Revised ASEAN-JAPAN Healthy & Active Ageing Index (Revised HAAI) and Policy Guide for its Application

Health and Labour Administration Promotion Research Project

Research Project on Administrative Policies to Promote Solutions to Global Health Issues

Research on the Promotion of Active and Healthy Ageing in ASEAN FY2020-2022

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Part 1: Introduction of revised Healthy & Active Ageing Index (HAAI)

A. Background of the development of revised HAAI

The world's population is ageing rapidly, and some ASEAN countries are ageing more rapidly than Japan. In 2013, the "Study Group on Japan's Contribution to International Active Ageing" was held under the auspices of the International Division of the Ministry of Health, Labour and Welfare, and its report was published (https://www.mhlw.go.jp/stf/shingi/0000041697.html). The results were also reported at the ASEAN-Japan Active Ageing Regional Meeting held in the following year (2014). Subsequently, the ASEAN-JAPAN Healthy and Active Ageing Index (HAAI), consisting of 25 indicators in six domains, was developed to clarify the current status of each ASEAN country.

We revised HAAI 2017 using the following procedure. For details, please refer to Parts 2–4.

1. Information on the ageing situation in ASEAN countries was collected from international organizations and national governments, and several interviews were conducted. Based on the survey results, a revised HAAI development and calculation methodology, consisting of 43 indicators from six domains, was established. Using this calculation method, we collected indicator values for the revised HAAI for Japan, Indonesia, Thailand, Myanmar, Malaysia, Vietnam, and the Philippines and visualized the indicators by domain. The revised HAAI was presented to the ASEAN Center for Active Aging and Innovation (ACAI) and the Board of Directors of the Thai Ministry of Health (Bangkok) via online meeting.

2. The validity and applicability of the revised HAAI indicators were tested based on the results of a longitudinal analysis of cohort data from the 2018 Myanmar Older Persons Survey conducted in Yangon and Bago. In cases where country-level data were not available for the Myanmar indicator values, we substituted the values by this local cohort survey data after adjusting them by the proportion of urban and rural populations in Myanmar.

3. To examine ways to improve the numerical values of each indicator in the revised HAAI, which consists of 43 indicators in 6 domains, good practices of healthy and active ageing measures in ASEAN countries were collected. The good practices were mainly collected through the Healthy Ageing Prize for Asian Innovation (HAPI), which recognizes and awards initiatives that contribute to achieving healthy longevity and improving care for older people in Asian countries. The HAPI is supported by the Japan Center for International Exchange (JCIE) and the Economic Research Institute for ASEAN and East Asia (ERIA), as part of the Asia Health and Wellbeing Initiative (AHWIN) by the Japanese government.

B. Summary of the existing Healthy & Active Ageing Index
(reference to the 2020 report of the Study on Promoting Active and Healthy Ageing in ASEAN (20BA2002) by Sasaki et al.)

To develop the revised HAAI, we compared the three existing HAAIs (Active Ageing Index by the United Nations Economic Commission for Europe, Global AgeWatch Index by HelpAge International, and Hartford Foundation Ageing Society Index) with the HAAI 2017. Compared to these indices, indicators not included in HAAI 2017 were "social participation," "mental health," "home ownership," "independence in daily living," "community security," "lifelong learning," "use of information and communication technology (ICT)," "transportation accessibility," and "vocational training before turning 65+." On the other hand, key indicators included only in HAAI 2017 were "long-term care insurance services," "percentage of older adults needing long-term care," and "health disparities." The HAAI 2017 also revealed a mix of individual-and national/regional-level data.

Based on the above results, the revised HAAI was developed considering compatibility with the three existing HAAIs while retaining the originality of HAAI 2017, including indicators related to long-term care insurance and services.

C. Summary of interviews with key persons/organizations
(reference to the 2020 report of the Study on Promoting Active and Healthy Ageing in ASEAN (20BA2002) by Hayashi & Nakagawa)

To develop the revised HAAI, we conducted online interviews with the key persons in charge of the existing Active Ageing Indicators in each country and region and asked them about the contents, challenges, and prospects (Table 1).

One of them was Professor Asghar Zaidi, who launched the Active Ageing Index (hereinafter referred to as "European AAI") by Eurostat, which is considered to be the oldest existing indexes. The European AAI uses a method of weighting and summing multiple indicators, similar to the United Nations Human Development Index (HDI). Twenty-two indicators were set in four areas: (1) employment; (2) social participation in society; (3) independent, healthy, and safe living; and (4) capacity and enabling environment for active ageing. The total score was calculated by applying weights to each indicator.

The United Nations Economic Commission for Europe (UNECE) developed Active Ageing Indicators in Asia and the Pacific, similar to the European AAI, and Prof. Zaidi calculated Active Ageing Indicators for Thailand and Indonesia (Zaidi and Um 2019a). Using a similar approach, Prof. Zaidi also calculated the Active Ageing Indicators for China and Korea (Zaidi and Um 2019b). These are called the New Asian Active Ageing Index, modified from the European AAI, and consist of 19 indicators in four areas: (1) employment; (2) participation in society; (3) independent, healthy, and secure living; and (4) capacity and

an enabling environment for active ageing.

HelpAge International (hereinafter referred to as "HelpAge"), an international NGO on ageing, has developed the Global AgeWatch Index in 2013, 2014 and 2015, a composite index similar to the Active Ageing Index. The Global AgeWatch Index covers 96 countries, including low- and middle-income countries and is a composite of 13 indicators in four areas: (1) income security, (2) health status, (3) capability, and (4) enabling environment.

In 2020, the World Health Assembly and the United Nations General Assembly decided to designate the period 2021-2030 as the Decade of Healthy Ageing, and action plans were developed (WHO 2020a). The WHO Headquarters first published a baseline report (WHO, 2020b), and at the regional level, the Western Pacific Regional Office developed an action plan for healthy ageing (WHO/WPRO, 2020). The Action Plan for the Decade of Healthy Ageing states that instead of setting new indicators as an evaluation framework, it is important to use existing indicators related to the SDGs and display each indicator by age so that the situation of older adults is clear (WHO 2020a).

Professor Tengku Aizan of Universiti Putra Malaysia is currently calculating the Malaysian Active Ageing Index (MyAAI) using Malaysian data. This index is based on several existing ageing indices. The index follows the European AAI and consists of four areas: (1) employment; (2) participation in society; (3) independent, healthy, and secure living; and (4) capacity and enabling environment for active ageing. She pointed out that the gender gap in employment, social participation, filial piety, and religious beliefs were among the characteristics peculiar to Asia.

A composite indicator such as the Active Ageing Indicator requires sufficient data to calculate, and it is necessary to establish a data dashboard to visualize multiple data of many countries.

Table 1.　Schedule of interviews to key persons/organizations

Date	Target persons	Organization	Indicators
2020/11/4（Wed）17:00～19:00	Aleksandr Mihnovits	HelpAge International	Global AgeWatch Index
2020/12/1（Tue）16:00～18:00	Asghar Zaidi	Government College University	Europe & Asia Active Ageing Index
2020/12/17（Wed）16:00～17:15	Hiromasa Okayasu	WHO/WPRO	WHO Healthy Ageing Monitoring Framework
2021/1/15 （Fri）11:00～13:00	Sabine Henning	UN ESCAP	Asia Active Ageing Index
2021/2/2 （Tue）11:00～13:00	Tengku Aizan	Universiti Putra Malaysia	Malaysia Active Ageing Index

＜**References**＞

WHO (2020a) *Decade of Healthy Ageing: Plan of Action.*

WHO (2020b) *Decade of Healthy Ageing - Baseline Report.*

WHO/WPRO (2020) *Regional Action Plan on Healthy Ageing in the Western Pacific.*

Zaidi, Asghar and Jinpil Um (2019a) "The Asian Active Ageing Index: Results for Indonesia and Thailand" Social Development Working Papers, 2019/05, United Nations ESCAP.

Zaidi, Asghar and Jinpil Um (2019b) "The New Asian Active Ageing Index for ASEAN+3" *Journal of Asian Sociology*, Vol. 48, No. 4 (December 2019), pp. 523-558.

Revised ASEAN-JAPAN Healthy and Active Ageing Index (2023)

Domain	Indicator	SDG indicator
1.Policy & Statistics (10 indicators)		
	1) Policy-Multisectoral healthy and active ageing: yes/no	
	2) Policy-Health care including NCD: yes/no	
	3) Policy-Long-term care system: yes/no	
	4) Statistics-Older population proportion and distribution: yes/no data	
	5) Statistics-Vital statistics (including cause of death)	
	6) Statistics-Health / living conditions of older persons	
	7) Statistics-Health care expenditure for older persons: yes/no data	
	8) Statistics-Number of health and long-term care workers: yes/no data	
	9) Statistics- Capacity of long-term care facility: yes/no data	
	10) Total	
2. Income & Livelihood Security (7 indicators)		
	1) Absolute poverty rate	1.2.1
	2) Relative poverty rate	10.2.1
	3) Financial tools	8.10.2
	4) Food insecurity	2.1.2
	5) Employment	8.5.2
	6) Coverage of income security measures such as public pension or welfare benefits	1.3.1
	7) Home ownership	1.4.2
3.Health & Quality of Life (12 indicators)		
	1) Life Expectancy at age 60	
	2) Healthy life expectancy at age 60	
	3) NCD mortality	3.4.1
	4) Suicide mortality rate among older people	3.4.2
	5) Disability/ADLs	
	6) Disability/WG (Washington Group)	
	7) Disability/GALI (Global Activity Limitation Index)	
	8) Prevalence of dementia	
	9) Subjective, self-rated health	
	10) Rate of receiving long-term care	
	11) Unmet need for healthcare	
	12) Physical exercise, including walking	
4.Social Capital (6 indicators)		
	1) Loneliness / social isolation	
	2) Engagement of social activities (community, political & religious activities)	
	3) Communication with family or friends	
	4) Trust in the community	
	5) Safety in the community	16.1.4
	6) Care to children and/or grandchildren	
5.Capacity and Enabling Environment (6 indicators)		
	1) Having a mobile phone	
	2) Access to the Internet	17.8.1
	3) Living in a house with safe drinking water	6.1.1
	4) Living in a house with toilet	6.2.1
	5) Education (completed at least primary level)	
	6) Free from physical, psychological, financial or sexual violence	16.1.3
6. COVID-19 (2 indicators)		
	1) COVID-19 case fatality ratio	
	2) COVID-19 vaccine coverage	

Part 2: Revised HAAI structure and data

A. Domains and indicators

Healthy and active ageing must be captured using a multidimensional approach. In 2017, during the 3rd ASEAN-Japan Active Ageing Regional Conference held in Manila, members of this project participated and discussed the possible framework of the ASEAN-JAPAN Healthy and Active Ageing Index (HAAI). In addition, several studies and indices of healthy ageing have been proposed and used. These studies include the European Active Aging Index (UNECE/EU 2019), Asian Active Aging Index (Zaidi and Um 2019a, Zaidi and Um 2019b), and New Global AgeWatch Index (HelpAge International 2015). The concept and framework of the UN Decade of Healthy Ageing and the UN Sustainable Development Goals indicator framework are also referred to. For detailed descriptions, please refer to our report from FY2020 and FY2021. After examining the relevant documents and discussing them with persons in charge of or related to those works, we structured the HAAI into six domains and 43 indicators, which are presented in this report. Each domain and indicator is described in this section.

Domain 1.Policy & statistics (10 indicators)

This domain captures the availability of policies and statistics on health and active ageing in the target country. Because the existence of a policy is binary (yes or no), but the policy differs from country to country, the value of each indicator was scaled from 0 to 1, and the completeness and appropriateness of each policy were judged subjectively.

Indicator 1.1 Policy - multisectoral health and active ageing

Ageing policy is multi-sectoral. Different ministries and departments within the national government are in charge of different administrative tasks, such as health, welfare, employment, and the living environment of older persons. Therefore, coordination is needed. This indicator verifies whether there is a law, act, or national plan stipulated and effective across different governmental bodies. For example, in Vietnam, the Law on the Elderly, enacted in 2009, defines the responsibilities of elderly related work among different departments within the government.

Indicator 1.2 Policy - health care, including NCD

Every country has a ministry in charge of health and disease control programs. However, in middle- and low-income countries, the focus has been on infectious disease control or maternal-child health, and a policy framework for noncommunicable diseases (NCD) is sometimes lacking. This indicator verifies whether there is a national policy addressing the prevention and treatment of NCD, including hypertensive diseases, diabetes, cardiovascular diseases, cerebrovascular diseases, chronic respiratory diseases, and cancer. For example, in the Myanmar National Health Plan (2017-2021), NCD database maintenance and programs are well defined.

Indicator 1.3 Policy - long-term care system

As the population ages, the need for long-term care to support the elderly, who have increased physical and mental limitations in daily life, increases. Globally, only South Korea, Japan, and Germany have public long-term care insurance. Some countries deliver care through national and local government schemes, whereas others deliver

care through private service operators. However, in middle- and low-income countries, families are the main caregivers and do not receive any renumeration. Considering the increasing number of elderly people and decreasing number of children, the traditional family-dependent long-term care system should be reinforced with public policies. This indicator   measures the existence of public policies.

Indicator 1.4 Statistics - older population proportion and distribution

Population of a country disaggregated by sub-national level, is easy to obtain; however, the statistics are not always disaggregated by sex and age. This indicator measures if there are national statistics on the age-disaggregated number of people (proportion) at the subnational level (distribution). The cut-off age for "older persons" differs by country, due to the different historical context; those countries which started population ageing policies prior to the 1982 Vienna World Assembly on Ageing (VIPAA) tend to define older persons as 65 years and over, while those which started after the VIPAA tend to define them as 60 years and over. In this report, we attempted to use 60 years as the cutoff age wherever possible.

