gender, place of residence, education and occupational status. Males participated in the workforce more than females did. The elderly living in rural areas were more likely to participate in the economic activities than those living in urban areas [37]. Thai

elderly typically participated in club or voluntary groups as: funeral groups, vocational groups, housewife groups, cooperative groups and volunteer scout groups. When health and physical activities declined according to age, support shifted from children to the elderly [38]. This finding is confirmed by a prior study from a survey of Socio-Economic Consequences of Ageing in Thailand, which found that the support provided by older persons decreased from 23 per cent for those aged 60-64 years to 5 per cent for those aged 75 and over [31].

As for total participation index with reference to the three indicators of participation in the workforce, in community groups and within the family, it was found that the majority of older persons maintained an active engagement with life or participated with others at a low level in the surrounding area. The participation rate of the married, educated, employed and higher occupation elderly had a higher participation index. There were also variations in the regional participation, as older persons living in Bangkok had a community participation index at the lowest level while those living in the north-eastern region had a participation index at the highest level, followed by those in the northern region. However, older persons living in rural areas participated in the community more than those residing in urban areas. Living in rural areas is more likely to enable older persons to participate actively in community activities compared with those living in urban areas. Similarly, Yodpet [39] found that most of the Thai rural elderly played a crucial role as supporters both for their own family and their community.

#### 4.3 Security Indicators

Indicators of security are income, sufficiency of income, sources of income, house ownership, living arrangements and safety facilities. The average annual income of older persons was 45,178 baht and the median income was 20,000 baht. About 20.4 per cent relied on an annual income of less than 10,000 baht, that is, below the poverty line and 2.3 per cent had no income. Poverty was recorded as higher among females than males, among those living in rural areas than urban areas, and among those at older ages. Previous findings too found that over one third of the Thai elderly had an income below the poverty line [40]. Beside economic security, physical security of the elderly measured by house ownership and type of residence such as with spouse or children was also taken into account. It was found that about 80 per cent of the elderly had owned a house and were not alone. This may be due to the entrenched social norm of caring for and respecting older persons in accordance with both traditional Thai culture and Buddhist practices [39]. However, with regard to physical safety measures, it was found to be quite low with no devices or facilities such as supportive handrails in the toilet and on outdoor steps to prevent accidents. This finding supported the result of a study by the Institute of

Geriatric Medicine [41], which found that 96 per cent of the Thai elderly had no safety facilities in their toilet. Another interesting finding is the difference in terms of gender and the place of residence, where male had higher security than the female elderly and those residing in Bangkok and in urban areas had a higher level of security compared with those living in other regions and in rural areas.

Thanakwang et al [42] has found rich insights of active ageing in Thailand. The study was done to explore the indicators of active ageing from the responses of ageing Thai adults. Active ageing involves *being self-reliant, representing independence in self-care tasks and abilities to take care of themselves*. The study employed a descriptive, qualitative approach and data was collected in focus groups and in-depth interviews with 64 community-dwelling adults Thai, aged 60 years and above and not suffering from Dementia. The respondents were selected purposively to include their varying levels of personal characteristics, in terms of ages, gender, marital status, socio-economic status, levels of education, and health status obtained from their medical records, from four provinces in the four regions of Thailand, that is, North, Northeast, Central, and South consisting of both urban and rural areas. The regional and provincial settings for data collection were arranged in such a way so that one province from each region was included such as Nan in the North, Nakhon Ratchasima in the Northeast, Kanchanaburi in the Central and Songkla in the South. Approximately eight persons participated in each of the eight focus groups in the four selected provinces. The participants for interviewing were selected through recommendation with key knowledgeable health personnel from local health centers in the selected areas. They were contacted and invited to participate in this study by health personnel and the principal investigator (PI) and the data were collected with focus groups in a private room of local health centers. In depth interviewing of each focus group took about 60-90 minutes. The researcher were careful of the sensitivity of the interview since using focus groups with older adults may not have disclosed information of a personal nature or sensitive beliefs, [43]. Therefore, the study used individual 16 in-depth interviews and discussions with 64 individuals in 8 focus groups to obtain personal information and to provide richer insights into participants' experiences.

