

Chapter 10

WHO CARES? Challenges of Women Aging in Contemporary Indonesia



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Abstract Even though not yet declared an aging society, Indonesia's demographic transition is rapidly approaching that status. The numbers of the elderly continue to rise and at an ever-higher rate. As is the case elsewhere in the world, life expectancy for women is higher than for men, and the sex ratio which starts to favor males at birth reverses to favor women, currently only starting around retirement age and rising rapidly thereafter. While aging is a general concern of governments, the gender bias is not necessarily being attended to. It is the purpose of this paper to shed light on the gender bias and the consequences thereof on the ability of the elderly to access necessary services in their living arrangements, to close with a finding of the family being the main source of care.

Keywords Aging · Gender · Women · Access to public services · Indonesia

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On Aging in Indonesia

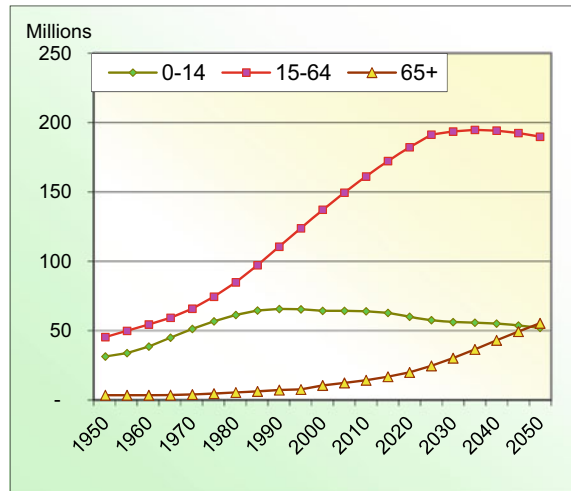
With rising expectation of life, Indonesia's population is on the way to join the world's aging populations.¹ Following a reversal in population policies from pro- to anti-natalist approaches which emphasized fertility control that was introduced as part of overall socioeconomic development orientation program has resulted in improvements in health and consequent rising life expectancy and thus causing expansion of the proportion of seniors. The 1960 Population Census, the first after Independence in 1945, recorded the share of the population aged 65 and over at only 2.5% (BPS, 1963). It took half a century later when the 2010 Population Census recorded a doubling of this proportion to 5.0% of the population belonging to this age group (Bappenas, BPS and UNFPA, 2013). Yet toward the future, the latest official population projections suggest that the next doubling of this share to reach 10% shall occur only two decades later in the early 2030s, and when Indonesia celebrates a century of Independence in 2045, it is expected that 14% of the population shall be 65 years and over (Bappenas, BPS, and UNFPA, 2018).

In fact, the Indonesian government's position on population changed over time. Indonesia's first President, Soekarno (August 18, 1945, to March 17, 1967) promoted a large population to gain international recognition. And thus, he favored large families with many children. Over the period of 1950–1970, the Indonesian population is said to have grown from 81.5 million to 122.5 million people or an overall increase of 41.0 million. Of that total, children aged 0–14 years increased by 19.95 million, constituting 48.65% of the increase in the total population. The adult population aged 15–64 years grew slightly more at 20.49 million and thus constituting 49.95% of the total population growth, while the elderly of 65 years and older increased by 575 thousand or composed only 1.4% (Fig. 10.1).

However, an emphasis on politics at the cost of ignoring concerns for improving people's welfare when extreme inflation levels weakened the ever-growing population in poverty ended in a takeover of the government. The next President, Suharto, turned to a different agenda that of development with an essentially anti-natalist agenda. And thus, like in many other developing countries during the 1970s, an emphasis on improving lives through investing in the social services of health and education with an economic orientation of development have led to declining mortality and fertility and slowly but surely rising expectations of life. For Indonesia

¹ Contrary to initial expectations, there is apparently no general agreement on a fixed definition of aging. The United Nations' definition of aging has changed over time. As recent as 2017 the United Nations defined aging in terms of age 60. But then, only two years later, the 2019 United Nations report defines aging in terms of age 65 and over. They also note arbitrariness in the definition. Until today, while some countries refer to aging as the share of the population aged 60 and over, developed countries consider people elderly when they reach 65 years, in line with official retirement age. On another indicator, a country is defined as 'aging' when the share of the population aged 65 and older exceeds 7%, a population is said 'aged' when the proportion exceeds 14%, and it is labeled 'super aged' when the share reaches more than 20%. In 2019, Duffin recorded already 20 countries to have the share of their population 20% or more. As the share of the elderly continues to rise, we can expect further adjustments in the definition.