Indicator 1.5 Statistics - Vital statistics (including cause of death)

Vital statistics, the number of births, deaths, marriages, and divorces are crucial data for understanding population dynamics. However, many middle- and low-income countries have difficulty gathering information through registration. In this case, census or sample surveys were used for estimation. In particular, death information, including the cause of death, is important for understanding the health of older persons. This indicator was set to 1 if all deaths were collected through registration with the cause of death certified by a medical doctor. If there are no data on mortality published by the national authority, the indicator is 0.

Indicator 1.6 Statistics - health / living conditions of older persons

Statistics on health and living conditions cover vast areas, such as household composition, employment, healthcare access, subjective health, and social security coverage. This indicator evaluates the existence of a national-level sample survey addressed to older persons or with results disaggregated by age.

Indicator 1.7 Statistics - health care expenditure for older persons

Healthcare expenditures are derived from the internationally standardized accounting framework of the System of Health Accounts 2011 (SHA2011) (OECD, Eurostat, and WHO 2017). As of 2022, among the 194 WHO member states, only two countries–Somalia and the Democratic People's Republic of Korea–did not report any data. However, if we want healthcare expenditures limited to older persons, country reports with more detailed data are needed. This indicator is set to 1 if the country report is available on the web and healthcare expenditure for older persons is shown.

Indicator 1.8 Statistics - number of health and long-term care workers

The health and long-term care workforce is a key determinant of quality care. This indicator was set to 1 if the number of health and long-term care workers was measured and published. Often, the statistics on the number of healthcare workers are more available   than that of long-term care workers.

Indicator 1.9 Statistics - capacity of long-term care facility

To measure the long-term care service level, this indicator captures the number of available rooms or beds for older persons who require facility care. These statistics are only available when long-term care facilities exist and are recognized by the statistical authority. If those statistics are available, this indicator is set to 1.

Indicator 1.10 Total of policies and statistics

The total of indicator 1.1 to 1.9 is set as indicator 1.10. Therefore, indicator 1.10 has a maximum of 9 and a minimum of 0.

Domain 2. Income & livelihood security (7 indicators)

Indicator 2.1 Absolute poverty rate

There are two main methods for measuring poverty: absolute and relative poverty. Absolute poverty, which this indicator is concerned with, is measured by the percentage of the population living below the national poverty line set by the government of each country, based on the calculation of the costs necessary to live the minimum standard of living in each society. In some countries, poverty lines are set for each subnational division within the country. For example, Indonesia has updated its poverty line for each of its 67 regions based on the results of the National Socioeconomic Survey (SUSENAS), a large-scale sample survey conducted annually by the Central Statistical Office (BPS). The most commonly used international "absolute poverty" line is the World Bank standard of "less than \$1.90 per day" (revised in 2015 from \$1.25 per day previously) (World Bank 2016).

In this study, the absolute poverty rate was defined as the percentage of those living below the national poverty line. If the national poverty line is not defined, the internationally used definition of the proportion of people living on less than 1.90 USD a day. This indicator is also an SDG indicator (1.2.1).

Indicator 2.2 Relative poverty rate

Relative poverty is calculated by the proportion of people living below 50% of the median household income. The household income was adjusted by the household size, employing the OECD method in which the disposable income was divided by the square root of the number of household members. While absolute poverty indicates a state of deprivation based on the minimum standard of living, relative poverty measures wealth distribution and inequality within a country (OECD, 2005). This indicator 2.2 is the same as that used by the OECD and the same as SDG indicator 10.2.1.

Indicator 2.3 Financial tools

Maintaining financial activity is an important factor in guaranteeing the independence of older people. It is an instrumental activity in daily living. This indicator is defined as the proportion of older persons with an account at a bank or other financial institution, or with a mobile money service provider. This indicator is the same as SDG 8.10.2. However, thus far, the SDG indicator database has not included the values for older persons.

Indicator 2.4 Food insecurity

Malnutrition in older persons is often neglected in health and nutrition programs, and is strongly related to their economic and social situation. This indicator is defined as the prevalence of moderate or severe food insecurity

among older people, as taken from SDG 2.1.2.

Indicator 2.5 Employment

Regarding the employment of the elderly, especially in Asia, there is a situation in which people have no choice but to work because social security systems such as pensions are not well developed. A survey in Indonesia reported that older persons with lower educational levels tended to continue working to secure their income (Utomo et al. 2018). In some countries, there is also a cultural norm that the work of older persons is shameful because it indicates that children do not support their parents adequately.

On the other hand, it is also possible to realize economic independence and social participation by working. Decent work is one of the goals of the SDGs and is important for older persons who are willing to work satisfactorily in terms of social participation and economic fulfillment. The ILO advocates supportive measures for older workers to enable active ageing (ILO, 2019).

This indicator is defined as the proportion of older persons employed or self-employed who receive a monetary salary. This indicator is difficult to obtain as the definition of "working age population" excludes older persons, and some countries, such as Malaysia, only publish the employment rate for younger age groups.

Indicator 2.6 Coverage of income security measures such as public pension or welfare benefits

As the financial protection system differs from country to country, this indicator attempts to capture whether an older person is financially protected by any public scheme other than her/his own salary, savings, or family transfers. This indicator is the same as SDG indicator 1.3.1, but focuses on older persons.

Indicator 2.7 Home ownership

Housing is a key element in maintaining a decent life. This indicator is the same as SDG indicator 1.4.2, but focuses on older persons.

Domain 3. Health & quality of life (12 indicators)

Indicator 3.1 Life Expectancy at age 60

Life expectancy at age 60 measures the average number of years one can expect to live at the age of 60. In middle- and low-income countries where death registration is not complete, this indicator is based on the estimated life table, which is heavily dependent on the infant mortality rate and not the real level of old age mortality. However, for data availability, World Health Organization Global Health Observatory values were used for all countries.

Indicator 3.2 Healthy Life Expectancy at age 60

The definitions of health vary. However, for this indicator, WHO Global Health Observatory values were used, as data are available for all countries.

Indicator 3.3 NCD mortality

This indicator is derived from SDG indicator 3.4.1., and values from the UN SDGs database were used for all countries. The definition of this indicator is "probability of dying between the ages of 30 and 70 years from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases" according to the UN SDG database

metadata. The causes included in the ICD-10 are I00-I99, COO-C97, E10-E14 and J30-J98, therefore including cerebrovascular diseases as well.

Indicator 3.4 Suicide mortality rate among older people

Suicide is the final indicator of the aggravation of mental status in older adults. Although the definition is clear, not all suicides are reported as suicides. Some cultural settings do not allow suicide, particularly when a person is surrounded by family. In addition, when there are no complete cause-of-death statistics, it is difficult to obtain true figures. Here, the suicide mortality rate for older persons was derived from the national cause of death statistics when available. Otherwise, figures from the World Health Organization Global Health Estimates were used.

Indicator 3.5 Disability: ADLs (Activities of Daily Living)

There are various methods of measuring health and disability. This indicator captures the proportion of older persons who have difficulty performing activities of daily living, such as grooming, dressing, eating, using the toilet, bathing or showering, walking, and transferring. ADLs are well-known indicators; however, the questions and items differ slightly from country to country. For example, Indonesia's ADL questions include changing clothes, bathing, getting up, eating (eating prepared food), and going to the toilet (can do it by themselves), and in Thailand, changing clothes, washing face, bathing, and eating are included (Asghar and Um 2019). National-level statistics are missing for Japan, so the substitute question on the "need of help and support" is used.

Indicator 3.6 Disability: WG (Washington Group)

The Washington Group's disability question was elaborated upon by the group originally endorsed by the Statistical Commission of the United Nations for the purpose of establishing an internationally agreed definition of disability (The Washington Group on Disability Statistics 2023). Several question sets have been proposed that are now widely used in many countries. This indicator uses a short set of six questions on difficulty in seeing, hearing, walking or climbing, remembering or concentrating, self-care, and communication. The proportion of those who responded "A lot of difficulty" or "Cannot do at all" is set as the disability rate.

Indicator 3.7 Disability: GALI (Global Activity Limitation Indicator)

The GALI is a simple question included in Eurostat's Minimum European Health Module (MEHM) to measure disability. The question is "Do you have limitation in activities people usually do because of health problems for at least the past six months," and the response has three choices; "severely limited," "limited but not severely," and "not limited at all." Disability is defined as the proportion of those who responded "severely limited" and "limited but not severely."

Indicator 3.8 Prevalence of dementia

Dementia is a disease that increases with age, and its prevention, mitigation, treatment, and coexistence are urgent policy needs. This indicator defined the proportion of older adults with dementia. However, caution should be exercised when interpreting these results. If dementia is well recognized in society and there are sufficient medical services to diagnose it, then the prevalence of dementia can be measured properly. However, if these environments are lacking, the reported prevalence of dementia would be lower than the true figure. On the other

hand, if many people survive to become very old before dying from other diseases, then there will be more persons suffering from dementia. For these reasons, one can also assume that nations with a higher prevalence of dementia are better and more advanced. However, at this stage, we adhered to the conventional approach in which a lower prevalence is better.

Indicator 3.9 Subjective, self-rated health

Subjective self-rated health is a commonly used measure of health and well-being. The question text is simple, such as, "are you healthy?" However, the response categories differed from survey to survey, causing standardization problems. For example, the response categories such as "Good," "Normal," and "Bad," or "Very good," "Good," "Bad," and "Very bad," would not provide comparable indicators depending on which categories should be included. In this study, we defined the proportion of those who responded positively on their health, such as "Very healthy," "Healthier than average," "Excellent," or "Good," not including "Normal" or "Either."

Indicator 3.10 Receiving long-term care

Similar to the prevalence of dementia, this indicator is difficult to interpret. This indicator is defined as the proportion of individuals receiving long-term care. However, those who needed care but could not receive it were not included in the data. It should capture the unmet needs for long-term care; however, thus far, it has been difficult to obtain such an indicator.

Indicator 3.11 Unmet need for healthcare

Unlike long-term care, unmet healthcare needs are becoming a common question used in sample surveys. This indicator used the proportion of people who did not receive medical care when needed.

Indicator 3.12 Physical exercise (including walking)

Physical exercise is useful in maintaining good health in old age and preventing physical decline and accidental injuries (Asghar and Um 2019). However, as with the disability/activities of daily living (ADL) above, the items used for measurement differ greatly depending on the survey data available for each country. Health promotion is measured by various items, but here, physical exercise is chosen, including walking.

Domain 4. Social capital (6 indicators)

Indicator 4.1 Loneliness / social isolation

In an ageing society, the number of elderly people who become lonely and isolated after retirement is increasing. Loneliness is a subjective emotion, whereas isolation is an objective situation. Furthermore, social isolation of the elderly has become an increasingly serious issue owing to the prolongation of the COVID-19 epidemic. The degree of impact may differ depending on the country; for example, the implementation of strict lockdowns.

Loneliness affects a third of the population of industrialized countries, with an increasing prevalence and risk of premature mortality (Cacioppo 2018). In G7 countries, such as the United Kingdom, Germany, and Japan, governments are working on countermeasures. In Japan, the Office for Loneliness Countermeasures was established in 2021 at the Cabinet Office, and national surveys are being conducted. It is not certain whether this "pandemic"

of loneliness is only limited to high-income countries, but as a social capital indicator, it is worthwhile to measure it among the ASEAN countries.

There are two internationally used measures of loneliness. The UCLA Loneliness Scale is a conventional method; however, the British one-question format is also becoming prevalent (ONS, 2018). Here, indicator 4.1 captures the proportion of older persons who feel lonely according to the definition adopted by each survey.

Indicator 4.2 Engagement of social activities (community, political & religious activities)

This indicator captures how older adults engage in social activities. However, the questions in these surveys differ substantially. Whenever possible, we chose community, political, and/or religious activities as the social activities. The frequency is described differently as well, such as "usually" or "in the past 12 months." The definition provided in each survey was used; therefore, it was not identical from country to country.

Various survey results have confirmed that women are more active than men, a trend specific to Asia related to social participation among the elderly. It is possible that the strong sense of gender division of labor during working life—men working outside and women doing housework— contributed to the gender gap in social participation even after retirement.

Indicator 4.3 Communication with family or friends

In an increasingly common setting in which older persons live alone, without mandatory work or schooling, some are deprived of the chance to communicate with others. This indicator captures the proportion of older adults who do not communicate with their family or friends within a month.

Indicator 4.4 Trust in the community

Trust in the community in which an older person lives is an important measure of social capital. This indicator is defined as the proportion of older adults who trust their neighbors or people in the community.

Indicator 4.5 Safety in the community

Community safety is important for building social capital. This indicator is derived from SDG indicator 16.1.4. and is defined as the proportion of the population that feels safe walking alone around the area in which they live after dark. As age-disaggregated values were not available, all age values were used for this indicator.

Indicator 4.6 Care of children and/or grandchildren

Taking care of children and grandchildren can be viewed as an aspect of older people's social participation (Asghar and Um 2019). However, it is necessary to keep in mind that elderly people can receive support due to the physical changes and functional decline associated with ageing. In addition, supportive relationships between families are related to household structures such as parent-child cohabitation and multi-generational cohabitation, as well as social norms and systems surrounding care. For example, an international comparative study on the residential relationship between adult children and their parents in Europe found that the residential relationship and distance between parents and children differ not only according to the number and composition of siblings of the adult child but also according to the public policy measures in each country (Rainer and Siedler 2012). In Asia, the provision of care, such as childcare and nursing care, has traditionally tended to depend on kinship resources

centered on families living together. However, amid the recent rapid ageing and lowering of fertility, there are differences in the ways people and national governments respond (Ochiai 2013). These institutional factors and backgrounds also need to be considered when evaluating indicators related to intergenerational support such as the care of children and grandchildren by older persons.

This indicator is calculated as the proportion of older persons taking care of their children or grandchildren regardless of their living arrangements, such as living together.

Domain 5. Capacity and enabling environment (6 indicators)

Indicator 5.1 Having a mobile phone

Mobile phone use is now more prevalent than landline phone use, particularly in middle- and low-income countries. Older persons are less acquainted with mobile phones than younger persons, but the COVID-19 pandemic has pushed mobile utilization in the elderly to replace conventional face-to-face communication.

This indicator measures the proportion of older adults who use mobile smart phones.