The collected data were analyzed using content analysis. The study identified six indicators of active ageing as: *being self-reliant, being actively engaged with society such as social participation and social contribution; growing spirituality; maintaining healthy lifestyle; being active learners; and managing later life security*. Many studies also found *keeping oneself*

physically active as an important indicator of active ageing [44-47]

Social participation includes participating and contributing to community and society at large for creating social relationships and these are important indicators for active ageing in Thailand [43]. Healthy and active people who contribute to their family and community have higher life satisfaction and better health than those who are inactive [48]. This indicator of social participation is similar to several studies in other societies on active life engagement which is viewed as an important indicator of successful ageing and active ageing [49]. In Thailand, active participation among the elderly involves both formal and informal social activities in the community such as joining an elderly club, or engaging in religious activities [50, 51]. Not only is participation in social activities important, but also is being productive in ways that contributes to others. Productive engagement is an important indicator of active ageing where capacities to undertake social or economic activities are of great value to older people, their families, and society at large [52]. Similarly, social contributions among older adults in Thailand has been widely acknowledged as one important indicator of productive ageing that focuses on dedication, elderly-led initiatives in their own situation and abilities [53, 54]. Social connectedness, social activities, and social contributions to others are commonly found in Thai society which has collective solidarity and these should be continuously supported by government agencies for older Thai people so they can continue to be positive contributors to their family, friends, community, and the nation [42].

The third indicator of active ageing is growing spirituality and it plays an important part among the Thai elders, who are Buddhists, the followers of the doctrines of Buddhism, such as the belief that doing good deeds and merit making, it helps to foster positive psychological and spiritual well-being to attain inner calmness, wisdom and achieve spiritual growth. Studies found that the spiritual aspect of Thai elders is unique, different from the WHO's concept of active ageing and also the key indicator of healthy ageing, productive ageing, and active ageing [51, 55, 56]. The fourth dimension of active ageing is maintaining a healthy lifestyle through health promoting behaviors such as eating healthy food, doing physical exercise or activity. Studies has found a positive association between health promotion practices and improvement of health [51, 57]. The fifth indicator of active ageing is by being an active learners, the elders learn new information, experience new technology and use modern gadget and equipment that make them cognitively active and healthy. Engaging in lifelong learning helps older people to be physically and mentally active, enhances self-

esteem, self-health care, and independence and this is especially important in the modern era, where technologies are rapidly changed [58]. Thus, policies to promote lifelong learning for older people in Thailand, based upon their interests and contexts, should be established. The last indicator of active ageing is managing later life security. This indicator covers the aspects of building financial security and strengthening family ties for care in later life. Numerous studies suggested that financial security, that is, free from future economic problems with no worry about future living expenses maximizes one's sense of security and autonomy in later life and this has a close relation with active ageing [20, 49].

## 5. Summary, Conclusions and Recommendations

From the review of above literatures, it can be summarized as:

The first paper reviewed tested the relationships of indicator variables with determinant factors of active ageing for female and male elderly so as to find the directions of relationships of active ageing level with important indicators. The results revealed different factor structure of active ageing for female and male elderly and concluded that the active ageing level of elderly is yet to be improved in Thailand as it is far behind the sustainable goal.

The second paper studied the active ageing attributes among ageing population in Thailand by examining the three dimensions as health, community participation and security in relation to socio demographic characteristics, by using a total of 15 indicators: six indicators for health, three indicators for community participation, and six indicators for security. The study found that the Thai elderly had a moderate level of active ageing active ageing attribution. Active Ageing indicators among Thai was influenced by gender, education, occupation and income. Thai males have higher active ageing attributes than females influenced perhaps by social and cultural factors, one fourth of the Thai elderly had poor health and more than half had a low level of community participation, whereas most had a moderate to high level of security. These findings concluded that, in order to promote active ageing, one should especially focus on elderly women, suffering from chronic illnesses, as well as uneducated or unemployed elderly. The health indicators of Thai is related to education, occupation and place of residence. That is, the higher the education and occupation, the healthier the status of the ageing Thai. Ageing Thai living in Bangkok and other urban area were healthier than those living in other rural areas. The community participation of Thai was measured using three indicators: participation in the workforce, participation in clubs/groups and participation within the family in terms of the support provided to family members and differences were found in the participation

level in terms of gender, place of residence, education and occupational status. Males participated in the workforce more than females did. There were also variations in the regional community participation, as older persons living in Bangkok were at the lowest level while those living in the north-eastern region had a participation index at the highest level, perhaps influenced by variation in lifestyle, environment, social relationship of urbanized society. Thus, it can be concluded, ageing Thai living in the rural areas participate more actively in community activities compared with those living in urban areas.

