Global Health & Medicine. 2023; 5(5):257-263.
EDITORIAL
DOI: 10.35772/ghm.2023.01057

Ageing and shrinking population: The looming demographic challenges of super-aged and super-low fertility society starting from Asia

Hiroki Nakatani[1,2,3,*]

[1] School of Medicine, Keio University, Tokyo, Japan;
[2] Global Health Innovative Technology Fund, Tokyo, Japan;
[3] Economic Research Institute for ASEAN and East Asia, Jakarta, Indonesia.

Abstract: The world is generally getting more prosperous and healthier, and people live longer. Japan, with the world's most advanced population ageing, has made various efforts over the past half-century to prepare for the ageing society. Globally, many countries observe today's rapid demographic changes accompanied by low birth rate and start acknowledging population shrinkage as a looming challenge beyond that of population ageing. The world will face dual challenges of population ageing and shrinkage, but these two issues have been considered in isolation. In addition, the progression differs from region to region and country to country, preventing policymakers from taking a future-back approach to address the core challenges. This issue of *Global Health & Medicine* carries two valuable articles on population ageing and related policies reported by staff members of the WHO Western Pacific Regional Office (WPRO) and the United Nations Population Fund (UNFPA). This paper will consider the importance of ageing and low fertility rate (declining birthrate) as global issues by placing the WHO and UNFPA articles in a broader context. Population ageing and shrinkage overlap and significantly impact society through health issues. Still, the impact on countries, regions, and the world will become obvious with a time lag. Therefore, this paper advocates analyzing and critically reviewing the experience of countries in which demographic changes are already well advanced, and sharing them with the world. This will contribute significantly to those regions and countries that will walk the same path in the future.

***Keywords*:** healthy ageing, population ageing, population shrinkage, demographic transition, international collaboration

Introduction

The world is generally getting more prosperous and healthier. However, there are also many who are left behind, and the basic idea of Sustainable Development Goals (SDGs) is that multi-sectoral cooperation is needed to solve such problems. The financing and supply of healthcare have to address demographic changes such as population ageing, which is recognized as a problem. Japan with the world's most advanced ageing population has made various efforts over the past half-century to prepare for the ageing society. However, this issue is not exclusive to Japan. As the elderly population grows in many countries, international efforts to raise awareness of ageing issues and share best practices and research results have led to the adoption of the United Nations (UN) Decade of Healthy Ageing Resolution (*1*) in 2020. Another critical step is the agreement at the G20 Finance and Health Ministers' Meeting in 2019 (*2*) under Japan's leadership to strengthen cooperation between the health and finance sectors to promote universal health coverage, including addressing the immediate issue of rising healthcare costs. The COVID-19 pandemic coupled with the economic, food, and energy crises triggered by the invasion of Ukraine have shifted global health concerns towards manageing health crises in complex situations. Consequently, the issue of ageing was not a significant topic at the recent G7 summit hosted by Japan (*3-5*). Even under these circumstances, Prime Minister Kishida of Japan, in his policy speech at the beginning of 2023, addressed the issue of declining birthrate as a significant policy issue alongside the challenging international environment (*6*). This reflected a sense of crisis over the released figures (*7,8*) that Japan's population had shrunk by 780,000 in 2022, the largest decline ever recorded, together with a drop in number of births to below 800,000 as a result of further acceleration of total fertility rate decline to 1.27. Such sharp declines of population and births are now perceived as a critical issue, and Yamazaki's novel entitled "Jinko Senryaku Houan (Draft Population Strategy Legislation)" (*9*) became a popular book.

In this issue of *Global Health & Medicine*, two valuable articles on population ageing and related policies reported by the staff members of the WHO Western Pacific Region Office (WPRO) and United Nations Fund for Population Activities (UNFPA) are published (*10,11*). This paper will consider the importance of ageing and low fertility rate (declining birthrate) as global issues by placing the WHO and UNFPA papers in a broader context.

WPRO and UNFPA articles

Asia is undergoing dynamic economic and social development, and at the same time experiencing major changes in demographic composition and health services. The WHO Western Pacific Regional is a region rich in diversity with a large territory and big population, including Japan, China, Korea, most of the ASEAN countries, and Oceania and Pacific Islands countries. Meanwhile, the UNFPA Regional Office for Asia and the Pacific covers the WHO Western Pacific Regional, in addition to ASEAN countries such as Thailand and Indonesia, and the WHO South-East Asia Region including India. The two insightful articles published in this issue are summarized below.