Indicator 5.2 Access to the internet

Access to the internet expands information sources and widens the range of activities, which is also true for older people. This indicator might be the same as the previous indicator, "having a mobile phone," as mobile phone or smart phone allows access to the internet. However, internet access also includes those who are connected through a PC or tablet via Wi-Fi or LAN, at home with their family, or at work. This is also SDG indicator 17.8.1. However, the data in the UN SDG Indicators Database are not age-disaggregated.

Indicator 5.3 Living in a house with safe drinking water

This indicator is the same as SDG indicator 6.1.1; however, the data in the UN SDG Indicators Database are not age-disaggregated. At this stage, when data were not available from national sources, the SDG indicator was used for all ages.

Indicator 5.4 Living in a house with a toilet

This indicator is the same as SDG indicator 6.2.1; however, the data in the UN SDG Indicators Database are not age-disaggregated. However, in most countries, the existence and type of toilets are asked about in the census or sample surveys. In Japan, in addition to flush toilets, the existence of Western-style toilets was assessed through a survey. This is because non-Western or Japanese conventional toilets are squat style, which can cause stroke, and older people have difficulties in using them. The proportion of Western-style toilets was lower (89.4% in 2008 in households with older persons aged 65 years and over) than that of flush toilets (94.3% in 2017). The same differentiation is required in countries in which conventional squat-style toilets are prevalent.

Indicator 5.5 Education (completed at least primary level)

The educational level of older adults is typically obtained from a population census. Here, the indicator is defined as the proportion of older people who have graduated at least in primary education. Malaysia's indicator is much lower (50% in 2000), which could be due to different education systems not included in the census questionnaire, such as Islamic Koranic schools.

Indicator 5.6 Free from physical, psychological, financial, or sexual violence

Violence toward older persons could be of various types, and even close kin, such as sons or daughters living together, could be perpetrators. In such cases, it is difficult to capture by household surveys when the perpetrator is sitting next to the older person or even responding to the survey. However, various methods have been used to properly capture violence against older persons and some data are available. This indicator is the same as SDG indicator 16.1.3, but thus far, the data in the UN SDG Indicators Database are not age-disaggregated.

Domain 6. COVID-19 (2 indicators)

For three years from 2020 to 2023, COVID-19 greatly affected people's lives. At the time of writing this report (March 2023), the pandemic was moving towards the end, but this is not certain. As COVID-19 affects the lives of older persons and the mortality is high among them, indicators related to COVID-19 are deemed necessary, not only for COVID-19, but also in view of possible future pandemics of similar strains.

Indicator 6.1 COVID-19 case fatality ratio

COVID-19 is known to have a higher prevalence among younger people but higher mortality rates among older people. This indicator captures the case fatality ratio, defined as the number of deaths due to COVID-19 divided by the number of COVID-19 cases among people aged 60 years and older. However, one must be cautious in that the figures of countries without universal coverage of death registration tend to underestimate the number of deaths and hence lower the indicator value.

Indicator 6.2 COVID-19 vaccine coverage

The provision of a vaccine is crucial for the prevention of COVID-19, especially in older people who are more vulnerable to mortality. This indicator is defined as the proportion of older adults who received the COVID-19 vaccine. However, vaccine coverage data are often not disaggregated by age. At this point, only Japanese data were available, and cross-country comparisons could not be conducted.

B. Calculation method

43 indicators in 6 domains described in the previous section were collected from various data sources as described in Table 2. As stated elsewhere, data availability is the problem, and it is very rare to have data available from all the countries chosen for the comparison. To cope with this situation, and to use the existing data effectively, we employed a method to allow the comparison only with existing data. The existing data is translated into a T-score calculated from the mean and standard deviation of available data. For example, indicator 3.7, Disability/GALI, has three entries from Japan, Vietnam, and Philippines. The mean and standard deviation of three values are calculated and each T-score is calculated as follows;

$$Tscore_i = \frac{10(x_i - \mu_x)}{\sigma_x} + 50$$

where x_i is the indicator x value of i country, μ_x is the mean and σ_x is the standard deviation of indicator x.

Because some indicators are better when the value is larger and others are better when the value is smaller, it is necessary to align the directions. For example, in the case of Indicator 3.7, the lower the disability, the better the calculated T-score, which should be inverted as follows:

$$AdjustedTscore_i = 100 - Tscore_i$$

Table 1 Calculation of Adjusted T-score (Example: Indicator 3.7 Disability/GALI)

Data	Japan	Indonesia	Thailand	Myanmar	Malaysia	Vietnam	Philippines
3.7 Disability /GALI	21.8%	-	-	-	-	59.6%	59.0%

↓ Mean=46.8%, Standard deviation=17.7%

T-score	Japan	Indonesia	Thailand	Myanmar	Malaysia	Vietnam	Philippines
3.7 Disability /GALI	35.9	-	-	-	-	57.2	56.9

↓ Invert as this indicator is lower with better conditions

Adjusted T-score	Japan	Indonesia	Thailand	Myanmar	Malaysia	Vietnam	Philippines
3.7 Disability /GALI	64.1	-	-	-	-	42.8	43.1

The adjusted T-scores for each domain were averaged without weighting. The average HAAI for each domain was the HAAI for the country.

C. HAAI for Japan and six ASEAN countries

Six ASEAN countries were chosen for the HAAI calculations. These countries include Indonesia, Thailand, Myanmar, Malaysia, Vietnam, and the Philippines. The total population of these six countries was 644 million, accounting for 95% of the total ASEAN population. Along with Japan, the results of the HAAI are shown in Table 2 (T-score and Adjusted T-scores are shown in the excel file).