Indicators of security among the Thai ageing population are income, sufficiency of income, sources of income, house ownership, living arrangements and safety facilities and it was found that over one third of the Thai elderly had an income below the poverty line. In addition to economic security, physical security of the elderly, measured by house ownership and type of residence such as with spouse or children was also taken into account. Most of them owned a house and were not living in isolation. This may be due to the entrenched social norm of caring for and respecting older persons in accordance with both traditional Thai culture and Buddhist practices.

The last reviewed paper included in this article identified six indicators of active ageing as: being self-reliant, being actively engaged with society such as social participation and social contribution; growing spirituality; maintaining healthy lifestyle; being active learners; and managing later life security. Active participation among the Thai elderly involves both formal and informal social activities in the community such as joining an elderly club, or engaging in religious activities. The study highlighted the growing importance of the third indicator of spirituality among the Thai elders, who are Buddhists and most of them believe the doctrines of Buddhism, such as the belief that doing good deeds and merit making that helps to foster positive psychological and spiritual well-being to attain inner calmness, wisdom and achieve spiritual growth. Thus, the study concluded that the importance of the spiritual aspect of Thai elders is unique and different from the WHO's concept of active ageing and it is also the key indicator of healthy ageing, productive ageing, and active ageing

Some of the recommendations for future research directions are as follows:

1. Attention needs to be focused for further research on clear understanding of the concepts included in social participation and the magnitude of its associations with health as it may improve older adults' general health, enables health services researchers and policy makers to understand how they can intervene to improve the health of an aging population and will also generate societal

benefits by increasing community contributions from this group [59].

2. Government policy should be focused for the welfare of the elderly to improve health needs, economic security, to promote longer working lives, to arrange lifelong learning program, and to improve economic conditions for increasing their active ageing level. These policies should be integrated into one package as Integrated Active Ageing Package (IAAP) that covers health program such as curative care for illness and continuous mental health care and easy access for assistive devices, e.g., walker/mover, eye glasses. There should be incentives for elderly workers and incentives for employers (who employed older persons).

3. There should be promotion of health care measures such as availability of exercise center, recreation center, rehabilitation center and facilities for annual health checkup. Implementation of IAAP would be helpful for increasing active ageing level of ageing Thai which, in turn, will be helpful for prolonging good health and independent living of ageing people, that is, for increasing the quality of life of ageing Thai people.

## References

- [1] UNDESA (United Nations Department of Economic and Social Affairs). **World population ageing**. ST/ESA/SER.A/390. New York: United Nations; 2015.
- [2] Dugarova E, Gülasan N. **Global Trends: Challenges and Opportunities in the Implementation of the Sustainable Development Goals. Joint report by the United Nations Development Programme and the United Nations Research Institute for Social Development**. New York: UNDP and Geneva: UNRISD; 2017.
- [3] World Bank Group. **Global Monitoring Report, 2015/2016: Development Goals in an Era of Demographic Change**. Washington, DC: World Bank
- [4] UNDESA (United Nations Department of Economic and Social Affairs). **World Economic and Social Survey 2007: Development in an Ageing World**. New York: United Nations.
- [5] Gavrilo & Heuveline P. ðAgeing of Populationö. In: Paul Demeny and Geoffrey McNicoll (Eds.). 2003. **The Encyclopedia of Population**. New York, Macmillan, USA, 2003.
- [6] DPSD. **Ageing, Older Persons and the 2030 Agenda for Sustainable Development**. Help age International, United Nations, New York, UNDP.
- [7] UNDP (United Nations Development Programme). **Leave No One Behind: Ageing, Gender and the 2030 Agenda. Issue Brief**. New York: UNDP; 2016.