Fig. 10.1 Indonesian population projection 1950–2050. Source United Nations (2007) *World Population Prospects, the 2006 Revision*



that has meant rising from 48.65 years in 1960 to 66.28 years at the turn of the century and in 2019, we have reached 71.2 years (World Bank Database). Consequently, the number of elderlies has eventually risen with ever stronger speed, a worrying phenomenon of the nation “getting old before we get rich” and the fear of being stuck in the middle-income trap.

Feminization of the Elderly is Irrespective of Gender Compositions of the Youth

It is not only that the numbers of the elderly are growing rapidly the world over but they also become increasingly more feminine with age. The gender differential starts at birth when more baby boys are born than baby girls. Even during infancy, due to genetic and biological makeup, male mortality exceeds that of females (Pongou, 2012; Alkema et al., 2014). Apparently, this tendency continues throughout life resulting in girls and women more likely to outlive boys and men, and eventually, they dominate the elderly.

Besides, while it used to be accepted that there was a natural standard of sex ratio at birth of 106 males for 100 females,² later research on populations other than Western developed societies shows significant variation among populations across the world. The latest available data show that at the global level the sex ratio of under-five stands at 106 boys for 100 girls (Table 10.1). That number represents, in fact, great variation in sex ratios of under-fives around the world, with the highest ratios recorded for Asian populations and the lowest for black populations (1985a;

² This was based on more than two centuries worth of reliable data from developed countries (Johansson & Nygren, 1991; Yi et al., 1993).

Table 10.1 Age-specific sex ratios for the world, Asia, Eastern Asia, and Southeast Asia, 2020

Age	World	Asia	Eastern Asia	Southeast Asia
0–4	106	109	116	104
5–9	107	109	118	104
10–14	107	110	120	104
15–19	107	110	120	104
20–24	107	110	117	104
25–29	106	109	114	103
30–34	105	107	109	102
35–39	103	105	105	100
40–44	102	104	104	99
45–49	101	103	103	97
50–54	100	102	103	96
55–59	97	100	102	95
60–64	95	98	100	92
65–69	91	94	96	88
70–74	85	89	92	81
75–79	79	82	85	74
80–84	69	74	75	67
85–89	59	64	62	61
90–94	47	53	47	52
95–99	33	38	32	42
100 +	25	27	21	25
Sum	102	104	106	99
Tot pop (m)	7.675	4.596	1.640	654

Note Sex Ratio—Number of Males over 100 Females

Source Calculated based on United Nations (2009) *World Population Prospects, the 2008 Revision, Volume II: Sex and Age Distribution of the World Population* (Medium Variant)

Jacobsen et al., 1999; James, 1984; Ruder, 1985). The highest sex ratios of under-fives are recorded for the largest populations in the world, China and India. This characteristic is attributable to son preference combined with the one-child policy in China and dowry system in India.

Because of the size of these two populations, their gender compositions affect the wider populations of their regions. A substantially higher sex ratio is recorded for Eastern Asia of 116 males for 100 females. This region covers Mongolia, China, North Korea, South Korea, Japan, Hong Kong, Taiwan, and Macau. At the time, China recorded a sex ratio for under-fives of 117, while other countries like Japan and South Korea have been shifting away from son preferences (Fuse, 2013; Chun & Das Gupta, 2021). Compare this to Asia which recorded a sex ratio of 109 as

the region includes both China and India, as the latter recorded a sex ratio for its under-five population of 108.