Table 2 Healthy and Active Ageing Index (HAAI) in Japan and 6 ASEAN countries

Domain	No.	Indicator	SDGs indicator	Japan Value	Japan Source	Japan note	Indonesia Value	Indonesia Source	Indonesia note	Thailand Value	Thailand Source	Thailand note	Myanmar Value	Myanmar Source	Myanmar note	Malaysia Value	Malaysia Source	Malaysia note	Vietnam Value	Vietnam Source	Vietnam note	Philippines Value	Philippines Source	Philippines note
1.Policy & statistics	1	Policy -Multisectoral healthy and active ageing : yes/no		1	The Basic Law on Measures for the Aging Society (1995,		1	Law No. 13 on Older Persons Welfare (1998) National Plan of Action for Older Person Welfare Guidelines	Abikusno (2005)	1	National Plan for the Elderly (1st 1982 - 2001: 2nd 2002-2021)	Annual report on Thai older persons The Act on the	n.d.		n.d.	1	National Policy for Older Persons		1	Law on the Elderly (2009)	National action plan on elderly people for 2012-2020	1	Expanded Senior Citizens Act of 2010	National Commission of Senior Citizens (NCSC)
	2	Policy -Health care including NCD : yes/no		1	Health Japan 21	Ministry of Health, Labour and Welfare	0.5	Jaminan Kesehatan Nasional (JKN) launched in 2014	Sumini et al (2020)	1	Universal health coverage achieved in 2002.	Jongudomsuk et al (2015 WHO)	1	Myanmar National Health Plan 2016	Yes	1	Elderly Healthcare Guidelines	Elderly Healthcare on MyGovernment	1		Law on health care for people for the period 2011-2020 and vision of 2030	1	Universal Health Care Law (RA 11223)	
	3	Policy -Long-term care system : yes/no		1	Long-Term Care Insurance Act		0.2	Mahendradhata et al (2017)		0.8	Integrated Tambon Health Management	96.4% of the Tambon (Sub-district) offers a public nursing programme with	0		No	0.5			0			0		
	4	Statistics -Older population proportion and distribution : yes/no data		1	Census	Statistics Bureau of Japan	1	Census		1	Census		1	Myanmar Population and Housing Census	Yes in 2014 Census.	1			1	Census 2019 report on ageing		1		
	5	Statistics -Vital statistics (including cause of death)		1	Vital Statistics	Ministry of Health, Labour and Welfare	0.2	Sample Registration System	Discontinued	0.5	Ministry of Interior, data not published online	World Bank report	0.3	Central Statistical Organization (2021) 'Cause Specific Death Rate from Leading Causes of	Cause of death only in urban area	0.9	Department of Statistics Malaysia	Not all cause of death are medically certified	0.5	Population Change and Family Planning Survey (annual)		1		Philippines Statistical Authority, Vital Statistics Report: Death Statistics
	6	Statistics -Health / living conditions of older persons		1	Comprehensive Survey of Living Conditions	Ministry of Health, Labour and Welfare	1	SUSENAS, bps	TNP2K (2020)	1	2017 Survey of the Older Persons in Thailand, National Statistical Office (NSO)		1	The 2019 Inter-censal Survey The Union Report		1		Surveys	1	Census 2019 report on ageing		1		
	7	Statistics -Health care expenditure for older persons : yes/no data		1	National Health Expenses	Ministry of Health, Labour and Welfare	0.5	Indonesia National Health Accounts	Mahendradhata et al (2017)	0.5	THAI NATIONAL HEALTH ACCOUNTS 2017-2019, ihpp	WHO Global health expenditure database	0.5	WHO Global health expenditure database		0.5	Malaysia National Health Accounts	Available for all age	0.5	health statistics yearbook		1	Current Health Expenditure (CHE) by Philippine Statistics Authority	
	8	Statistics -Number of health and long-term care workers : yes/no data		1			0.5	SISDMK, Ministry of Health	For healthcare workers only. Latest data of Feb.2 2023	0.5			n.d.		n.d.	0.5	Statistical Yearbook	Available for registered medical personnel	0.5	health statistics yearbook		0.5	Health workforce in 2019 Philippine Statistical Yearbook	Only for government health personnel. Number of long-term care workers not found
	9	Statistics - Capacity of long-term care facility: yes/no data		1			0			n.d.			1	Thematic report on the Older Population-Census Report Volume 4-L	Number of institutionalized and living in long-term care	0.5	Statistical Yearbook	As senior citizen and pauper institution	1		as elderly social welfare facility	0		
	10	Total		9			4.9			6.3			4.8			6.9			6.5			6.5		
2. Income & livelihood security	1	Absolute poverty rate	1.2.1	n.d			11.1%	SUSENAS	National poverty line defined by BPS, and	10.90%	Socio-Economic Surveys, NSO		16.3%	Survey (Healthy and Active Ageing in Myanmar 2018)	National poverty line of monthly household	10.8%	Survey (Healthy Ageing in Malaysian Population)	National poverty line of monthly household	8.86%	VNCA(2019)	living below poverty line, 2016, 60+	n.d.	Family Income and Expenditure Survey (PSA)	National poverty rate 18.1% in 2021. Not age-disaggregated
	2	Relative poverty rate	10.2.1	19.6%	Abe, A (2021) based on Comprehensive Survey of Living Conditions	Relative poverty rate (65+), average of 22.9% for women, 16.3% for men.	29.5%	IFLS (AAAI 3.5), 65+		28.0%	AgeWatch 2015 (Data from WB) (AAAI 3.5),		16.7%	Survey (Healthy and Active Ageing in Myanmar 2018)	Median income of the survey participants was	17.3%	Survey (Healthy Ageing in Malaysian Population)	Median income of the survey participants was 1200RM.				n.d.		
	3	Financial tools	8.10.2	n.d			n.d			n.d					Only adult data (18 y.o. or above) is available in	n.d.			n.d.			5%	LSAHP 2018 (Longitudinal Study of Ageing and Health in the Philippines)	Table 7.3 Has savings in the banks
	4	Food insecurity	2.1.2	5%	The National Survey on Social Security and People's Life	2017, Elderly household	n.d			n.d			22.6%	Survey (Healthy and Active Ageing in Myanmar 2018)	Question "You could not eat what you usually have...	5.2%	National Health and Mortality Survey 2018: Elderly Health Vol.1		0.9%	LSAHV	Table 3.1 Households that experienced hunger in the last 3 months	n.d.		
	5	Employment	8.5.2	22.5%	2015 Census	65+	43.8%	Census 2010, 65+	IPUMS	25.7%	ILO (AAAI 1.3), 65+	Worked for at least one hour last week to earn some	21.9%	The 2019 Inter-censal Survey The Union Report and The 2014 Myanmar		13.8%	Survey (Healthy Ageing in Malaysian Population)	Rate of people using 2019 inter-censal survey (employment rate by 5-year age) and 2015 Census	33.8%	LSAHV	60+, Table 3.3 Currently working	46.0%	LSAHP 2018	60+, Table 3.3 Currently working
	6	Coverage of income security measures such as public pension or welfare benefits	1.3.1	85.9%	Comprehensive Survey of Living Conditions	Pension coverage 60+, 2019	10.1%	SUSENAS	% covered by pension insurance	91.0%	% covered by pension or old age allowance - Survey of	Old Age Allowance program expanded in	14.2%	The 2019 Inter-censal Survey The Union Report	14.2% is covered by any kind of pension, allowance/	n.d.			23.8%	LSAHV	Receive pension, Table 7.1	n.d.		
	7	Home ownership	1.4.2	84%	2015 Census	Living in house owned by household, 65+	92.1%	Census 2010, 60+	IPUMS	92.2%	HART 2015 (AAAI 3.6), 55+	94.5% for 60+, Census 2000	n.d.			84.8%	National Health and Mortality Survey 2018: Elderly Health Vol.1	2018, 60+	84.6%	LSAHV	Table 3.1	85.0%	LSAHP (Longitudinal Study of Ageing and Health in the Philippines)	Table 7.3 60+
3.Health & quality of life	1	Life Expectancy at age 60		26.4	WHO Global Health Observatory	Both sex, Years, 2019	17.94	WHO Global Health Observatory	Both sex, Years, 2019	23.57	WHO Global Health Observatory	Both sex, Years, 2019	18.06	WHO Global Health Observatory		19.5	WHO Global Health Observatory	2019	19.6	WHO Global Health Observatory	2019	17.77	WHO Global Health Observatory	2019
	2	Healthy life expectancy at age 60		20.4	WHO Global Health Observatory	Both sex, Years, 2019	13.4	WHO Global Health Observatory	Both sex, Years, 2019	18.0	WHO Global Health Observatory	Both sex, Years, 2019	13.6	WHO Global Health Observatory		14.6	WHO Global Health Observatory	2019	14.8	WHO Global Health Observatory	2019	13.4	WHO Global Health Observatory	2019
	3	NCD mortality	3.4.1	8.3	UN SDGs database	2019	24.8	UN SDGs database, 2019		13.7	UN SDGs database, 2019		24.9	UN SDGs database	2019	18.4%	UN SDGs database	2019	21.2	UN SDGs database	2019	24.5	UN SDGs database	2019
	4	Suicide mortality rate among older people	3.4.2	17.7	Vital Statistics	60+, per 100,000 population, 2019	5.8	WHO Global Health Estimates 2019	60+, per 100,000 population, 2019	11.5	WHO Global Health Estimates 2019	60+, per 100,000 population, 2019	5.3	WHO Global Health Estimates 2019	60+, per 100,000 population, 2019	15.7	WHO Global Health Estimates 2019	60+, per 100,000 population, 2019	22.0	WHO Global Health Estimates 2019	60+, per 100,000 population, 2019	2.9	Vital statistics (PSA)	60+, 6.25 in 2020 (same source), 6.6 in WHO (2019)
	5	Disability/ADLs		14.5%	Comprehensive Survey of Living Conditions	need help and support, 65+, 2019	23%	IFLS (AAAI 3.3), 65+	Having difficulty in any of: three without help, to bathe, to get out of bed, to eat (easily fixed by oneself when it is ready), to control urination or defecation	8%	HART 2015 (AAIA 3.3)		n.d.			17.0%	National Health and Mortality Survey 2018: Elderly Health Vol.2	Barthel index <=20, 60+	15.0%	LSAHV	At least one ADL difficulty	21.7%	LSAHP 2018	At least one ADL difficulty
	6	Disability/WG (Washington Group)		n.d.	Comprehensive Survey of Living Conditions,	To be published July-Sep.2023	n.d.			n.d.			23.3%	Thematic report on the Older Population-Census Report Volume 4-L	Disability prevalence rate in population 60 and over with a disability in any domain	n.d.			64.4%	LSAHV	Washinton Group at least one difficulty amongst the six	67.7%	LSAHP 2018	Washinton Group at least one difficulty amongst the six activities
	7	Disability/GALI (Global Activity Limitation Index)		21.8%	Survey on Time Use and Leisure Activities	60+, 2021	n.d.			n.d.			n.d.			n.d.			59.6%	LSAHV	GALI severely limited+limited but not severely	59.0%	LSAHP 2018	GALI severely limited+limited but not severely
	8	Prevalence of dementia		2.1%	Comprehensive Survey of Living Conditions	65+, 2019	n.d.			n.d.			n.d.			8.5%		Probable dementia, 60+	7.6%	LSAHV	WG Remembering or concentrating+A lot of difficulty + Cannot do it at all	6.2%	LSAHP 2018	WG Remembering or concentrating+A lot of difficulty + Cannot do it at all
	9	Subjective, self-rated health		26.7%	Comprehensive Survey of Living Conditions	Good+Rather good, 65+, 2019	82.4%	IFLS (AAAI 4.4), 55+	Question text: "Please think about your life as a whole. How satisfied are you with it?"	81.4%	HART 2015 (AAAI 4.4), 55+	Question text: "In overall, how would you rate your quality of life (or how happy you feel)? 0 -> 10 (6->10)"	28.8%	Survey (Healthy and Active Ageing in Myanmar 2018)	How is your current health status?Excellent :1.6% Good:	52.6%	World Value Survey	65+, n=38, 2018	25.6%	LSAHV	Self-assessed health=Very healthy + Healthier than average	22.2%	LSAHP 2018	Table 4.1, Self-assessed health=Very healthy + Healthier than average
	10	Receiving long-term care		17.6%	Survey of Long-term Care Benefit Expenditures	2021	n.d.			n.d.			10.3%	Survey (Healthy and Active Ageing in Myanmar 2018)	Do you need any nursing care or assistance in	5.6%	Survey (Healthy Ageing in Malaysian Population)	Do you need any nursing care or assistance in your daily life from anyone?	20.4%	LSAHV	Table 6.7 currently receiving care because of continuing condition of ill health or	8.1%	LSAHP 2018	Table 6.7 currently receiving care because of continuing condition of ill health or
	11	unmet need for healthcare		1.9%	The National Survey on Social Security and People's Life	Did not received medical care when needed, 65+, 2017	n.d.			n.d.			12.9%	Survey (Healthy and Active Ageing in Myanmar 2018)	Rate of people who answered "No, I did not" to the question	26.1%	Survey (Healthy Ageing in Malaysian Population)	Rate of people who answered "No, I did not" to the question	12.7%	LSAHV	Table 6.3 Unmet need for healthcare	29.0%	LSAHP 2018	Table 6.3 Unmet need for healthcare
	12	Physical exercise, including walking		45.8%	Comprehensive Survey of Living Conditions	Appropriate exercise or physically active, 65+, 2019	34.4%	IFLS (AAAI 3.1), 55+	During a usual week, did you do any [...] for at least 10 minutes continuously? 1.	30%	HART 2015 (AAAI 3.1), 55+	How often do you exercise? 7 days a week / 5-6 days a week / 3-4 days a week / 1-2 days a week / Not at all	64.10%	Survey (Healthy and Active Ageing in Myanmar 2018)	More than 30 min walking	83.1%	Survey (Healthy Ageing in Malaysian Population)	More than 30 min walking	25.7%	LSAHV	Table 9.1 Do physical exercises daily	52.3%	LSAHP 2018	Table 9.1 Do physical exercises daily
4.Social capital	1	Loneliness / social isolation		2.7%	Basic Survey on Connection among People (2021)	Often/Always feeling lonely, 60+, 2021	n.d.			n.d.			17.4%	Telephone survey in 2022	Using UCLA 3-item loneliness scale	n.d.			1.6%	LSAHV	Table 9.4 Always+Fairly often Feels Isolated from others	5.9%	LSAHP 2018	Table 9.4 Always+Fairly often Feels Isolated from others
	2	Engagement of social activities (community, political & religious activities)		25.3%	Survey on Time Use and Leisure Activities	65+, 2016, Volunteer activities	55.4%	IFLS (AAAI 2.4), 55+	Do you actively participate in religious activities, such as prayer fellowship, etc, in	48.1%	HART 2015 (AAAI 2.4), 55+	How often do you practice the following religious activities in your daily life? / In the	13.8%	Survey (Healthy and Active Ageing in Myanmar 2018)	Participating any activities or attending groups including religious, charity, employment, or	80.5%	Survey (Healthy Ageing in Malaysian Population)	Rate of people who participate in any following group or activity: religious, volunteer, sport,	9.8%	LSAHV	Table 9.1 Attend social activities at least once a month (12.6% attends religious activities	35.1%	LSAHP 2018	Table 9.1 Attend social activities at least once a month
	3	No communication with family or friends		2.0%	The National Survey on Social Security and People's Life	No conversation within one month, 60+,	43.3%	IFLS (AAAI 4.5), 55+	Percentage of people aged 55+ not interacting with family in the last 12 months	32.3%	HART 2015 (AAAI 4.5), 55+	Percentage of people aged 55+ not interacting with family in the past year	25.0%	Survey (Healthy and Active Ageing in Myanmar 2018)	Rate of people who answered "Less than once a month" to the question "How	16.5%	Survey (Healthy Ageing in Malaysian Population)	Rate of people who answered "Less than once a month" to the question "How often do you have any relatives to see or hear from at least once a month	12.3%	LSAHV	Table 9.5/6 who do not have any relatives to see or hear from at least once a month	5.4%	LSAHP 2018	Table 9.5/6 who do not have any friends to see or hear from at least once a month
	4	Trust in the community		68.90%	JAGES (Japan Gerontological Evaluation Study) 2016	65+, not receiving LTC; Trust a lot, or rather trust the	n.d.			n.d.			73.0%	Survey (Healthy and Active Ageing in Myanmar 2018)	Rate of people who answered "Very" or "Moderately" to	59.0%	Survey (Healthy Ageing in Malaysian Population)	Rate of people who answered "Very" or "Moderately" to	n.d.			n.d.		
	5	Safety in the community	16.1.4	84.8%	5th Survey on crime victim (Ministry of Justice)	Safe/rather safe to walk alone during night, All age, 2019	89.6%	IFLS (AAAI 4.6), 55+	In most parts of the village, is it safe for you to walk alone at night?	92.7%	UN SDGs database, 2020	Proportion of population that feel safe walking alone around the area they live after dark	83.8%	UN SDGs database, 2019	Proportion of population that feel safe walking alone around the area they live after dark	90.5%	UN SDGs database, 2021	Proportion of population that feel safe walking alone around the area they live after dark	n.d.			n.d.		
	6	Care to children and/or grandchildren		24.7%	National Family Research of Japan 2008 (NFRJ08)	Assistance with nursing, housework, childcare, etc.	32.8%	IFLS (AAAI 2.2), 55+	Care to children: In the past 12 months, did	60.7%	HART 2015 (AAAI 2.2), 55+	Care to children: In the past 12 months, did	n.d.			n.d.			19.1%	LSAHV	Table 3.7 care of the grandchildren	24.4%	LSAHP 2018	Table 3.8 care of the grandchildren
5.Capacity and enabling environment	1	Having a mobile phone		86.7%	Survey on Time Use and Leisure Activities	Use mobile/smartphone, 60+, 2020	n.d.			n.d.			35.7%	Thematic report on the older population	Calculated based on the data in Table 14 (P134) from	93.9%	Survey (Healthy Ageing in Malaysian Population)	Rate of people who answered "Yes" to the question "Do you or any member of your household	58.4%	LSAHV	Table 9.8 owns a cellphone (34.7% with social	30.5%	LSAHP 2018	Table 9.8 owns a cellphone
	2	Access to the internet	17.8.1	60.2%	Survey on Time Use and Leisure Activities	Used internet in the past year, 60+, 2020	5.2%	IFLS (AAAI 4.7), 55+		8.4%	ONS 2014 (AAAI 4.7), 55-74		17.1%	Survey (Healthy and Active Ageing in Myanmar 2018)	Do you have internet? 17.1% do. -56% have	60.7%	Survey (Healthy Ageing in Malaysian Population)	Rate of people who answered "Yes" to the question "Do you or any member of your household	12.7%	LSAHV	Table 9.8 have access to internet (27.0% household with	6.1%	LSAHP 2018	Table 9.8 have access to internet
	3	Living in a house with safe drinking water	6.1.1	99%	UN SDGs database, 2020	There is no question in normal surveys. i.e. all household is supposed to be with safe drinking water	83.1%	Census 2010 (IPUMS), 60+	What is the main source of drinking water? YES = 1 Tap	77.3%	Census 2000 (IPUMS), 60+	The major water supply to the household YES = 1 Tap	63.8%	Thematic report on the older population	Calculated based on the data in Table 14 (P133) from the older population for	96.0%	ASEAN Statistical Yearbook, 2017	All age, access to improved drinking water and sanitation, (household survey)	76.6%	LSAHV	Table 3.3, drinking water from Indoor tap water, Public tap water, Drilled well,	94.8%	DHS2017	Household with at least one 60+, improved drinking water
	4	Living in a house with toilet	6.2.1	94.3%	The National Survey on Social Security and People's Life	With flush toilet (2017), Ref.89.6% household with 65+ with Western style toilet (Housing and Land Survey 2008)	79.5%	Census 2010 (IPUMS), 60+	What type of toilet facility? YES : 1 Private toilet	98.4%	Census 2000 (IPUMS), 60+	Type of toilet facility normally used in the household: YES : 1 Flush / 2 Molded bucket	79.8%	Thematic report on the older population	Table 8.9 (P87) from Thematic report on the older population	96.0%	ASEAN Statistical Yearbook	All age, access to improved drinking water and sanitation, (household survey)	91.8%	LSAHV	60+, Flush toilet(50.2%) and pit latrine(41.6%)	88.0%	LSAHP 2018	60+, Flush toilet
	5	Education (completed at least primary level)		99.9%	Population Census	60+, 2020	49.9%	Census 2010 (IPUMS), 60+	Primary (6 yrs) completed +	66.8%	Census 2000 (IPUMS), 60+, Primary completed +	Census 2000 (IPUMS), 60+, Primary completed + 74.6%	66.5%	Thematic report on the older population	Calculated based on the data in Table 14 (P123) from Thematic report on the older population	50.0%	Census on IPUMS	Table 3.3 Except "No schooling/Pre-school"	79.2%	LSAHV	Table 3.3 Except "No schooling/Pre-school"	93.2%	LSAHP 2018	Table 3.3 Except "No schooling/Pre-school"
	6	Free from physical, psychological, financial or sexual violence	16.1.3	0.3%	5th Survey on crime victim, Ministry of Justice	60+, 2019, Received physical/mental/sexual violence in the past 5 years	n.d.			n.d.			3.4%	Survey (Healthy and Active Ageing in Myanmar 2018)	The following questions are about your treatment by	9.0%	National Health and Mortality Survey 2018: Elderly Health Vol.2		n.d.			n.d.		
6. COVID-19	1	COVID-19 case fatality ratio		6.4%	MHLW COVID-19 dashboard	60+, 2020 and 2021	0.3%	WHO COVID-19 Dashboard	60+ (up to 2022/2/28)	n.d.			11.1%	WHO COVID-19 Dashboard	60+ (up to 2022/2/28)	6.3%	WHO COVID-19 Dashboard	60+ (up to 2022/2/28)	0.0%	WHO COVID-19 Dashboard	0 deaths / 27 cases (60+; up to 2022/2/28)	7.9%	WHO COVID-19 Dashboard	60+ (up to 2022/2/28)
	2	COVID-19 vaccine coverage		94%	MHLW COVID-19 advisory board material	Except not vaccinated, 60+, up to 2022/2/6	n.d.			n.d.			n.d.			n.d.			n.d.			n.d.		