The WPRO article "Promoting health ageing in the Western Pacific: A mini review of good practices and policy responses" (*10*) discusses the rapid ageing of population in some parts of the Western Pacific region with Japan leading the way, and the major challenges of reforming healthcare systems. At the initiative of Dr. Takeshi Kasai, former Regional Director of WPRO, the Office has developed a region-wide health system reform plan called "For the Future" (*12*). As a part of this plan and in response to the UN Decade of Healthy Ageing, WHO has developed the Regional Action Plan on Healthy Ageing in the Western Pacific Region (*13*) to support countries in achieving a healthy ageing society. This paper covers regional efforts in the form of introducing some best practices of member states within the framework of the following five pillars: *i*) transforming societies as a whole, *ii*) transforming health systems to address each individual's lifelong health needs, *iii*) providing community-based integrated care, *iv*) fostering technological and social innovation, and *v*) enhancing research, monitoring and evaluation.

The UNFPA article "Low fertility and fertility policies in the Asia-Pacific region" (*11*) explores the low fertility rate, which in many cases occurs at the same time as population ageing. The report specifically examines the challenges faced by Asian countries that have experienced a significant reduction in fertility rate despite various interventions aimed at preventing or reversing this trend. The paper also analyzes the factors that contribute to low fertility, including the unequal distribution of domestic work responsibilities between men and women, which has been slow to change in comparison to the increase in female labor force participation. Additionally, the high costs of education and housing are also contributing factors. The paper also examines the impact of different policies that address social issues, such as labor and family policies. These policies include measures to support dual-earner households, such as promoting parental leave, expanding daycare centers, and offering flexible working hours. Additionally, the paper examines the effectiveness of financial support policies, particularly those that provide spot economic assistance such as maternity benefits. Both papers concur that there is no single, universal solution to address the challenges of population ageing and fertility rate decline. Rather, the key to success lies in implementing long-term, future-oriented planning that considers the unique context of each country. It is essential to begin this work early to achieve good outcomes.

National Academy of Medicine and UN Population Division publications in 2022

In 2022, the deliverables of two significant initiatives that commenced before the COVID-19 pandemic were published successively. They are the Global Roadmap for Healthy Longevity (*14*) published by the National Academy of Medicine and World Population Prospects 2022 (WPP 2022) (*15*) published by the UN Population Division. The main points of both reports are summarized below.

First, the Global Roadmap for Health Longevity identifies the promotion of healthy lifestyles, reduction of health inequalities, promotion of lifelong learning and capabilities, use of technology, and policy change as key elements for achieving healthy and active lives. Then, the report presents an immediate five-year action plan and a roadmap to reach the 2050 goal. The basic concept of the roadmap is shown in Figure 1. Healthy longevity is defined as a situation in which individuals and society are healthy and well, people are active to the best of their abilities, and are engaged in society.

The basic concept is that human, financial, and social capitals are vital resources that eventually enable and advance healthy longevity. Their enabling factors are work, physical environment, social infrastructure, and health systems. At the same time, the factors that disrupt this virtuous cycle should be alleviated.

Next, the WPP 2022 is a breakthrough in that it not only changes the method of population estimation from the five-year intervals used previously to one-year intervals of age and time, but also adopts a probabilistic model and presents the data for each country. However, the main message of the report in practical terms is not necessarily clear. Hara summarized the report in his recent book (*16*) as follows. The projections of continued population growth to 8 billion by the end of 2022 and 10.35 billion by the beginning of the 22nd century are