- [8] UN (United Nations). **World population aging and development**. Report of the Secretary-General. E/CN.5/2013/6. New York: United Nations; 2012.
- [9] Knodel J, Chayovan N. Older persons in Thailand: a demographic, social and economic profile. **Ageing International**. 2008; **33**(1-4): 3-14.
- [10] Knodel J, Prachuabmoh V, Chayovan N. **The changing well-being of Thai elderly: an update from the 2011 survey of older persons in Thailand**. Populations Studies Center Research Report. Institute for Social Research, University of Michigan; 2013.
- [11] Prasartkul P, Vapattanawong P. **Population situation in Thailand**, in Population and Social 2005: (in Thai) by Archavanichakul and Prasartkul, eds., Thailand: Institute for Population and Social Research, Mahidol University; 2005.
- [12] Institute for Population and Social Research. **Population Projections for Thailand. 2005-2035** (in Thai), Thailand: Institute for Population and Social Research, Mahidol University; 2006.
- [13] World Health Organization (WHO). **Active ageing: a policy framework [Internet]**. 2002 [cited 10 September 2017] Available from: www.unatj.uerj.br/doc\_gov/destaque/Madri2.pdf.
- [14] National Commission on the Elderly and Bureau of Empowerment for Older Persons. **Situations of Thai Elderly in 2003** (in Thai). Bureau of Empowerment for Older Persons Publication No. 2/2547; 2004.
- [15] National Economic and Social Development Board (NESDB). Concepts and strategy issues in preparation for ageing society. **Proceedings paper, in "Entering to Ageing Society, Thailand"**, 7 June 2005, Prince Palace Hotel, Bangkok.
- [16] Walker A. A strategy for active ageing. **International Social Security Review**, 2002; **55**(1): 121-139.
- [17] Zaidi A. **Active Ageing Indicators. Active Ageing Index Project Presentation at 6th session of OEWG**, 16<sup>th</sup> July, 2015. University of Southampton.
- [18] Martin W. Visualizing risk: Health, gender and ageing body. **Critic Social Policy**. 2011; **32**(1): 51-68
- [19] Stenner P, McFarguhar T, Bowling A. Older people and Active Ageing: Subjective aspects of ageing actively. **J Health Psychology**. 2011; **16**(3): 467-77.
- [20] Chong AM-H, Ng S-H, Woo J, Kwan AY-H. Positive ageing: the view of middle-aged and older adults in Hong Kong. **Ageing Soc**. 2006; **26**: 243-65
- [21] Walker A. Commentary: The emergence and application of active aging in Europe. **J Aging Soc Policy**. 2009; **21**:75-93.
- [22] Davenport C. **Active Ageing Taskforce: Report and Recommendations**. Government of Western Australia, Minister for Community Development; 2003.
- [23] Douglas H, Georgiou A, Westbrook J. Social participation as an indicator of successful aging: an overview of concepts and their associations with health. **Australian Health Review**, CSIRO Publishing, 2017; **41**, 4556462.
- [24] Berry HL, Rodgers B, Dear K.B.G. Preliminary development and validation of an Australian community participation questionnaire: types of participation and associations with distress in a coastal community. **Soc Sci Med** **1982**; 2007; 1719637.
- [25] Olesen SC, Berry HL. Community participation and mental health during retirement in community sample of Australians. **Ageing Ment Health** 2011; **15**: 186697.
- [26] Haque Md.-N, Soonthorndhada K, Hunchangsith P, Kanchanachitra M. Active ageing level in Thailand: a comparison between female and male elderly. **J Health Res**. 2016; **30**(2): 99-107.
- [27] Thanakwang K, Soonthorndhada K. Attributes of Active Ageing among Older Persons in Thai land: Evidence from the 2002 Survey. **Asia-Pacific Population Journal**, 2006.
- [28] Active Ageing Taskforce. **Active Ageing Taskforce, Report and Recommendations**, Government of Western Australia, 2003. Minister for Community Development.
- [29] Chayovan N. Vulnerable elderly groups in Thailand (in Thai), **Journal of Demography**, 2005; **21**(1): 1-24.
- [30] Yatiyom P. **Active Ageing Attribution: A Case Study of Elite Thai Elderly**. 2005. Master of Nursing Science Thesis in Nursing (in Thai), Faculty of Nursing, Chulalongkorn University, Bangkok.
- [31] Chayovan N, Wongsith M, Sangtienchai J. **Socio-Economic Consequences of the Ageing of the Population in Thailand: Survey Findings (in Thai)**, Bangkok: College of Population Studies, Chulalongkorn University; 1988.
- [32] Jitapunkul S. **Health Problems of Thai Elderly: A National Survey (in Thai)**, National Health Foundation and Ministry of Public Health, Bangkok; 1999.  
--- **Ageing in Thailand: Key Issues and New Challenges**, Preparatory Committee for the Second World Assembly on Ageing, National Commission on the Elderly. Bangkok; 2001.
- [33] Chirawatkul, S. **Health of Thai elderly women** in Constructing the Concept of Women and Health (in Thai), P. Boonmongkon, ed., Bangkok: Gender Press; 1999.