The summary of revised HAAI by domain is shown in **Table 3** and **Figure 1**.

Table 3 Revised ASEAN-Japan HAAI by domain

	Japan	Indonesia	Thailand	Myanmar	Malaysia	Vietnam	Philippines
1.Policy & statistics	69.9	38.4	49.1	37.6	53.7	50.7	50.7
2.Income & livelihood security	51.1	51.1	53.1	41.7	49.1	52.1	54.3
3.Health & quality of life	57.1	43.9	52.1	51.4	49.4	46.7	48.4
4.Social capital	49.0	48.6	56.8	45.7	53.3	44.7	51.2
5.Capacity and enabling environment	61.7	41.0	49.1	42.5	53.6	48.9	49.6
6. COVID-19	47.4	62.6	-	35.5	47.6	63.4	43.6
Total	56.0	47.6	52.1	42.4	51.1	51.1	49.6
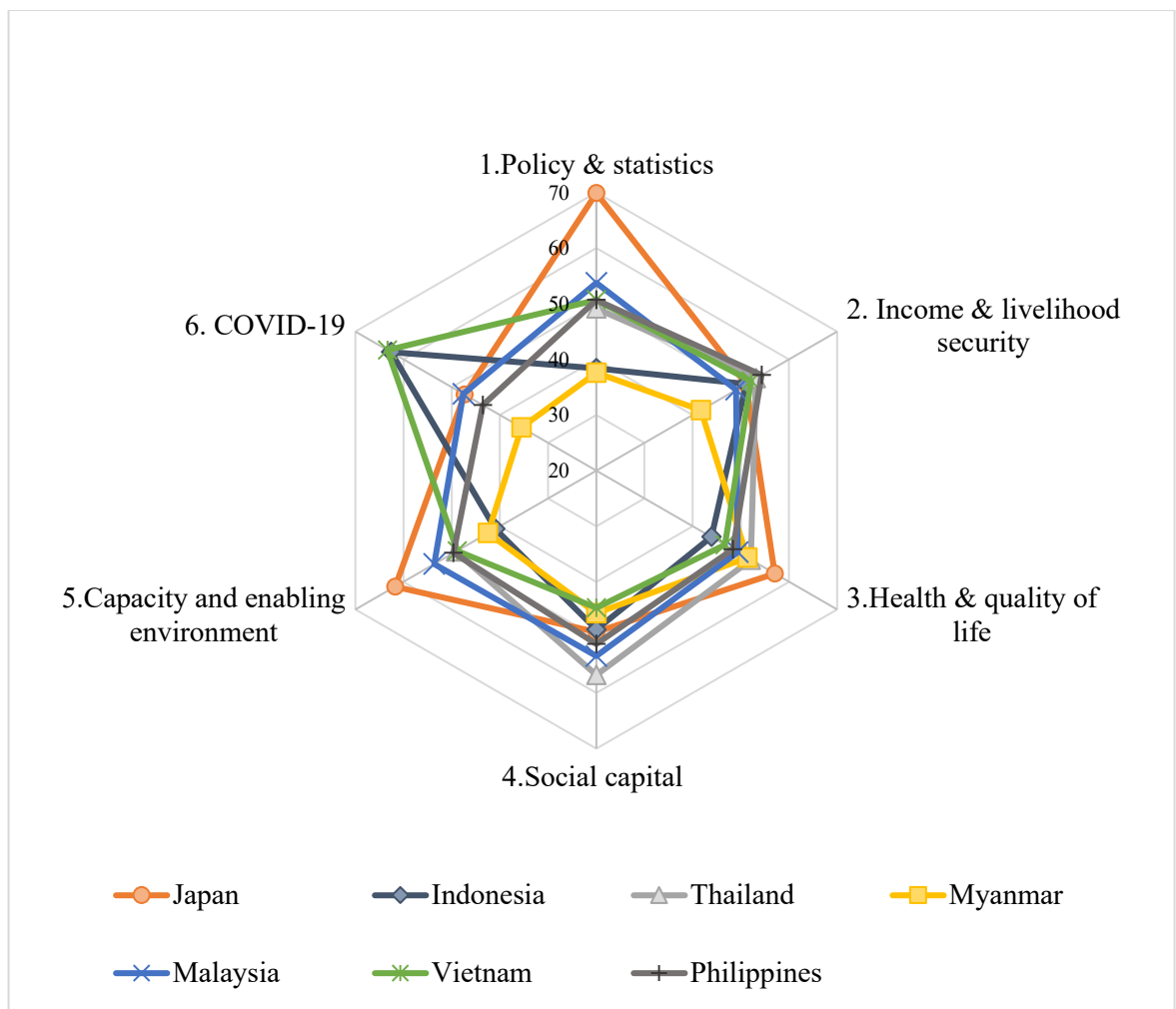
Figure 1   Chart of revised ASEAN-Japan HAAI by domain

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Part 3: Significance of Field Surveys – Lessons from a Home Visiting Survey for Community-dwelling Older People in Myanmar -

A. Introduction - Significance of Field Survey in HAAI

Several indicators of the HAAI are essential for understanding the situation of older adults and may not be accessible through government statistics or other publicly available data sources. Table 1 lists the HAAI indicators for which no published data exist. The indicators available in publicly accessible government statistics may not be consistent regarding age categories, definitions, and survey methods. Although some indicators are available as public data, figures specific to older adults have not yet been published. Field surveys can also be conducted to obtain information that cannot be obtained from publicly available statistics.

Furthermore, in field surveys that repeatedly investigate individuals in a particular area over a long period, not only cross-sectional analysis at a given point in time, but also longitudinal analysis (follow-up survey) is possible. Longitudinal analysis enables the identification of causal relationships. This allowed for a more precise analysis of the factors that influence changes in the health status and daily functioning of older adults over time.

In addition, the survey area does not necessarily have to be large and extensive enough to cover the entire country but can be a small area for in-depth analysis. For example, conducting surveys in both urban and rural areas can yield insights that are applicable to the entire country. Additionally, the data can be weighted by the population and treated as representative of the country. It is also possible to vary the level of aggregation if individual data are available (e.g., township or city block levels).

Even in specific regions, HAAI indicators can be evaluated longitudinally by conducting field surveys that track individuals and identifying factors contributing to active ageing in each region or country. ageingHowever, there are several challenges to conducting longitudinal surveys. Conducting home-visit surveys can be costly, and tracking individuals who have moved out or have uncertain addresses can be difficult, depending on regional and national contexts.

This section presents the following: 1. indicators of the HAAI obtained through field surveys, 2. examples of analysis and utilization made possible using individual data obtained through field surveys, and 3. challenges related to field surveys.

1. Indicators of HAAI obtained through field surveys

No public data were available from government statistics or other sources, and were

therefore obtained through field surveys. Table 1 shows the indicators obtained through the surveys.

Table 1. HAAI indicators for which no published data exists

Domain	Indicator
Income & livelihood security	Absolute poverty
	Relative poverty
	Food insecurity
	Employment
Health & quality of life	Subjective, self-rated health
	Receiving long-term care
	Unmet need for healthcare
	Physical exercise, including walking
Social capital	Loneliness / social isolation
	Engagement in social activities (community, political & religious activities)
	Communication with family or friends
	Trust in the community
Capacity and enabling environment	Having a mobile phone
	Access to the Internet
	Free from physical, psychological, financial, or sexual violence

*In some countries, figures are published in government statistics.

* Figures are available in government statistics, but include data that are not specifically for older people.

2. Examples of analysis and utilization were made possible by using individual data obtained through field surveys.

Individual-level longitudinal analysis with cohort study

A cohort study targeting community-dwelling older people in the Yangon and Bago regions of Myanmar was launched in 2018, with follow-up telephone surveys to track subsequent health status and death. This made it possible to analyze the determinants of health and factors affecting life expectancy among older people in Myanmar. Here, we describe our experience in conducting surveys in Myanmar.

(1) Sampling Method

A multistage random sampling method was used to select samples from Myanmar. Two of the 14 regions/states in Myanmar (Yangon and Bago) were surveyed in this study. Yangon is an urban area, whereas Bago is a rural area. First, six townships were randomly selected from each region using population proportionate sampling, based on the population of each township. Subsequently, ten wards were randomly selected from the urban area (Yangon), whereas ten village tracts were selected from the rural area (Bago) based on the population of each ward/township. Finally, ten people were randomly selected from each extracted ward/village tract. As there is a residents' ledger list in Myanmar, we used it to extract the residents. However, resident ledger lists may not exist in some countries, and cannot be used for research purposes. An alternative method when a resident register is not available is area sampling. However, we have not described this in detail. The sampling method is important because it determines the representativeness of the data.

(2) Questionnaire

We developed a questionnaire based on the Japan Gerontological Evaluation Study (JAGES), a nationwide cohort study of community-dwelling older adults in Japan. We also collaborated with public health and gerontology researchers in Myanmar to develop a questionnaire targeting community-dwelling older adults. Owing to differences in social and cultural backgrounds, several questions used in Japan did not make sense in Myanmar; therefore, we modified the questionnaire to fit Myanmar's social and cultural context. For example, in Japan, people actively join hobbies, sports groups/clubs, and volunteer groups as part of social participation, whereas in Myanmar, few people participate in hobbies and sports groups/clubs, and most attend religious gatherings or participate in charity activities held at religious institutions (Buddhist temples, etc.). The questionnaire was modified to accommodate the different situations.

The questionnaire was first translated from Japanese to English and then into the local language. As the questionnaire was created in English, which differs from the local language, we took great care to ensure an accurate translation. The linguistic translation was carried out according to the following steps from (1) to (3):

➢ The English version of the questionnaire, modified according to the Burmese context, was translated into the local language (Burmese) by researchers in Myanmar.

➢ The local language version of the questionnaire was translated into English by another researcher who checked it (back translation) to ensure that it correctly

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reflected the meaning of the original questionnaire.

➢ The final version of the questionnaire was developed to correct for discrepancies in the original questionnaire.

(3) Home Visit and Interview

Surveyors were paired with community health nurses and other staff (involved in community health) to visit the homes of the older adults selected using the sampling method described above. A survey was conducted through face-to-face interviews using paper-based questionnaires. Simultaneously, objective measurements such as height, weight, grip strength, and blood pressure were obtained, which could be easily measured on site. The baseline survey was conducted by a home-visiting survey, while follow-up surveys after the first round were conducted by telephone surveys in which participants or their family/friends were asked questions.

If it was not possible to reach the participants or their family/friends, we contacted a person familiar with the local residents to briefly inquire about the participants' whereabouts and situation. All collected information was recorded by surveyors.

(4) Examples of Analytical Results from the Surveys

After an approximately three-year follow-up period with a baseline of September-November 2018, 93 deaths were identified as of 2021. Kaplan--Meier survival curves showed that the highest mortality rate was observed among males living in rural areas (Bago), whereas the lowest mortality rate was observed among females living in urban areas (Yangon) (Figure 1). Cox proportional hazards models were used for analysis in this study. In the covariate (sex, age, and socioeconomic status) adjusted analysis, both emotional support receipt and instrumental support provision were significantly associated with lower mortality, while participation in political gatherings was significantly associated with higher mortality. Additionally, meeting friends at least once a week and attending religious gatherings were associated with lower mortality, although the differences were not significant (Figure 2). As shown in these examples of analytical results, individual longitudinal data can enable the identification of factors associated with outcomes, such as death and physical decline. While there are multiple academic publications on such associated factors, most are from Western and developed countries. It is not surprising that unknown factors exist that do not apply to low- and middle-income countries with different socioeconomic and cultural backgrounds. Therefore, it would be worthwhile collecting individual data from each country and region.
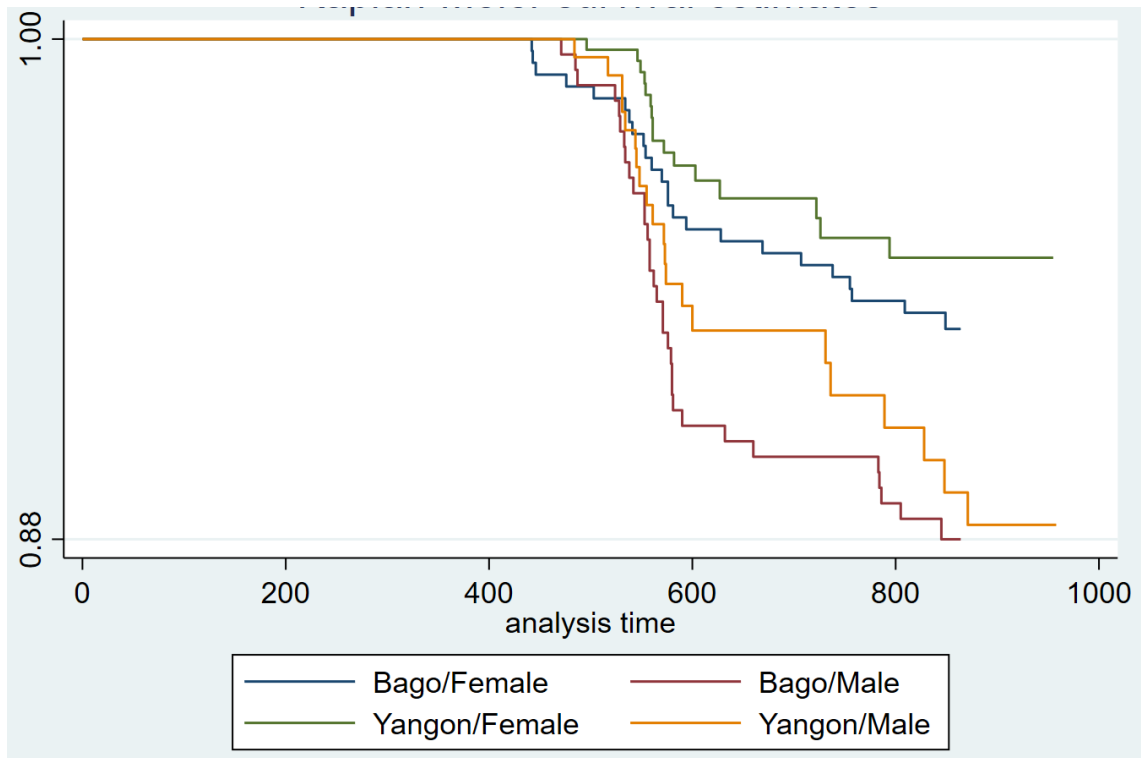
Figure 1. Kaplan--Meier survival estimates
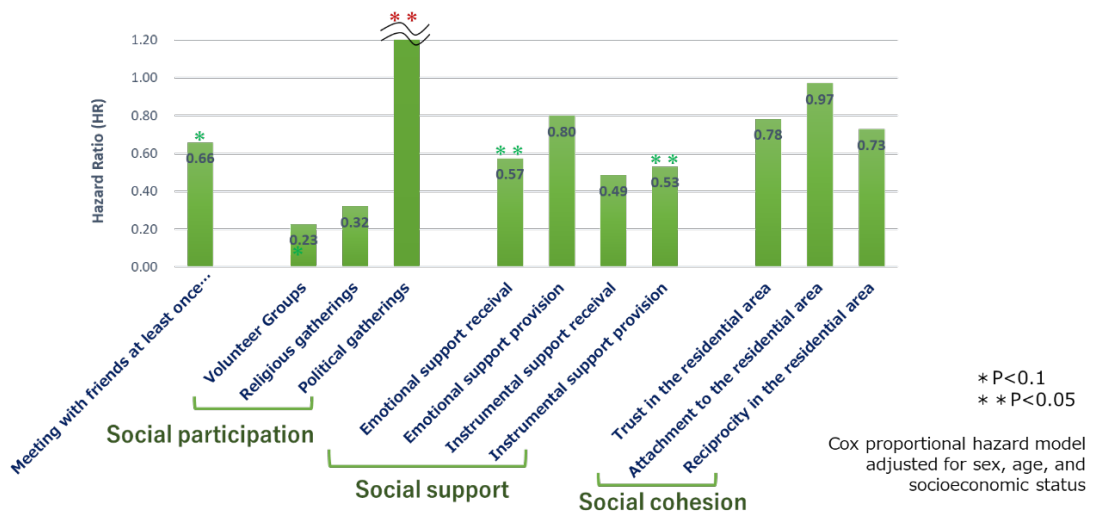
Figure 2. Impact of social factors on mortality