Another interesting issue concerns the pattern of the gender composition as a population grows older. In general, the sex ratio initially stays fairly stable from the youngest children of under-fives to when they are young adults in their 20s, to then slowly but steadfastly decline with age and eventually the older age groups are dominated by women. The balance of equal numbers of males and females, or a sex ratio of 100, is achieved at different ages—the earliest among Southeast Asian populations when they are at their prime ages of between 35 and 39 years and of course the latest is experienced by the Eastern Asian populations at retirement age from 60 to 64 years; slightly earlier for the total Asian populations when they reach 55–59 years and again a step earlier is noted for the overall world population when they reach 50–54 years. But then, when people reach centenarian ages, the world over is extremely female with four women for every man.

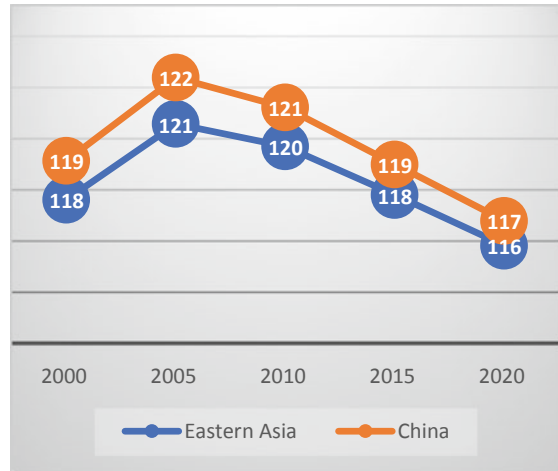
Of interest to Indonesia are the patterns for Eastern and Southeast Asia, which lie beyond the patterns for the World and Asia. Eastern Asia shows a different pattern from the World and Asia. The sex ratio for Eastern Asia initially rises from 116 for the youngest children of zero to 4 years old, to 118 for those aged 5–9 years old, and for teenagers from 10 to 19 years to 120 to then decline thereafter following the pattern of other populations albeit at a slower pace. At first glance, we attribute this pattern to the widely known practice of son preference in China, a strong patrilineal society which, for 2020 is projected to number 1.4 billion people, constituting 87% of the East Asian population thereby dominating the East Asian population and population patterns. While not ignoring the many population conditions that have been attributed to a son preference perspective,³ it is interesting to note the difficulty finding studies of the impact or the relation of the universal and strengthening feminist movement on son preference in China.

Yet, this social phenomenon of strong son preference is weakening, even in China where this tradition has lasted for generations, even centuries. The tendency for weakening son preference started early this century, even though at the turn of the century the tendency was for son preference to initially strengthen as indicated by a rise in the sex ratio of under-fives from 119 in 2000 to 122 in 2005. It was only thereafter that the sex ratio started to decline, apparently with rising speed—initially by only one point over a 5-year period between 2005 and 2010, but then rising to two points in each 5-year period between 2010 and 2020, when it had already reached 117 males for 100 females.

At the turn of the century, son preference in China was still strong and even gaining strength during the first five years of this century as indicated by a rise in sex ratio of under-fives. This incorporates the sex ratio at birth, a strong indicator of ante-peri-to postnatal practices of son preference and the consequent reverberating call by Sen as early as 1990 and again promoted in 2003 of the “More than 100 million missing

³ In fact, studies on son preference are overwhelming, a few are identified as follows: Gupta et al., 2003; Jin et al., 2007, 2009; Lei & Pals, 2011; Murphy et al., 2011; Poston & Conde, 2011; Loh & Remick, 2015).

Fig. 10.2 Under-fives sex ratios for China and Eastern Asia, 2000–2020. *Source* United Nations, *World Population Prospects*, the 2008 Revision, Volume II: *Sex and Age Distribution of the World Population*



women” in China.⁴ Even at the turn of the century, son preference in China continued to gain strength, thereby resulting in an increase in the sex ratio of under-fives from 119 to 122 (Fig. 10.2). It was only thereafter that initially slowly, declining by only one point to 121 by 2010, but gaining speed subsequently with declines of 2 points in each of the following 5-years periods to 119 in 2015 and 117 in 2020.