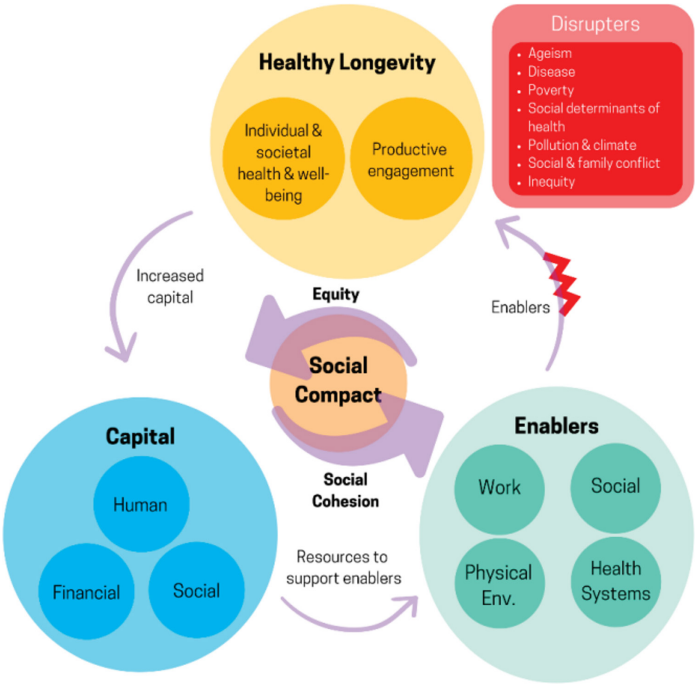

Figure 1. The virtuous cycle of healthy longevity. Data Source: *https://nap.nationalacademies.org/catalog/26144/global-roadmap-for-healthy-longevity* (accessedSeptember 26, 2023). Used with permission of The National Academies Press, from National Academy of Medicine 2022, *Global Roadmap for Healthy Longevity*, Washington, DC: The National Academies Press, Copyright 2022; permission conveyed through Copyright Clearance Center, Inc.

within the expected ranges and would probably attract only transient interest. The real value of the report is not merely presenting that the world population will grow by an additional 2.3 billion people, making the number of humans on the planet 1.3 times larger than it is today, but showing the trends of demographic changes in different age groups and geographic regions. When examining the breakdown of population growth, it is evident that the largest increase will be seen in the older population aged 65 and over, which is estimated to be 1.71 billion people or 71.8% of the total population growth. On the other hand, the population of children under the age of 14 will decrease by 310 million. Sixty-one countries, mainly in Europe and Asia, will lose 1% or more of their population by 2050. The world population will peak at 10.43 billion in 2086 and then begin to decline. In other words, like Japan, the world's population is expected to decrease due to the ageing of society with more deaths and fewer births in the future. Geographically speaking, the working-age population will continue to increase only in sub-Saharan Africa, which is why the 22nd century is expected to be African century.

Table 1 shows the past, present, and future world population based on the original data used in WPP 2022. Looking at the world in 2050, the population will continue to grow, albeit at a slower pace, with average life expectancy of 77.2 years (equivalent to that of [≈] Japan in 1983) and an older (aged over 65 years) population of 16.5% (≈Japan in 1983). On the other hand, the decline in the Japanese population will accelerate, with life expectancy projected to reach 88.3 years and the older population to increase to 37.5%, which is close to the peak. Population growth in Asia will have almost stopped, with life expectancy of 79.5 years (≈Japan in 1993) and an older population of 19% (≈Japan in 2002). In Europe, the population will have begun to decline, with average life expectancy of 83.8 years (≈Japan in 2014) and an older population of 28.9% (≈Japan in 2018). In Africa, however, the average life expectancy will be 68.3 years (≈Japan in 1961) and the proportion of older population will be 5.9% (≈Japan in 1961). These figures would imply that by 2050, Europe would resemble the present-day Japan; while Asia would resemble Japan at the end of the 20th century when the economic bubble burst; and the world, meanwhile, would resemble Japan on the eve of the economic bubble in the 80's, whereas Africa would resemble Japan during the phase of rapid economic growth in the 60's.

As the progress of population ageing differs from region to region and from country to country, it is important to analyze what Japan and Asia, which are undergoing drastic changes in population size and composition, did or did not do to solve the ageing problem and the outcomes of their responses, and to present the results to the world. Sharing the major lessons of a social experiment that cannot be tested in a laboratory – namely, the response to demographic change – is a way to contribute to the new global challenge of ageing.