3. Challenges in obtaining individual data from field surveys

(1) Issue of cost on conducting surveys

Home-visiting surveys are necessary to obtain reliable data in low- and middle-

income countries, as the postal system does not work well, and even when a survey can be mailed, response rates are unsatisfactory owing to poor understanding. It is also necessary to conduct training for surveyors to ensure the quality of survey data. Thus, conducting field surveys and obtaining survey data incurs certain costs.

(2) Study design and development of the questionnaire

Careful attention should be paid to the selection of the survey field and sampling method to ensure the representativeness of the survey data. The number of survey sites may be limited by the cost of the survey, and the diversity of attributes and environments, such as urban and rural areas, should be considered. When preparing questionnaires, it is ideal to use the same items and questions as much as possible, to enable comparisons across countries and regions.

However, it may not always be possible to unify the questions asked because different countries have different cultures, customs, and social backgrounds.

Therefore, it is necessary to develop a questionnaire that reflects the characteristics of each country and region.

When the HAAI is used as an indicator of active ageing, it can be used for subsequent comparisons across countries and regions by unifying the recommended items for field surveys.

Part 4: Local good practices in Asian countries to improve the revised HAAI

A. Introduction & Methods

We investigated the state of ageing in Asia, especially ASEAN, in accordance with the ASEAN-JAPAN Healthy & Active Ageing Index 2017 (ASEAN-JAPAN HAAI 2017), which consists of 25 indicators in six domains through websites, reports, and papers of international organizations and national governments. Subsequently, we studied the proposed revision of the index by comparing it with the existing ageing indices.

Of the 38 precedents that were considered to contribute to the improvement of each indicator of the revised HAAI, which consists of 43 indicators in six domains, we present examples that are particularly innovative in each domain and are considered useful for improving the indicators.

In Domain 1, Policy & Statistics, three cases related to multisectoral collaboration and health care; in Domain 2, Income & Livelihood Security, there were two cases of a bank account system and a mobile service application that can be used by older people; in Domain 3, Health & Quality of Life (QOL), six cases related to disabilities, (instrumental) activities of daily living, dementia, and self-rated health; In Domain 4, Social Capital, five cases related to participation in social activities and community trust; In Domain 5, Capacity & Enabling Environment, one case related to lifelong learning; In Domain 6, COVID-19, two cases related to older people's care and needs during the pandemic.

The case studies were mainly conducted through the Healthy Ageing Prize for Asian Innovation (HAPI), which recognizes and awards initiatives that contribute to achieving healthy longevity and improving care for older people in Asian countries. The HAPI is supported by the Japan Center for International Exchange (JCIE) and the Economic Research Institute for ASEAN and East Asia (ERIA) as part of the Asia Health and Wellbeing Initiative (AHWIN) by the Japanese government.

Based on the keywords discussed among the researchers, we searched for applicable cases of activities, mainly in Asian countries, and added them if they were considered to contribute to improving the indicators of the revised HAAI, even if the examples were not specific to older people. Furthermore, an additional case study was added based on a home-visit survey of older people living in a community in Myanmar, conducted by Prof. Shobugawa and his colleagues.

Ethical considerations

This study was conducted with the use of publicly available reports and did not require ethical considerations. Permission from JCIE was obtained for the use of the good practice cases. For each example, the URL of the reference page is appended.

B. Results

Domain 1: Policy & Statistics

Indicator: Multisectoral healthy and active ageing
-An Example of Good Practice-.
TITLE: Long-Term Care through ministries' collaboration
ORGANIZATION: Ministries and other government entities in Thailand
LOCATION: Thailand
CATEGORY: Supporting Self-Reliance
Content Summary

  Thailand has a rapidly ageing population due to declining birth rates and increasing life expectancy. Thailand has a clear vision of long-term care (LTC) and is a frontrunner among ASEAN countries, with several innovative technologies to share with other countries. Thailand has made great strides in the development of its LTC system and is working to strengthen, expand, and improve it.

Thailand does not have an LTC governing body, but there is a clear division of roles among the ministries. Thailand developed a definition of LTC in 2009. This definition encompasses all aspects of care, including social, health, economic, and environmental. This definition states that LTC is needed by older people who are challenged by chronic illnesses or disabilities and are partially or fully dependent on their surroundings for activities of daily living (ADL).

With a clear division of roles among the ministries, Thailand now has a structure in place for LTC. This facilitated coordination among the various ministries involved in providing LTC services.

- Ministry of Public Health: Supervision of medical care and healthcare providers.
- Ministry of Social Development and Human Security: Regulation of social care, including the initiation of a volunteer home care system for older adults.
- Ministry of the Interior: Local Administration
- Ministry of Finance: Management of fiscal policy (including financing policies to address Thailand's ageing population)
- Office of the Insurance Commissioner: Insurance regulations, including long-term care insurance
- National Health Insurance Office: provides universal health coverage including community-based long-term care
- National Commission on Ageing: Preparation of a national plan for older adults.

The Road to Better Long-Term Care in Asia and the Pacific-Building Systems of Care and Support for Older Persons
Asian Development Bank 2022
https://www.adb.org/sites/default/files/publication/797321/better-long-term-care-asia-pacific.pdf

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Expected association with indicators
The clear division of roles among ministries regarding LTC and the ease of interagency coordination are expected to contribute to healthy and active ageing.

Indicator: Multisectoral healthy and active ageing
-An Example of the Good Practice-
TITLE: Visualization Tool and Workshop using Collected Survey Data
ORGANIZATION: Universities and Local Municipality in Myanmar (collaborated with Japanese researchers)
LOCATION: Myanmar
CATEGORY: Empower municipalities
Content Summary:

   To investigate the health status, daily living, and social situation of Myanmar's community-dwelling older adults, a home-visit survey was conducted on 100 older adults from each of 12 townships in urban (Yangon Region) and rural (Bago Region) areas (1,200 people in total). While the survey clarified the actual situation of older adults in Myanmar and was published academically, we sought ways to share the survey results with local public health staff.

   Visualization tools called the YANGON HEART and BAGO HEART were developed. These tools enable interactive visualization of the health status and daily living of older adults in township units. A Myanmar language version was developed and distributed in a form that could be used locally. Additionally, a workshop was held to identify issues by region (township unit) and explore solutions while operating the tool on a PC (Reinthaya Township in the Yangon Region). The workshop was attended by 48 participants, including the Township Medical Officer (TMO), Township Health Officer (THO), Public Health Supervisor (PHS), Health Assistant (HA), Lady Health Visitor (LHV), Midwife (MW), and 20 observers such as researchers. The participants were divided into seven groups for group work. Each group was given a laptop computer with a visualization tool and group work was conducted while operating the tool.
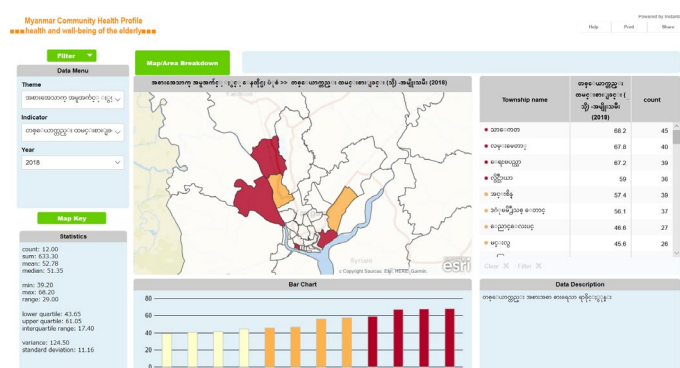
Cohort profile
https://bmjopen.bmj.com/content/10/10/e042877.abstract
WHO NEWS
https://extranet.who.int/kobe_centre/en/news/YangonWS

Expected association with indicators
   By visualizing the health indicators of older people and making them available to local health personnel, the survey data can be used at the field level. It is expected that this will enable the development and implementation of activities from the field that will lead to improvement of the indicators.

Indicator: Health care including NCD

-An Example of Good Practice-.

TITLE: Department of Health (DOH) support for health care for older people by Department of Health, Ministry of Public Health

ORGANIZATION: Department of Health, Ministry of Public Health

LOCATION: Thailand

CATEGORY: Supporting Self-Reliance

Content Summary:

A DOH survey of the health status of older people in Thailand revealed that approximately 7.45 million people continue to be active outside the home and are able to meet neighbors, market people, and close acquaintances. It also revealed that approximately 200,000 older adults are able to perform some or all of their ADLs, although basically limited to their own homes, and about 47,000 older adults are either bedridden or in need of full-time assistance with ADLs. In response, some of the projects and interventions that DOH is implementing to improve or maintain the health status of older adults are as follows:

1) Developed a wellness plan for older people who are socially connected through senior citizen clubs and organized activities for 48,428 (as of August 31, 2021) of the 15,000 targets.

2) Assisted in the development of age-friendly model cities/communities in 45 locations distributed across 13 local health zones with local administrative organizations (LAOs) and network partners.

3) Developed a Care for the Bedridden Older People Program Information System with 15,114 registered care managers, 94,968 caregivers, and 2,205 care volunteers (as of December 31, 2021).

4) Assisted tambons (sub-districts) with an LTC system for the elderly: The DOH survey showed that 96.4% of tambons met the Thai Ministry of Health (MOH) criteria for appropriate LTC (6,997 tambons out of 7,255 total).

5) Assisted in the development of care plans for older adults in need of care. This covered 326,437 (92.1%) of the 364,410 older adults requiring care (as of December 30, 2021).

6) Developed an application for older people which records health for each individual.

Situation of the Thai Older Persons 2021

https://www.dop.go.th/download/knowledge/th1663828576-1747_1.pdf

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Expected association with indicators

The above projects and interventions implemented by the DOH are part of health care, which is defined by the Japanese Society for Health Care Research as the creation of new value through cross-industry support for the realization of "freedom" from illness and physical and mental illness by raising one's "zest for living".

Domain 2: Income and Livelihood Security

Indicator: Financial tools

-An Example of Good Practice- (not limited to older people)

TITLE: M-Pesa

ORGANIZATION: Safaricom (Kenya) & Vodacom (South Africa)

LOCATION: South Africa, Kenya, Tanzania, Afghanistan, India, Europe, Egypt, Mozambique, and the Kingdom of Lesotho.

CATEGORY: Technology & Innovation

Content Summary:

Some services allow inexpensive contactless payments and money transfers using cell phones. For example, M-Pesa, which is not limited to older people but offers services mainly in low-income countries, allows people to open accounts, deposit money, and send money using SMS on their cell phones.

https://www.vodafone.com/about-vodafone/what-we-do/consumer-products-and-services/m-pesa

M-Pesa in Kenya (Photo by Dr. Reiko Hayashi)

Expected association with indicators

The widespread use of M-Pesa among older people will mean an increase in the number of older people with bank accounts.

Indicator: Financial tools

-An Example of Good Practice- (not limited to the older people)

Title: The state-run Social Security System's (SSS) mobile application

ORGANIZATION: SSS Mobile

LOCATION: Philippines

CATEGORY: Technology & Innovation

Content Summary:

   Some services allow senior citizens to register their information when opening an account at a bank. For example, the SSS mobile application is the state-run Social Security System's mobile application. Through the SSS-ExT (SSS Self-Service Express Terminal), pensioners can check their monthly contributions, loan status, ID card information, status of illness and other benefit claims, employment history, Flexi-fund status, and other records. Other features include logging into My.SSS on the SSS website, where people can submit retirement benefit claim applications, schedule and locate appointments at SSS branches, query SSS information, register for funds, and request records.

https://play.google.com/store/apps/details? id=com.sssgov.sssmobileapp&hl=en&gl=US&pli=1

Expected association with indicators

Opening a bank account allows older people to sign up for convenient applications, which may increase the percentage of older people seeking to open a bank account.