With her contribution of 87% to the Eastern Asian population, it is not surprising that the Chinese population trends and patterns strongly dominate those for Eastern Asia. The sex ratios of under-fives for the Eastern Asian population differed very slightly by only one point lower from that of China. It is suggested that this difference is mainly contributed to Japan and Korea, the strongest contributors to the Eastern Asian population beyond China, with 8 and 3%, respectively, while the remaining five countries like Mongolia, North Korea, Hong Kong, Taiwan, and Macau combined constitute only two percent of the total Eastern Asian population. Both Japan and South Korea have started to value daughters more, thereby reducing their strong attachment to their sons for their future and the family (Fuse, 2006, 2013; Choe, 2007; Chun & Das Gupta, 2021, 2007).

A multitude of transformations have been and continue to occur in the largest population in the world. The traditional ideal elite Chinese family, living in three generation households, where sons remain “at home” after marriage to continue the family name and daughters move out into their husbands’ households to live under the tutelage of mother-in-law,⁵ is hardly found today or may also no longer exist.

⁴ This idea of the millions of missing women as a consequence of son preference, combined with the one-child policy, is a topic of research interest in various parts of China as well as other strongly patrilineal and patriarchal societies in other countries of Asia in Anderson & Ray, 2010; Ebenstein, 2013; Ebenstein & Leung, 2010; Quanbao et al., 2013; Shi & Kennedy, 2016; Attané, 2006; Zhu et al., 2009; Hesketh, 2009; Gupta, 2018; Junhong, 2011).

⁵ Most likely as portrayed by Pearl S. Buck in her various novels on the Chinese family, one of them, *The Good Earth* (1931). Albeit no longer common, this tradition can still be found in Indonesia.

Modern China is very different today from those memories of bygone days since Deng Xiaoping instituted market reforms in the late 1970s. If in 1981, 88% of the population was classified as living in extreme poverty, less than one percent, or more exactly, only 0.7% were so classified in 2015.⁶ At the same time, families have become much smaller, especially since the implementation of the one-child policy and the tendency to live in two generations nuclear families of parents with their child(ren).

Like elsewhere in the world, development has activated the demographic transition resulting in declining mortality⁷ and fertility and rising life expectation and thus the consequent aging of the population. All these changing trends are associated with rising shares of aged single and couple households (Yi & Wang, 2003). But then, housing developments, availability, and accessibility compounded with migration are also claimed as factors affecting residential patterns among the elderly, some of whom chose to move in with their children (Hu & Peng, 2015; Silverstein et al., 2006).

Of late, however, the value of son preference is eroding (Guilmoto, 2005, 2009), even in light of the one-child public policy having to be practiced by parents in China. We attribute this to the feminist movement gaining increasing strength even in strongly patrilineal societies of East Asia. And thus, parents become increasingly aware of the value of having daughters. As discussed earlier, this is reflected in Fig. 10.2 showing declining sex ratios of under-fives starting in 2010 for China.

The same can be said to be happening in South Korea, which used to be referred to as “one of Asia’s most rigidly patriarchal societies, a centuries-old preference for baby boys over baby girls is rapidly receding” (Choe, 2007; Chung & Das Gupta, 2007; Das Gupta et al., 2003; Den Boer, 2017; Shin, 2016). This is well depicted by the experiences of a newspaper executive of 61 years old in 2007. She remembers when she was a young mother of three sons and no daughters. She used to be approached by other women asking her for her secret. Years later early this century when she tells people about her children, they pity her for her misfortune. She notes that within a generation she has turned from the luckiest women to a pitiful mother (Choe, 2007). This phenomenon attracts the study of the value of daughters, girls, and women in Korean Society (Shin, 2016). This is in line with feminist appearance in society that is gaining strength and importance. Popular are not just “boys” band(s) but “girls” bands and also joint gender bands are all gaining popularity, not just in Korea but also as far as in Indonesia where the millennials eagerly watch K-pop artists.

When we get to Southeast Asia (which consists of Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, East Timor, and Vietnam), even among under-fives, the sex ratio stands only at 104, approximately the natural level. This level remains up to the cohort of early twenties between 20 and 24 years. What is interesting is that the rates continue to be the lowest for each of the cohorts presented here until they become centenarians. If in the case of East

⁶ Based on the World Bank database, retrieved in 2017 and 2019 https://en.wikipedia.org/wiki/Poverty_in_China.

⁷ Especially among infants and under-fives.