Ageing and the shrinking World

When health improves rapidly, as in Japan after World War II, even though the birth rate decreases, the population grows, and the working-age population expands, thus increasing economic activity and accumulating social capital (*17*). This also creates a virtuous circle that will lead to investment in health. However, as the population ages and fertility declines, lifestyle-related diseases will replace acute conditions as the leading health challenge. These changes in

Table 1. Past, present, and future world population

Item	Year	Total Population (thousands)	Median Age (years)	Population Growth Rate (%)	Population Annual Doubling Time (years)	Total Fertility Rate (live births per woman)	Life Expectancy at Birth, both sexes (years)	% 65+ Population
WORLD	1950	2,477,675	22.2	1.73	40.0	4.86	46.5	5.1
	2000	7,804,974	29.7	0.92	75.5	2.35	72.0	6.9
	2050	9,687,440	35.9	0.45		2.15	77.2	16.5
	2100	10,355,002	42.3	-0.11		1.84	82.1	24.0
Japan	1950	83,656	21.2	1.65	42.0	3.66	59.2	4.9
	2000	125,543	48.0	-0.48		1.29	84.7	17.8
	2050	104,140	53.6	-0.68		1.47	88.3	37.5
	2100	73,846	54.4	-0.55		1.55	94.2	38.7
ASIA	1950	1,365,953	20.6	1.90	36.5	5.71	42.0	4.2
	2000	4,647,858	30.8	0.71	98.2	1.98	73.7	5.8
	2050	5,290,145	39.8	0.11		1.85	79.5	19.0
	2100	4,684,822	46.9	-0.45		1.71	85.5	29.2
AFRICA	1950	225,120	18.1	2.14	32.5	6.59	37.6	3.3
	2000	1,344,070	18.6	2.44	28.4	4.36	62.2	3.5
	2050	2,465,755	23.9	1.56	44.4	2.87	68.3	5.9
	2100	3,917,077	35.1	0.37		1.99	74.9	14.5
EUROPE	1950	547,304	27.8	0.88	78.8	2.70	62.8	7.9
	2000	746,597	41.5	-0.10		1.47	77.7	19.1
	2050	704,172	47.3	-0.33		1.63	83.8	28.9
	2100	587,362	49.6	-0.29		1.67	90.1	32.9
NORTHERN AMERICA	1950	160,754	29.0	1.65	42.1	2.97	68.0	8.1
	2000	373,272	37.7	0.37		1.63	77.9	16.4
	2050	421,001	43.4	0.19		1.68	84.0	23.8
	2100	447,907	47.4	0.05		1.69	90.0	30.6

Data Source: *i*) WPP 2022 File: POP/06-1: Percentage of total population by select age group, region, subregion and country, annually for 1950-2100. Estimates, 1950–2021. *https://population.un.org/wpp/Download/Files/1_Indicators%20(Standard)/EXCEL_FILES/2_Population/WPP2022_POP_F06_1_POPULATION_PERCENTAGE_SELECT_AGE_GROUPS_BOTH_SEXES.xlsx* (accessed September 26, 2023); *ii*) WPP 2022 File: GEN/01/REV1: Demographic indicators by region, subregion and country, annually for 1950–2100. Estimates, 1950–2021.

disease structure have led to the realization that the current healthcare system that specializes in diagnosing and treating disease needs to be transformed towards maintaining people's health. Hence, a shift from a "sick system" to a "health system" is being sought. Specifically, rather than waiting for people to become ill, hospitals and clinics are using existing community groups, networks, and events (such as schools, workplace, and neighborhood associations) to provide proactive advice to healthy people and to reduce negative social and environmental factors that are the real causes of illness (such as social isolation, lifestyle, and lack of interest in health). Furthermore, as ageing of society progresses, the idea evolves from healthcare to welfare and eventually to the need for a society-wide approach to reform at a scale involving living, finance, and social dimensions, which enables people to live long and active lives in their old age. With this background, the WHO documents (*18,19*) on healthy ageing also reflect these trends and promote integrated care for older people (ICOPE) and age-friendly environment as priority activities. These call for major changes in health resources. As long as the economy is expanding or the results of economic expansion are sustained, it is possible, albeit with some difficulties, to facilitate this shift through various government subsidies and other means. However, reforming the health system will be more complicated if the population is declining, especially if this accelerates to the point of contraction. In other words, if the working-age population declines and social capital reaches a situation where the capital is being consumed instead of accumulated, contraction and restructuring must always be carried out in response to the shrinking population. However, the resources that can be allocated for this purpose are minimal. Developing new social assets and renewing them systematically is expected to be even more challenging than it is today.