Domain 3: Health and Quality of Life

Indicator: Disability/ADLs
-An Example of Good Practice-.
TITLE: Preventing Stroke Recurrence through a Hospital-Local
Government Partnership to Support Patient Self-Management
ORGANIZATION: Komagane City
LOCATION: Japan
CATEGORY: Supporting Self-Reliance
Content Summary:

In collaboration with Showa Inan General Hospital, Komagane City, Nagano Prefecture, implemented a patient-centered program focused on preventing recurrent stroke in older patients after discharge from the hospital. In collaboration with the hospital, Komagane City paved the way for stroke patient support during the first year after discharge by providing education to patients and their families from the time of hospitalization.

Patient-centered approaches and the use of the city's "My Page" website have enabled patients to manage their health. Using data to identify the appropriate target population, they have identified the interventions that had the most significant impact.

Komagane Stroke Recurrence Rate within 1st Year
Source: Showa Inan General Hospital
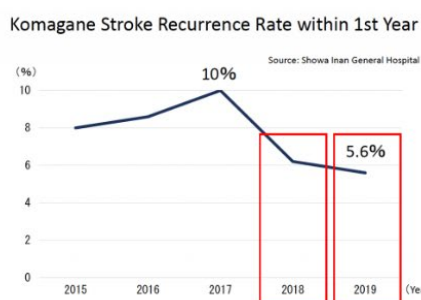
Expected association with indicators
Support for stroke patients during the first year after discharge from the hospital and a website that allows patients to manage their own health may increase the number of patients who are able to lead independent lives after experiencing a stroke.

Healthy Ageing Prize for Asian Innovation 2020

https://www.ahwin.org/preventing-stroke-recurrence-through-a-hospital-local-government-partnership/

Indicator: Disability/ADLs

-An Example of Good Practice-.

TITLE: Bright Eyes for Older People Program

ORGANIZATION: Vietnam Association of Older People

LOCATION: Vietnam

CATEGORY: Supporting Self-Reliance

Content Summary:

  The Vietnam Association of Older People provided eye examinations, screening, and treatment for 3.67 million older people in Vietnam (about one-third of the older population), more than 200,000 eyeglasses at low or no cost, and more than 500,000 people received free cataract surgery.

  The Association actively engaged in regular lobbying efforts targeting policymakers, donors, the media, and the private sector to raise awareness about the importance of eye health in older people. In addition, the association has worked with intergenerational self-help clubs throughout Vietnam to create national funds for securing human and financial resources.

Expected association with indicators

Free or low-cost eyeglasses and free cataract surgeries could increase the number of older people who are able to maintain their eye health and lead independent lives.

Healthy Ageing Prize for Asian Innovation 2020

https://www.ahwin.org/bright-eyes-for-older-people/

Indicator: Prevalence of dementia
-An Example of Good Practice-.
TITLE: KB Good Memory School-A Senior-Center Based Program for
Dementia Prevention
ORGANIZATION: Korea Association of Senior Welfare Centers (KASWC)
LOCATION: South Korea
CATEGORY: Supporting Self-Reliance
Content Summary:

   KB Good Memory School is a senior-centered dementia program designed to be implemented in a community-based, non-medical setting. To validate and standardize the program, an interdisciplinary advisory committee consisting of experts in social work, public health, psychiatry, and preventive medicine was established. An evidence-based program was developed. The program coincided with the introduction of a national policy on dementia by the Korean government. As such, it is expected to generate synergistic effects.

Expected association with indicators
Increasing the number of seniors participating in dementia programs may decrease the dementia rate.

Healthy Ageing Prize for Asian Innovation 2020
https://www.ahwin.org/kb-good-memory-school/

Indicator: Subjective, self-rated health
-An Example of Good Practice-.
TITLE: WheeLog!-An Accessibility Map Application Created by Everyone
ORGANIZATION: WheeLog
LOCATION: Japan
CATEGORY: Technology & Innovation

Content Summary:

   Getting to places that are unfamiliar to wheelchair users and people with
limited mobility requires considerable information, careful planning, and
courage. WheeLog!, an application for cell phones and computers, has created a map that allows wheelchair users and those
with limited mobility to access public spaces and share barrier-free information worldwide.

Expected association with indicators
The development of a mobility map for wheelchair users could lead to an increase in the number of wheelchair-bound
older people with access to public services, which could improve their well-being.

Healthy Ageing Prize for Asian Innovation 2021

https://www.ahwin.org/wheelog-an-accessibility-map-application-created-by-everyone/

Indicator: Subjective, self-rated health
-An Example of Good Practice-.
TITLE: Community Car Sharing/Green Slow Mobility/Welfare Mover
LOCATION: Japan
CATEGORY: Community-Based Initiative

Content Summary:

In the mountainous areas of Japan and other regions where the population is ageing and depopulating, car sharing is being introduced to ensure that residents support each other and have a means of transportation for shopping and hospital visits. For example, the Kuzugawa School District, located in a mountainous area in the northern part of Otsu City, has a "community car-sharing program in which cars are shared by the local community. Users pay a reserve fund into the circle for expenses such as car leases, fuel, and rewards for drivers depending on the distance and destination. At regular intervals, the circle settles any excesses or deficiencies between expenses and the reserve fund and refunds or collects additional funds.

https://www.sankei.com/article/20191221-YDENTDMRVZLVHK64M2KBGBIPPE/

In addition, some communities have introduced green slow mobility, which refers to small mobility services and their vehicles that utilize electric vehicles capable of traveling on public roads at speeds of less than 20 km/h. To support the lifestyles of local residents, these vehicles are used for various community activities such as local shopping, group activities, and events. For example, in the Kawarazuka and Koganehara areas of Matsudo City, Chiba Prefecture, where Green Slow Mobility was introduced, they are used for community activities, such as evening crime prevention patrols and Christmas events.

https://www.city.matsudo.chiba.jp/matsudodeikiiki/PR_tokushu/gurisuro2021.html

Furthermore, more than 23,000 facilities nationwide support those requiring light-to-moderate nursing care, and this business model is currently being developed for day services. Day service refers to a service in which older people in need of nursing care can visit a facility and receive services such as recreation, bathing, and meals. Some 2.2 million people use these services annually. Since very few older adults in need of nursing care can commute to these services by themselves, they are generally transported to and from facilities by the facility's staff. This has attracted attention as a business service. For example, users can download a dedicated application on their smartphones and register at up to five destinations. When the user wants to use the service, he/she opens the application and selects a pre-registered destination. The AI instantly selects a pick-up vehicle that is nearby and heading in the same direction and matches the vehicle with the person. The location and arrival time of the car are displayed on the app map. After that, when you select 'Decision,' all you have to do is wait for the pick-up person to arrive.

https://socialaction.net/
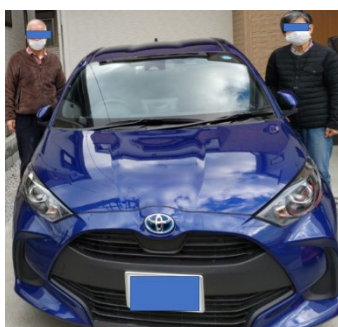
An image photo

Expected association with indicators
The use of car-sharing and other services will increase the number of older people with access to basic services and improve well-being.

Indicator: Subjective, self-rated health
-An Example of Good Practice-.
TITLE: Houston Apollo Model -Sustainable Intelligent Community Health
Service for Older People in Remote Areas
ORGANIZATION: National Taiwan University Hospital, Yunlin Branch
(NTUHYL)
LOCATION: Taiwan
CATEGORY: Community-Based Initiatives

Content Summary:

NTUHYL developed an innovative "Houston Apollo Model" to provide healthcare services that leverage existing community activities. In partnership with local physicians and supported by government funding, it provides free telemedicine consultations and health monitoring to older people at community meal service sites. Using an existing community meal service program, the "Houston Apollo Model" was able to serve a large number of older adults without much investment in outreach. In addition, this activity facilitates access to healthcare services for older adults.

Sub-project: Egg Supplement to the Community
The source of nutrition (eggs) came from local farm
Older people received eggs as nutritional supplements

Affirmation by Taiwan's President and Vice President

Community Screen and Educational Conferences
Community Screen
Conference with Yun-Tech University

Expected association with indicators
Free telemedicine consultations, health monitoring, and community meal services for older people could improve well-being by giving many older people access to basic services.

Healthy Ageing Prize for Asian Innovation 2021
https://www.ahwin.org/houston_apollo_model/

Indicator: Rate of receiving long-term care
-An Example of Good Practice-.
TITLE: SmartPeep AI Older People Monitoring System
ORGANIZATION: SmartPeep
LOCATION: Singapore and Malaysia
CATEGORY: Technology & Innovation
Content Summary:

　By combining existing monitoring technology with AI, a "care-centered optical sensor" that issues alerts has been developed. This reduces the burden on caregivers in nursing homes. Furthermore, the system was able to monitor changes in resident behavior that caregivers may have had difficulty noticing.
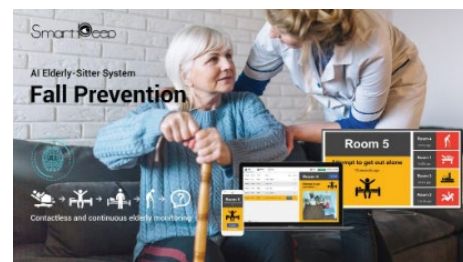
Expected association with indicators
Optical sensors combined with monitoring technology and AI will increase the number of older people who can receive the care they need.

Healthy Ageing Prize for Asian Innovation 2020
https://www.ahwin.org/smartpeep-ai-elderly-sitter-system/

Domain 4: Social Capital

Indicator: Engagement in social activities (community, political & religious activities)

-An Example of Good Practice-.

TITLE: Indonesia Senior-Friendly Community Program-Community-Based Education for Older people and their Caregivers

ORGANIZATION: Indonesia Ramah Lansia (IRL) Foundation

LOCATION: Indonesia

CATEGORY: Community-Based Initiatives

Content Summary:

The Indonesia Ramah Lansia (IRL) Foundation has been developing a variety of community-based educational programs for both older people and caregivers, with an emphasis on building senior-friendly communities. These programs have provided older adults with the tools they need to live healthy and independent lives and have been adopted in many locations throughout Indonesia. Emphasizing the empowerment of community members and communication among community leaders has enabled the entire community to participate in these programs. Furthermore, existing community-based models of primary care and maternal and child health have been used to serve both older adults and caregivers. The school for older people also encouraged participants not only to be students of activities, but also to become teachers of others once they had been educated. These training materials and modules, as well as the lessons learned from implementing the program, were made available for sharing throughout the country so that the program could be easily rolled out across the country.

Expected association with indicators

The participation of older people in community-based educational programs can be expected to increase the number of older people participating in social activities.

Healthy Ageing Prize for Asian Innovation 2020

https://www.ahwin.org/indonesia-elderly-friendly-community-program/

Indicator: Engagement in social activities (community, political & religious activities)
-An Example of Good Practice-.
TITLE: Bangkok Metropolitan Administration Model of Preventive
Long-Term Care
ORGANIZATION: Health Department, Bangkok Metropolitan
Administration
LOCATION: Bangkok, Thailand
CATEGORY: Community-Based Initiatives

Content Summary:

Using the preventive long-term care (PLC) model, a community-based program was initiated to promote the physical and mental health of older adults. In addition to training instructors, the community-based component of the project includes an initiative that allows trained instructors to become community trainers by training community volunteers. By working as "community trainers," older people gained a sense of participation in community activities and had the opportunity to engage with the community. In addition, the combination of commitment from the local government, the involvement of the public sector and community, and the ability of the community to request funding to implement PLC activities made the project sustainable.

Expected association with indicators
The ability of older people to become community instructors is an incentive to participate in social activities. Furthermore, the ability to request funding is likely to lead to sustainable opportunities for social participation.

Healthy Ageing Prize for Asian Innovation 2021

https://www.ahwin.org/bangkok-metropolitan-administration-model-of-preventive-long-term-care/

Indicator: Engagement in social activities (community, political & religious activities)
-An Example of Good Practice-.
TITLE: Another home, a place for relaxation and refreshment
LOCATION: Japan
CATEGORY: Community-Based Initiatives
Content Summary:

  In Japan, activities called "commuting places" are spreading. In these places, residents gather casually, plan activities together, and decide the content of the activities. Through such interaction, they are places where people can "make their lives worth living" and "make friends."

Some "commuting places" are not limited to older people, but also include mothers with their children, businessmen who come for lunch, and many other types of people. In addition, there are more than 40 places across the country where "time currency" is being used to encourage "mutual aid." For example, at "Another Home," a place to stay in town run by the NPO "Tasukeai Enshu" (Fukuroi City, Shizuoka Prefecture), people are given "shu" cards, a time currency, as a token of thanks. "Shu" cards allow people to ask for help without hesitation when they are in need, and helpers feel more motivated to help. https://www.sawayakazaidan.or.jp/ibasyo/case/06toukai/mouhitotsu.html

Photos by Ministry of Health
https://kayoinoba.mhlw.go.jp/

Expected association with indicators
Providing a place where local residents, including older people, can easily gather is thought to encourage them to participate in social activities.

Indicator: Trust in the community
-An Example of Good Practice-.
TITLE: Fraud Prevention
ORGANIZATION: Police, banks, convenience stores, post offices, home delivery
traders, food manufacturers, media, and municipalities
LOCATION: Japan
CATEGORY: Supporting Self-Reliance

Content Summary:

  In Japan, the majority of victims of special fraud, such as furikome scams, are people aged 65 years or older. Police focus on special fraud targeting older people. They analyze the methods and actual damage to ensure that criminal groups are thoroughly apprehended. Through various opportunities, they actively disseminate information about criminal tactics and precautions to avoid becoming victims. The police conduct a variety of public relations and educational activities, especially for older adults. Many victims of special fraud withdraw or remit their money over the counter or through ATMs at financial institutions. Therefore, it is important for financial institution staff to talk to customers to prevent damages. The police promote such efforts by providing checklists to be shown to customers when talking to them and by conducting training sessions in cooperation with employees of financial and other institutions. They are also strengthening their cooperation with postal and courier service providers and convenience stores by requesting that they find and report packages that are suspected of containing stolen money.