Asia, we attributed the high masculinity from birth to retirement age in terms of son preference among the Chinese, and it is a different system which dominates the Southeast Asian populations and explains gender relations. If the Chinese population in East Asia follow strong patrilineal rules of descent and hence practice son preference, most Southeast Asian populations are said to follow bi-linear rules of descent (Yeung et al., 2017).

In a bi-linear system, individuals or both males and females are members of both their mother's matrilineage and also their father's patrilineage, or also known as "double descent" (O'Neil, 2009). And thus, marriage does not require the couple to move in with either parental family, or at a later date to accept either paternal or maternal parents when they become elderly. This pattern is irrespective of their sex and child order. All children can stay in their parental home if they so wish and the parents agree, and later any of the children, usually the best off, and/or the child that best gets along with parents is where the parents stay when they have to.

The dominance of the bi-linear kinship system is attributed to the large share of populations that do so. Three of 11 countries count for two-thirds (67%) of the overall region's population, and most ethnic groups share norms of living arrangements. The first is Indonesia with a projected population for 2020 of 254 million constituting 39% of the total Southeast Asian population of 654 million. The second is the Philippines (Gallego, 2015; Turner, 2013) with a population of 110 million constituting 17% of the region's population. Thailand is the third country fulfilling the criteria of constituting more than 10% of the regional population and the majority following a bi-linear kinship system (Friedman, 1998; Kuwinpant, 2002) with 71 million people making up 11% of the region's population. And thus, all together these three countries make up 67% of the overall Southeast Asia population.

The largest country with the largest population, the Indonesian archipelagic state, consists of 17,491 islands,⁸ some of which are not inhabited. Indonesia is not just blessed with a large number of islands but also with the consequent variation in norms and values among ethnic groups and also kinship systems. All basic kinship systems are represented in the archipelago. While the Batak of North Sumatra adhere to a patrilineal system, identifiable by the family or clan names, the Minangkabau of the neighboring province are known to follow a less common but well-known matrilineal rule of inheritance. This culture demands that wealth remains with the clan and is passed down through daughters and cannot be disposed of. The family continues with female offspring and is said to be extinct (*punah*) without daughters.⁹

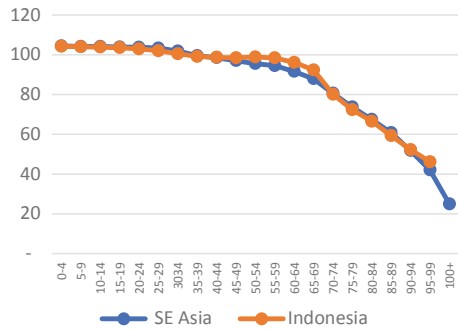
Even though there are several hundreds of ethnic groups in the country,¹⁰ it is generally accepted that it is the Javanese, who make up 40% dominate the Indonesian

⁸ According to the latest count by the Coordinating Ministry for Maritime Affairs and Investments dated December 2019.

⁹ The author knows a Minangkabau family with six children, of which four are female. Yet, the daughters were either not married or did not produce offspring and thus also no daughters. And consequently, the family is said to be *punah*, and it has become extinct.

¹⁰ Available references recording numbers of ethnic groups that vary greatly, from more than 300 to 1,340 according to the 2010 Population Census, or some 633 (Wikipedia <https://www.google.com/search?client=firefox-bd&q=Number+of+ethnic+groups+in+Indonesia>).

Fig. 10.3 Age-specific sex ratios for Southeast Asia and Indonesia, 2020. *Source* Calculated based on United Nations (2009) *World Population Prospects, the 2008 Revision, Volume II: Sex and Age Distribution of the World Population*



population. And it is the Javanese who adhere to a bi-linear kinship system of having only the Western equivalent of first names, in the past that could mean only 1 (one) word.¹¹ Young modern Indonesians, however, are increasingly more likely to expand their individual names. The longest I have found consist of up to five words with no family name.¹² This phenomenon suggests that the modern country of Indonesia is not necessarily adopting but more likely and maybe even increasingly accepting some cultural norms of Javanese culture, including its kinship rules, which shares greater similar practices around the world. Modernity is also often characterized with greater practicality, and it is practicality which applies to decisions on residential patterns of people going through their life cycle—who stays with whom.