The need to consider the time axis

First, let us discuss the stable period and transition period of the population. Figure 2 is a chart based on the population proportions by age group in Japan obtained from the WPP 2022 source data. From 1950 to around 1970, young people aged 14 and below decreased rapidly, and the number of older people aged 65 and above increased slowly. Thus, the proportion of the dependent age group declined consistently. Since then, the number of young people has continued to decrease, while the number of older people has increased, resulting in a net increase in the dependent population. The proportion of the dependent population aged 0 to 24 and aged 75 and over will stabilize at 45%, and the ratio of the working age population aged 25–74 will stabilize at around 55%. This transition period will likely continue for the next 30 years and require continuous reforms. Then, the overall demographic composition will remain stable but we will face harsh reality that the current population of 125.5 million is expected to shrink by about 40% to 73.8 million by 2100.

To achieve a successful transition and sustain the

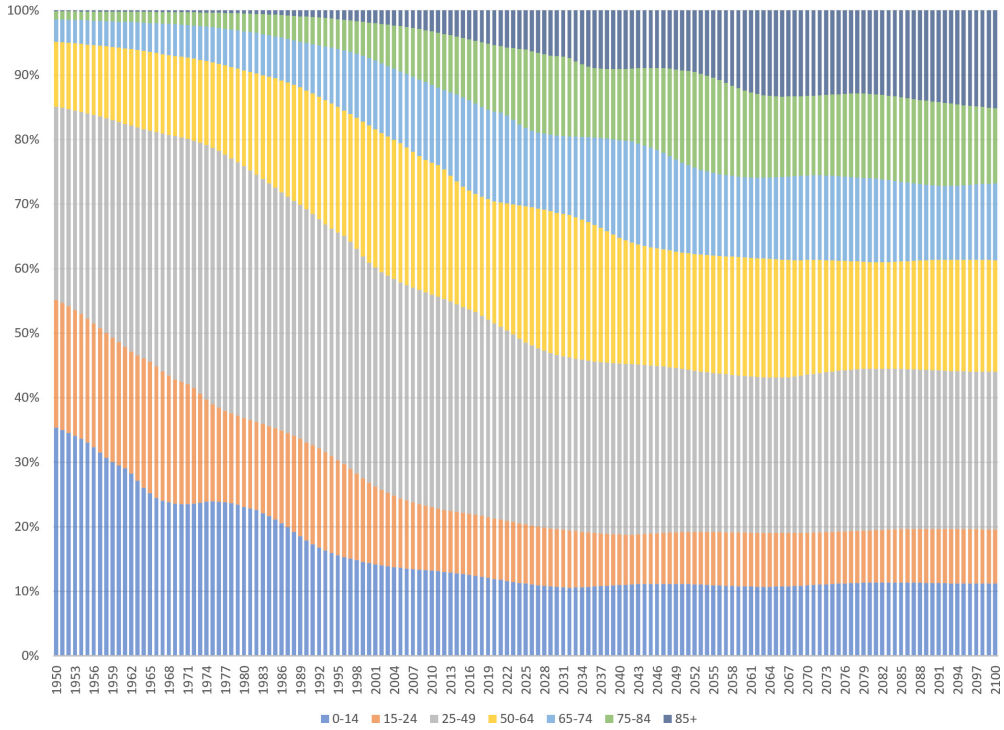

Figure 2. Age composition of Japanese population. Data Source: WPP 2022 File POP/06-1: Percentage of total population by select age group, region, subregion and country, annually for 1950–2100. Estimates, 1950–2021. *https://population.un.org/wpp/Download/Files/1_Indicators%20(Standard)/EXCEL_FILES/2_Population/WPP2022_POP_F06_1_POPULATION_PERCENTAGE_SELECT_AGE_GROUPS_BOTH_SEXES.xlsx* (accessed September 26, 2023).