- [34] Chooprapavan, J. **Health Interview Survey of the Population Aged 50 and over in Thailand, 1995** (in Thai), Thailand: Health System Research Institute; 2000.
- [35] National Statistical Office (NSO). **Report on the 2002 Survey of Elderly in Thailand**, National Statistical Office of Thailand, Bangkok.
- [36] Teresa S, Knodel J, Chayovan N. "Gender and well-being among older people: Evidence from Thailand", **Ageing & Society**, 2003; **23**: 701-735.
- [37] Knodel J, Chayovan N. **Thailand's Older Population: Social and Economic Support as Assessed in 2002**, Bangkok: Statistical Forecasting Bureau, National Statistical Office, 2005.
- [38] Knodel J, Chayovan N, Siriboon S. The impact of fertility decline on familial support for the elderly: An illustration from Thailand, **Population and Development Review**, 1992; **18**(1): 79-103.
- [39] Yodpet S. "The elderly and family" in **Ageing in Thailand: The Report of the Knowledge Review and Current Situation: The Recommendation for Policy and Research (in Thai)**, S. Jitapunkul, N. Chayovan and S. Yodpet, eds., Thai Research Fund, Bangkok; 2002.
- [40] Chayovan N. "Economic conditions of Thai elderly: Difference between genders" (in Thai), **Journal of Demography**, 1999; **15**(1): 1-35.
- [41] Institute of Geriatric Medicine. **The Survey of Quality of Life in Thai Elderly (in Thai)**, Ministry of Public Health, Nonthaburi, Thailand, 2001.
- [42] Thanakwang K, Isaramalai S, Hatthakit U. Thai Cultural Understandings of Active Ageing from the Perspectives of Older Adults: A Qualitative Study. **Pacific Rim Int J Nurs Res** 2014 ; **18**(2): 152-165
- [43] Ingersoll-Dayton B. The development of culturally sensitive measures for research on ageing. **Ageing Society** 2011; **31**: 355-370.
- [44] Stenner P, McFarguhar T, Bowling A. Older people and active ageing: Subjective aspects of ageing actively. **J Health Psychol**. 2011; **16**(3): 467-77.
- [45] Buys L, Boulton-Lewis G, Tedman-Jones J, Edwards H, Knox M. Issues of active ageing: Perceptions of older people with lifelong intellectual disability. **Austral J Ageing**. 2008; **27**(2): 67-71.
- [46] Clarke LH, Liu-Ambrose T, Zyla J-A, McKay H, Khan K. "Being able to do the things that I want to do": Older women with osteoporosis define health, quality of life, and well-being. **Activ Adapt Aging**. 2005; **29**(4), 41-59.
- [47] Kespichayawattana J, Wiwatvanich S. **Active ageing: A case study of elite Thai elderly [in Thai]**. Bangkok: Thai Health Promotion Foundation; 2006.
- [48] Moen P, Dempster-McClain D, Williams RM. Successful aging: A life-course perspective on women's multiple roles and health. **Am J Sociol**. 1992; **97**(6); 1612-1638.
- [49] Buys L. and Miller E. **The meaning of "active ageing" to older Australians: Exploring the relative importance of health, participation and security [Internet]**. In Proceedings 39th Australian Association of Gerontology Conference, 2006. Available from: <http://eprints.qut.edu.au>
- [50] Thiamwong, L., Maneesriwongkul, W., Malathum, P., Jitapunkul, S., Vorapongsathorn, T., & Stewart, A.L. Development and psychometric testing of the healthy aging instrument. **Thai J Nurs. Res** 2008; **12**(4): 285-296.
- [51] Danyuthasilpe C, Amnatatsue K, Tanasugarn C, Kerdmongkol P, Steckler AB. Ways of healthy aging: A case study of elderly people in a Northern Thai village. **Health Promot Int**. 2009; **24**: 394-403.
- [52] Nantsupawat W, Kamnuansilapa P, Sritanyarat W, Wongthanawasu S. Family relationships, role and the meaning of active aging among rural northeastern Thai elders. **Pacific Rim Int J Nurs Res**. 2010; **14**(2): 137-48.
- [53] Thanakwang K, Isaramalai S. Productive engagement in older