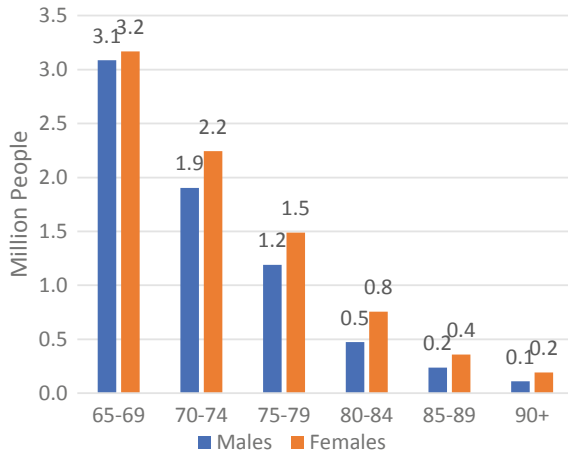
Indonesian Elderly Women and Men in the Household

This is a story of elderly Indonesian women, who, like their sisters the world over, are more likely to survive men of the same cohort. But, as part of Southeast Asia, Indonesian women share similarities with the populations of the region. And yes, the expectation was also to find similarity in the demographic parameters. As such, it was a surprise to find an almost perfect fit between the Indonesian and the Southeast Asian age-specific sex ratios from birth to the oldest ages of 100 years and older (Fig. 10.3). The sex ratios in 2020 started at 104 males for 100 females for the youngest age group for under-fives. This level remained until the teen ages of 15–19 years for Indonesia and slightly older for Southeast Asia to age 20–24 years.

¹¹ I remember the story of a colleague who went to the USA for further education, who, when arriving at the LaGuardia airport in the early 1960s, was asked her “first name” responded “Kadariah” and next when asked her “last name” responded “none”. As a result, in USA archives, she became known as Kadariah None. (None in Indonesian means miss).

¹² Modernization is occurring in all walks of life, including naming of children. In the past, one could associate names with ethnicity, which is far less likely today. In fact, few of the names of students in one of my classes sound typical and easily associated with a particular ethnic group. I now find my students’ names consisting of 3–4 words, with no family name, common among both male and female students.

Fig. 10.4 Age distribution of the elderly by gender (in millions). *Source* Processed from Statistics Indonesia, 2018 National Social Economic Survey

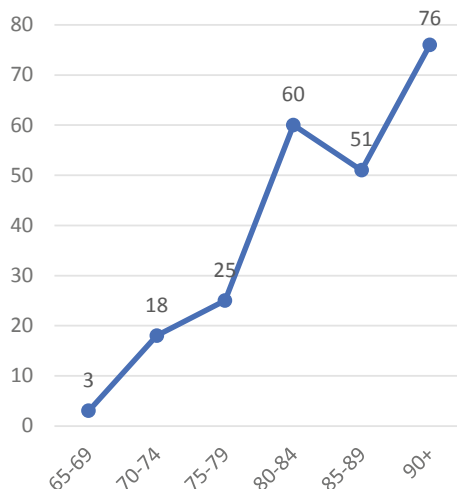


Thereafter, sex ratios start to decline, slowly by 1 or at the most two points for the next five-year age group until the age group of around retirement age for the age group between 60 and 64 years recording sex ratios of 92 for Southeast Asia and 96 for Indonesia. It is only after around retirement age of 65 years that the gender gap in favor of female survivorship becomes more accentuated. If by ages between 65 and 69 years Indonesia recorded a sex ratio of 92 males for every 100 females, for the age group aged 80 to 84 years, there were already only 67 males for 100 females, and then, for the oldest age category available between 95 and 99 years, there are only 46 males left for every 100 females.