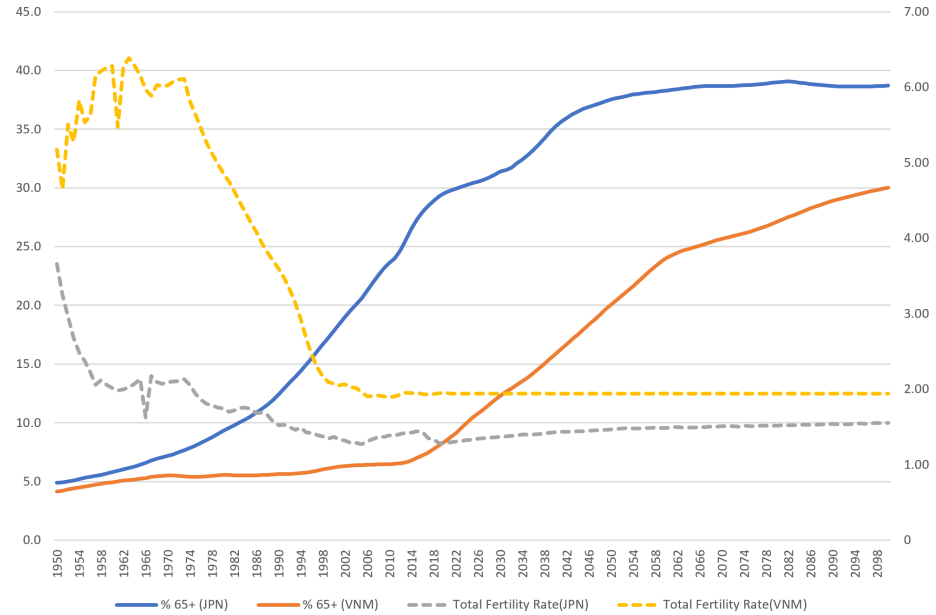

Figure 3. Comparison of percentage of 65+ population and total fertility rate: Japan and Vietnam. Data Source: *i*) Percentage of 65+: WPP 2022 File POP/06-1: Percentage of total population by select age group, region, subregion and country, annually for 1950-2100. Estimates, 1950–2021. *https://population.un.org/wpp/Download/Files/1_Indicators%20(Standard)/EXCEL_FILES/2_Population/WPP2022_POP_F06_1_POPULATION_PERCENTAGE_SELECT_AGE_GROUPS_BOTH_SEXES.xlsx* (accessed September 26, 2023); *ii*) Total fertility rates: WPP 2022 File GEN/01/REV1: Demographic indicators by region, subregion and country, annually for 1950-2100. Estimates, 1950–2021. *https://population.un.org/wpp/Download/Files/1_Indicators%20(Standard)/EXCEL_FILES/1_General/WPP2022_GEN_F01_DEMOGRAPHIC_INDICATORS_REV1.xlsx* (accessed September 26. 2023).

wellbeing of people and country, it is necessary to look at the future of one's own country from the perspective of the countries with more advanced ageing and declining birthrates, and to develop appropriate policies in a timely manner using the future-back approach.

Figure 3 illustrates the trends of transition of older population and total fertility rate in Japan and Vietnam, two countries that have bilateral commitments (*20*) to

cooperate on ageing issues. In 1961, Japan established universal health insurance, and the percentage of older population at that time was 5.9% in Japan and 5.0% in Vietnam. It was not until 1997 that the older population in Vietnam reached the same level as Japan in 1961, and Vietnam took an additional 12 years to achieve the universal health insurance coverage in 2009. Next, Japan planned the introduction of long-term care insurance as a major next step to address the impending population ageing challenges. In the preparation stage, Japan started the Gold Plan in 1990 (older population: 12.4% in Japan, 5.6% in Vietnam) to systematically expand nursing homes and other facilities, and long-term care insurance was launched in 2000 (older population: 17.8% in Japan, 6.2% in Vietnam). Incidentally, Vietnam will, in 2030 and 2044, reach the same proportions of older population as Japan at the start the Gold Plan and launch of long-term care insurance, respectively.

As for the measures to combat declining birthrates in Japan, the act of childcare leave was enacted in 1991 (total fertility rate: 1.53 in Japan, 3.48 in Vietnam), and child allowance in 2009 (total fertility rate: 1.37 in Japan, 1.91 in Vietnam). However, it is not possible to estimate when childcare leave and child allowance would start in relation to total fertility rate in Vietnam, because the total fertility rate in Vietnam is estimated to remain constant at 1.94 after 2022. Knowing under what conditions policy development was made in countries with advanced fertility decline would make it possible to consider the policy in one's national context.