Yamazaki Bakery, a major food manufacturer, collaborated with the Chiba Prefectural Police to create sweet bread with a message on the package to prevent victims of special fraud. The bread was sold at convenience stores and supermarkets in the prefecture. Through such public and private sector prevention activities, 12,332 cases of damage amounting to approximately 26.70 billion yen were prevented in 2015.

  In the media, NHK Hokkaido, for example, has set up a special website that includes information on areas where forewarning phone calls occur and crime prevention tips.

Municipalities that have taken steps to prevent damage include promoting the use of telephones equipped with functions such as call recording and subsidizing the purchase of recording-equipped telephones by households with residents aged 65 years or older.

https://www.npa.go.jp/hakusyo/h28/honbun/html/st400000.html
https://www.nhk.or.jp/shutoken/chiba/article/003/18/
https://www.nhk.or.jp/hokkaido/articles/slug-n0bb1e43b393f
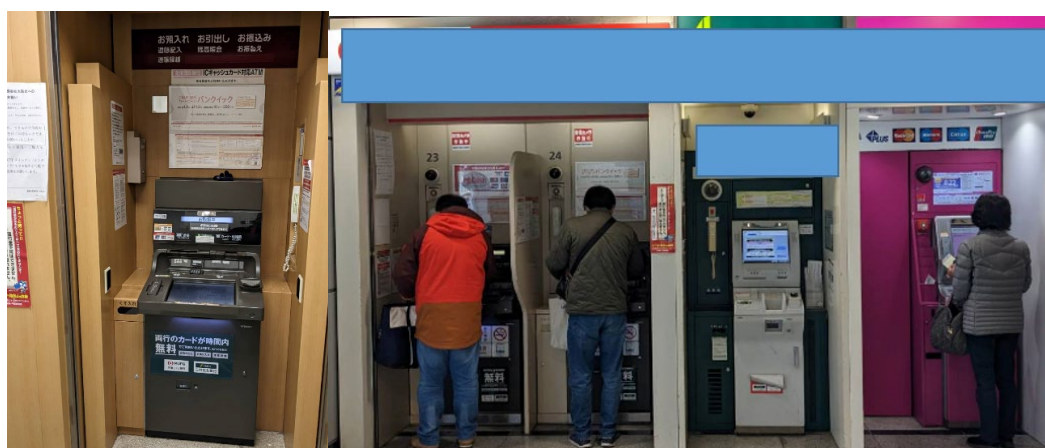
photographic image

> **Expected association with indicators**
> **Efforts to prevent fraud among the older people in the community will lead to an increase in the number of older people who feel safe in the community and have trust in the community.**

Indicator: Safety in the community
-An Example of Good Practice-.
TITLE: QR Code Gel Nail Stickers for People with Dementia
ORGANIZATION: ORANGE LINKS
LOCATION: Japan
CATEGORY: Technology & Innovation

Content Summary

    Gel stickers with QR codes were placed on the hands and toenails of each person.
When police find an older person who has lost his or her way, they can scan the QR code with a smartphone to find the phone number of the older person's chosen family member or care facility and contact them.
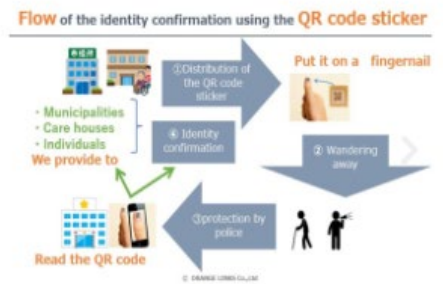
Expected association with indicators
The sticker may help them to feel safe walking alone.

Healthy Ageing Prize for Asian Innovation 2022
https://www.ahwin.org/orange-links-qr-code-dementia/

Domain 5: Capacity and Enabling Environment

Indicator: Education
-An Example of Good Practice-.
TITLE: Lifelong learning
LOCATION: Japan
CATEGORY: Community-Based Initiatives
Content Summary:
In recent years, community-based "lifelong learning universities" have been
established to develop and provide learning programs utilizing various
resources buried in the community as resources for learning.

For example, "Shibuya University," which is based in Shibuya, Tokyo and operates a lifelong learning program using the entire Shibuya area as its campus, is a place where anyone can learn freely. It is neither a place to acquire special skills nor a place to conduct research, but rather a place where people can find "something" for themselves. Shibuya University's concept is to provide a place where people can find what they like, a rich life, friends, a place to belong, a new self, and a way to change society through learning that will lead to a new beginning. It functions as a place where anyone, not just older people, can learn.

https://www.shibuya-univ.net/about/

Expected association with indicators
Lifelong Learning University initiatives will be places where pre-retirees and older people can learn, re-enter the workforce, and learn for life.

Domain 6: COVID-19

Indicator: COVID-19 case fatality ratio
-An Example of Good Practice-.
TITLE: Capacity Building for Caregivers and Older People for Contactless Deliveries using Indoor Autonomous Robots during the COVID-19 Pandemic
ORGANIZATION: Malaysian Research Institute on Aging
LOCATION: Malaysia
CATEGORY: Technology & Innovation

Content Summary:

A noncontact autonomous robot was developed for the care of older adults. The interdisciplinary approach of the Malaysian Institute of Ageing enabled the development of a method to quickly identify the needs of nursing homes during a pandemic and to develop solutions to problems that would help protect caregivers and residents.

Expected association with indicators
The use of non-contact, autonomous robots may help to reduce the risk of COVID-19 infection, severity of illness, and mortality in older people and their care givers.

https://www.ahwin.org/capacity-building-for-caregivers-and-older-persons-for-contactless-deliveries-using-indoor-autonomous-robots-during-the-covid-19-pandemic/

Indicator: COVID-19 case fatality ratio

-An Example of Good Practice-.

TITLE: Accompanying Older People to Face the COVID-19 Pandemic

ORGANIZATION: Indonesia Ramah Lansia [Indonesia Friendly to the Older Adult] (IRL) West Java Chapter

LOCATION: Indonesia

CATEGORY: Community-Based Initiatives

Content Summary:

The West Java Chapter of the nonprofit organization Indonesia Ramah Lansia (Indonesia Friendly to the Older Adult: IRL) implements various programs for older people in the community.

When the COVID-19 pandemic began to affect the community, IRL launched a comprehensive and sustainable outreach effort to help the people of West Java identify the needs of older people based on their physical and socioeconomic status and strengthen their connections through the following three approaches.

-Provide nutritious meals and exercise to older adults

-Provide support and connections for the mental health of older adults.

-Using the local Indonesian wisdom of "gotong royon" (mutual cooperation), the community will raise awareness of mutual care and support for older people.

Expected association with indicators
Needs-based support for the older people during a COVID-19 pandemic could limit the risk of severe illness from COVID-19.

Healthy Ageing Prize for Asian Innovation 2021

https://www.ahwin.org/accompanying-the-elderly-to-face-the-covid-19-pandemic/

C. Discussion

Some reference cases could be considered relevant to some indicators in the revised HAAI. However, some cases had many references and others has no references, depending on the item. For example, although there were many references to "Engagement in Social Activities" of Domain 4, there were no references to "food insecurity" of Domain 2. This may be due to the fact for some indicators, improvement is expected to be easily visible when systems are introduced and community interventions are implemented, while for other indicators, improvement is not expected, or intervention for improvement is difficult. Additionally, only 38 cases were included in the study. It is necessary to collect further information and consider measures for improvement, particularly for indicators for which no case examples are applicable. In addition, although this chapter highlights one good practice that is considered particularly promising for improvement of one selected item, it is possible that the relationship is not necessarily one item and one good practice, and that one good practice may be involved in the improvement of another item as well.

Some cases developed at the regional level, whereas others developed at the national level. When referring to cases in each country and region, it is necessary to closely examine the level at which they can be implemented, considering social, economic, and cultural contexts. In addition, many examples involve local governments, the general public, religious organizations, the private sector, media, and local healthcare providers. The functioning of public-private partnerships and the fact that each ministry and agency had clearly defined their roles in developing the measures were considered the keys to success.

Furthermore, examples of using Information and Communication Technology (ICT) to watch over older people and to move them to public spaces have also been mentioned; it was reported that the use of ICT can be expected to form a place and have the effect of providing enjoyment, pleasure, stimulation, and a sense of security (https://www.soumu.go.jp/main_sosiki/joho_tsusin/b_free/b_free03_3.html). In the future, the use of ICT will be indispensable for improving ADL and health of older people. This will reduce the burden of caregiving in the future. In utilizing ICT, however, handling personal and user information, consideration of user privacy, and the organization of anonymity and usefulness are necessary.

In this report, we listed good practices that are expected to be related to the indicators. Presenting such good practices would clarify the image of the revised HAAI. The construction of evidence, such the extent to which the innovations mentioned in good practices contribute to the improvement of indicators, is an crucial issue for future research.

Part 5: Conclusion and Recommendation

A. Significance of the revised HAAI (ASEAN-Japan Healthy & Active Ageing Index)

We developed a revised HAAI based on the 2017 version with reference to similar indicators from other organizations and suggestions by researchers. The revised version of the HAAI consists of 43 indicators across six domains. The contents of the indicators were thoroughly reviewed to redefine the concept of healthy and active ageing. In addition, a comprehensive index was calculated as the deviation value by quantifying the numerical values and categories applicable to each indicator. This index can also be used to compare domains and countries. The results are presented using visually user-friendly radar charts.

The problem with developing indicators is that the measurement methods differ from country to country, and there are no numerical values in themselves. These problems continue, but this integrated index will help us grasp the overall trend of healthy and active ageing. The revised HAAI, along with the radar charts, can be used for policy development in ASEAN countries.

Indicators should be meaningful despite non-uniform definitions or incomplete data collection. It is important to handle variations and missing values appropriately to roughly understand the current situation and make comparisons. The revised HAAI would be a fairly useful index in the field of real policy development.
In ASEAN countries with close cultural and policy proximity, the revised HAAI has great merit for comparing the advantages and problems of ageing policies among countries.

Because the revised HAAI includes several indicators related to the SDGs, appropriate figures can be obtained efficiently. The position of each country's ageing policies in the SDGs is also clarified.

Several challenges, however, need to be overcome. First, in some indicators, it is difficult to determine whether a higher or lower value is preferable, such as Indicator 3.8, Prevalence of dementia and Indicator 3.10, Receiving long-term care. In general, for events that have not received much attention, as surveillance starts, the number and proportion of cases apparently start to increase. This increase may attract public attention, leading to more cases discovered even when policies have been implemented. This is a sort of paradox in which the number of cases continues to increase despite the implementation of policies. At some point, the upward trend subsides, and thereafter starts to decline due to the effects of policies. The meaning of the indicator changes depending on the stage of policy development in each country; therefore, it is necessary to interpret carefully.

The second challenge was the lack of data on older adults. Many indicators have countrywide data, but age-specific data on older people have not been classified nor published. It is important to collect and publish data on older adults to promote ageing policies.

B. Significance of the regional survey in the field

When applying the revised HAAI, some countries did not have national data on several indicators. In this case, as shown in Section 3, a regional survey was conducted on-site. Regional surveys conducted in urban and rural areas of Myanmar have yielded high-quality data through epidemiologically appropriate sampling and visit/telephone surveys. In terms of representativeness, it may not be as good as national data, but is significant as a backup, supplement, or substitute for national data. It is also possible to track the same region or group continuously to monitor and evaluate the effectiveness of policies when they are introduced.

In addition, regional surveys are useful from a policy perspective because they can identify regions and groups that are difficult to reach for geographical, economic, and social reasons.

C. The revised HAAI and good practices

Good practices for ageing in Japan and the ASEAN countries are shown in relation to the revised HAAI domains. The extent to which good practices contribute to the improvement of indicators should be examined in future studies. However, to make the revised HAAI useful for policy, it is important to consider the correlation between indicators and policies. Each good practice provides suggestions for policy development for a healthy and actively ageing society.

Owing to the COVID-19 pandemic, it was not possible to travel to ASEAN countries to collect information. With the cooperation of the Japan Center for International Exchange, many good practices were selected from cases awarded the Healthy Ageing Prize for Asian Innovation. Such prizes could play a major role in disseminating good ageing practices. Active implementation of such practices would greatly promote ageing policies.

D. Japan's Contribution and Partnership

Over the years, Japan has developed various ageing policies. In particular, the long-term care insurance system has led to the socialization of long-term care and the vast provision of services by the private sector. In addition, the framework of comprehensive regional support is taking hold, and collaboration among health, medical care, and nursing care is progressing. These experiences and mechanisms would serve as a reference for Asian countries, including ASEAN countries.

In the revised HAAI radar chart, however, there are some domains in which Japan scored lower than other countries, such as social capital. In such fields, Japan must learn much from other countries.

We interviewed several related institutions and researchers to construct the revised HAAI. Compared with the situation in the original HAAI 2017, the awareness of policymakers in each country has improved significantly, and their practices have progressed enormously. Partnerships promoting ageing policies in Asia, including ASEAN countries, are becoming increasingly important. Japan's active involvement in this process would serve its national interests and contribute significantly to regional stability. The revised HAAI is expected to be a useful tool to strengthen partnerships.

E. Recommendations for Policymakers and Stakeholders

The research team makes the following recommendations for policymakers and stakeholders on ageing.
1. The index should be used to organize and compare statistical information on ageing, which is particularly important for planning, implementing, and evaluating ageing policies.
2. Data on older adults should be enhanced.
3. While data at the national level are important, data from rural areas and hard-to-reach populations are also important for ageing policies, and field surveys should be used as needed.
4. Good practices in countries and regions should be linked to indices and utilized for policy development.
5. The government and relevant organizations should more actively find out and disseminate good practices.

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