At this juncture allow me to focus on the center of attention of this study, the elderly in Indonesia. In this study, the elderly is defined as those aged 65 years and older in 2018 (the time of the survey). The higher female survival when elderly is reflected by the larger numbers of women compared to men for each five-year age group (Fig. 10.4). There was a total of 8.2 elderly women and 7.0 million elderly men in 2018. Among those aged 65 to 69 years, the difference was limited with 3.1 million men compared to 3.2 women or only about 3% more women than men. This number rises very fast thereafter to reach 76% for the very old of 90+ years (Fig. 10.5). We show these differences as a reminder for later analyses regarding the social discrepancies experienced by women compared to men in Indonesia.

The earlier mentioned excess of women over men among the elderly is further also characterized by women of that generation being disadvantaged in terms of the benefit of human capital investments. In that generation of elderly, the youngest were born in the 1950s, not long after Indonesia declared Independence on August 17, 1945, and thus still a very young nation coming out of colonization and thus still very poor. We assert that in poverty at both the family/household level as well as the overall economy, parents tend to prioritize their sons to gain an education. The reason for this is that during that time, there were very few employment opportunities available, and thus, the labor market was then dominated by men. Moreover, another reason is that

Fig. 10.5 Percent excess females over males. *Source* Processed from Statistics Indonesia, 2018 National Social Economic Survey



tradition demands men to be household heads and therefore responsible for being the breadwinner, while women are housewives in marriage and therefore responsible for running the household with the earnings given to her by her husband. It is up to her ability to use her wits to make ends meet which she does in the shadows, and consequently, she is generally not (supposed to be) visible. However, as Indonesia has grown and continues to develop in an environment of universal and national gender equity demands, women and girls have and continue to make inroads into a world earlier the world of men, the public sector.

Women can no longer be held back to be part of the public sector, for which they require increasing investments by attending school and later on to higher education. We suggest that in Indonesia's case the market created an ecosystem which makes it favorable for both parents and governments to open the gates to the world of knowledge and skill development to their daughters as well (Oey-Gardiner 1989; 1997a, b). The labor market continues to develop in a more gender-friendly environment, with jobs for men and women, especially in the service sector requiring at least post-secondary education (Oey-Gardiner, 1985, 1986, 1991, 1993, 1996, 1997a, b, 2001, 2002; Sugiyarto et al. 2006). And thus, today we notice that with the worldwide corona pandemic the frontline "soldiers" of health workers are at least shared between women and men and in some cases even dominated by women.

In patience, over time women can no longer be withheld to gain equal, if not greater access, to human resource investments (Fig. 10.6). We were pleasantly surprised to note that the millennials of 20–39 years old (the birth cohort of the last two decades of the last century) have different educational aspirations. If among the elderly women were much disadvantaged in terms of education (29 versus 13% of women and men respectively have no education or never went to school), among the millennials, women are already "better educated" with 19% as compared to 16% of women and men who completed tertiary education. We suggest that this is partly attributable to

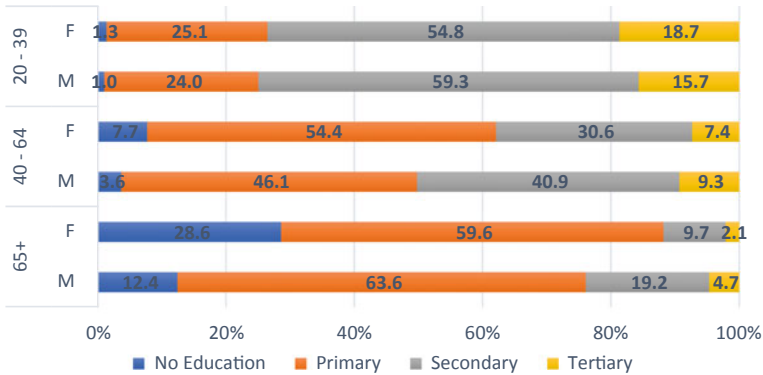


Fig. 10.6 Percentage distribution of millennials, adults and elderly, by completed education, Indonesia 2018. *Source* Processed from Statistics Indonesia, 2020 National Social Economic Survey

males being more likely to discontinue schooling in favor of entering the labor market after completing their education. This assertion is supported by the relatively higher proportion of males having completed secondary schooling compared to females (59 compared to 55% for males and females).