It is also important to recognize that even if effective policies are implemented, there is a time lag between the implementation of these policies and the observable effects. The regional difference in time lag between the occurrence of an event and the observable effects can be demonstrated by urban and rural districts in Japan. The Japanese living in Tokyo today have little opportunity to be aware of the reality that population in Japan is shrinking rapidly, because what they can see are downtown izakayas (Japanese-style pubs) overflowing with people including many youngsters, overcrowding commuter trains, and rising apartment rents due to the increasing demand. On the other hand, when one looks at the rural areas, the combination of an aged population with sharp decline in number of births, coupled with an exodus of young people to urban areas has made many rural communities of Japan unsustainable. When one visits even relatively large cities in rural Japan, one often witnesses many shuttered stores in the once thriving shopping arcades, closed banks and gas stations, and frequent suspension of public transportation services.

This is reality in Japan, but it could also be said that we are merely looking into the future of many Asian countries as Asia enters this period of population contraction in the mid-21st century and beyond. As sobering as this is, we must ask ourselves what public health can contribute. To cite a few examples, the first is to increase healthy and working life expectancy. This will prevent a sharp decline in the working-age population. Next, we could stimulate health investment in the smaller number of young people and raise a healthier next generation through a life course approach. Creating a medical and childcare environment in which people can give birth and raise children with a sense of security will also be necessary. Looking at countries that have succeeded in curbing the decline of fertility rate, participation by the health and welfare sectors alone is not enough, while truly coordinated multi-sectoral efforts are indispensable, such as improving the working environment and shifting the paradigm of parental roles. All these require a radical shift of the whole policy package, for which the "population strategy legislation" advocated by Yamazaki (*9*) in his novel could be an inspiration. Although the goal of healthy longevity is that all individuals in society live to the full extent of their ability, when social resources are depleted, some individuals tend to be left behind. This underscores the importance of ensuring that everyone has access to the resources and support necessary to thrive in a community. For this reason, I believe that more proactive measures to correct health disparities will be required more than ever before. In other words, "no one is left behind" is not just a slogan for low-income countries but a vital code of conduct for ourselves.

Conclusion

Population ageing and shrinkage overlap and significantly impact society at large through health issues. Still, the impact in countries, regions, and the world will become obvious with a time lag. Therefore, analyzing and critically reviewing the experience of Japan, a country already experiencing super-ageing and shrinking population issues, as well as Asia to which Japan belongs, and sharing the findings with the world will contribute greatly to those regions that will walk the same path in the future. In addition, Asia today and Africa from the mid-21st century are the regions where population growth continues. With a rapidly increasing productive population and active consumption, these regions are very important partners for international development of the medical industry to sustain the industry as a base for health security (*21*). Based on two excellent articles prepared by the staff members of WHO and UNFPA, I have attempted to add my opinion on the issues of population ageing and shrinkage, which tend to be considered in isolation. By reading the two articles together with my perspectives, I hope that the values of the articles will be further enhanced.

Funding: None.

Conflict of Interest: The author has no conflicts of interest to disclose.

References

1. United Nations. United Nations Decade of Healthy Ageing (2021-2030): resolution / adopted by the General Assembly. *https://digitallibrary.un.org/record/3895802?ln=en* (accessed May 12, 2023)
2. Government of Japan. Session Outcome: G20 Joint Session of Finance and Health Ministers. *https://www.mhlw.go.jp/seisakunitsuite/bunya/hokabunya/kokusai/g20/health/finance_and_health_ministers_session_outcome.html* (accessed May 12, 2023)
3. Kishida F: Human security and universal health coverage: Japan's vision for the G7 Hiroshima Summit. Lancet. 2023; 401: 246-247.
4. Ministry of Health, Labour and Welfare. G7 Health Ministers' Meeting in Nagasaki. *https://www.g7hiroshima.go.jp/ministerialmeetings/pdf/nagasaki_en.pdf* (accessed September 26, 2023)
5. Ministry of Foreign Affairs of Japan. G7 Nagasaki Health Ministers' Communiqué. *https://www.mhlw.go.jp/content/10500000/001096403.pdf* (accessed September 26, 2023)
6. Prime Minister's Office of Japan: Policy Speech by Prime Minister KISHIDA Fumio to the 211th Session of the Diet. *https://japan.kantei.go.jp/101_kishida/statement/202301/_00012.html* (accessed May 12, 2023)
7. Japan Times. Japan's birth rate continues to decline, plunging to new record low. *https://www.japantimes.co.jp/news/2023/02/28/national/japan-record-low-births/* (accessed May 12, 2023)
8. Ministry of Health, Labour and Welfare. Press Release Vital Statistics Report (December, 2022). *https://www.mhlw.go.jp/toukei/saikin/hw/jinkou/geppo/s2022/dl/202212_1.pdf* (accessed May 12, 2023) (in Japanese)
9. Yamazaki S. Jinko Senryaku Houan, Jinko gensho wo tomeru housaku wa arunoka (Draft population strategy legislation: Any measures to prevent population decline?) ISBN-13:‎ 978-4532177102, Nihon Keizai Shinbun Publishing, Tokyo, 2021. (in Japanese)
10. Xu W, Lee S, Okayasu H. Promoting health ageing in the Western Pacific: A mini review of good practices and policy responses. Glob Health Med. 2023; DOI: 10.35772/ghm.2023.01005.
11. Boydell V, Mori R, Shahrook S, Gietel-Basten S. Low fertility and fertility policies in the Asia-Pacific region. Glob Health Med. 2023.
12. World Health Organization Regional Office for the Western Pacific. For the future: Towards the healthiest and safest region. *https://www.who.int/publications/i/item/for-the-future-towards-the-healthiest-and-safest-region* (accessed May 12, 2023)
13. World Health Organization Regional Office for the Western Pacific. Regional action plan on healthy ageing in the Western Pacific. *https://www.who.int/publications/i/item/9789290619352* (accessed May 12, 2023)
14. US National Academy of Medicine. The global roadmap for healthy longevity. *https://nap.nationalacademies.org/catalog/26144/global-roadmap-for-healthy-longevity* (accessed May 12, 2023)
15. United Nations Department of Economic and Social Affairs Population Division. World Population Prospects 2022. *https://population.un.org/wpp/* (accessed May 12, 2023)
16. Hara T. Sapience Gensho, Shukugen-suru Miraino Kadai wo Saguru (Decrease of Homo-Sapiens: Explore the Challenges of Shrinking Population in the Future). Iwanami Shinsho, ISBN-13:978-400431965 8, Iwanami Shoten, Tokyo, 2023. (in Japanese)
17. Nakatani H. Population aging in Japan: policy transformation, sustainable development goals, universal health coverage, and social determinates of health. Glob Health Med. 2019; 1:3-10.
18. World Health Organization. Decade of healthy ageing: Baseline report. *https://www.who.int/publications/i/item/9789240017900* (accessed May 12, 2023)
19. World Health Organization. Healthy ageing and functional ability. *https://www.who.int/news-room/questions-and-answers/item/healthy-ageing-and-functional-ability* (accessed May 12, 2023)
20. Office of Healthcare Policy, Cabinet Secretariat of Japan. Memorandum of cooperation between the office of healthcare policy, Cabinet Secretariat of Japan, The Ministry of Health, Labour and Welfare of Japan and The Ministry of Economy, Trade and Industry of Japan and The Ministry of Health of the Socialist Republic of Viet Nam in the fields of Healthcare. *https://www.kantei.go.jp/jp/singi/kenkouiryou/pdf/20190701_vietnam_hc.pdf* (accessed May 12, 2023). (in Japanese)
21. Nakatani H, Machida F, Honda Y, Kobayashi H, Kitano E, Inamura T, Kondo T. Approach of Medical Excellence JAPAN to create platforms of collaboration in Asia. Glob Health Med. 2021; 3:401-405.

Received September 29, 2023; Revised October 10, 2023; Accepted October 14, 2023.

Released online in J-STAGE as advance publication October 20, 2023.

**Address correspondence to*:
Hiroki Nakatani, School of Medicine, Keio University, 35 Shinanomachi, Shinjuku-ku, Tokyo 160-8582 Japan.
E-mail: hiroki.2169.nakatani@gmail.com