If we attribute the similarity in the age and sex structure of the Indonesian to the Southeast Asian populations due to the general bi-linear kinship system, there are also other social determinants affecting the gender differential demographic characteristics. Indonesia is also known for holding the largest Moslem population of the world, with 229 million followers of the Islamic faith, constituting 13% of the total world Moslem population, and 87% of the country’s population.¹³ It can be expected that in the not-too-distant future, Indonesia will be overtaken by Pakistan as the world’s largest Moslem population due to the significantly higher fertility regime of the Pakistani population.¹⁴

As a predominantly Moslem nation, marriage patterns condoned by the predominantly religion affect the overall population sex structure, with different consequences for men and women. Men are allowed to be polygamous with up to four wives at any one time.¹⁵ But it is also common knowledge that the religion tells them that they can only do so if they can be just to all wives, the practical meaning of which is not clear. As there is no formal data available on the incidence of this phenomenon,

¹³ According to the World Population Review latest adjustment of February 17, 2020, Moslems are found in 210 countries around the world. In 72 countries, there are more than 1 million followers, in 31 countries, there are more than 10 million, in four countries, there are more than 100 million and even more than 200 million, like Indonesia. In 29 countries, more than 90% of their population are followers of the Islamic faith, and in another addition 16 countries, they constitute more than half the population.

¹⁴ As measured in terms of the total fertility rate, which stands at 2.32 children per woman of reproductive ages for Indonesia and 3.38 for Pakistan (World Bank Database, downloaded 19 April 2020 at <https://worldpopulationreview.com/countries/total-fertility-rate/>).

¹⁵ Which means that they can have had more than four wives over their lifetime.

Table 10.2 Marital status distribution of the elderly 65+ in Indonesia 20,203

Marital status	Males	Females	Total
Never married	0.8	1.2	1.0
Married	78.8	31.1	53.0
Divorced	1.3	2.7	2.1
Widowed	19.1	65.1	43.9
Total (in 000)	6998	8207	15,205

Source Processed from Statistics Indonesia, 2020 National Social Economic Survey

except for a current legislator bragging on TV about his life with his three wives all living in the same abode, no analysis can be conducted on this issue.

Then, there is another social factor affecting the demographics in the population. Like elsewhere in the world, there is definitely a gender difference in socialization patterns and practices. Boys and later men are often excluded from household chores and management relegating such activities to girls and women. In addition, in Javanese society, women hold the household purse strings.¹⁶ That means that men are supposed to hand over their earnings to their wives,¹⁷ and it is up to the wife how she manages the household taking care of feeding, clothing, schooling, and housing all being women’s responsibilities. This is what a colleague mentioned.

Very true, family wellbeing is the responsibility of mothers. Husbands bring home money, whether enough or not he never asks. Its mothers who have to juggle things, if necessary, she will pawn anything she owns.

Tina, Javanese.

This means that men, throughout their life cycle, are generally not used to take care of themselves. The consequences of the preceding discussion are reflected in the composition of the elderly by their marital status (Table 10.2). The excess of women among the elderly is reflected in the numbers of 8.2 million women compared to 7.0

¹⁶ This is not a universal rule in Indonesia, which is rich in variation, including the variation of gender relations in the family and household. This is exemplified by the Acehese where Shari’ah law prevails (Kusujarti et al., 2015). Culturally, the Acehese are also followers of a bi-linear system but with very different gender relations, where the public sphere is allocated to men and the private space to women, who should remain “invisible” and have no right to be in the street (Mernissi, 2003). This cultural norm affects the husband–wife relation as experienced by the author: During a meeting in Banda Aceh after the 2004 Christmas Tsunami, the author spoke to a male Acehese, who claimed that was not possible in Aceh. Men keep their earnings, and they make most household decisions, including household expenditures, which are consistent with the norm that women are limited to the private sphere remain invisible. Consequently, contrary to the situation in traditional Javanese markets which are dominated by women as both sellers and buyers, in Aceh, it is all men.

¹⁷ Some years ago, there were limited employment opportunities available. The civil service became the dominant source of formal sector jobs mainly occupied by men with low levels of wages and salaries. These were compensated with activities supplements, like for instance to attend meetings or travel somewhere, usually handed over in envelopes, and combined could well exceed their salaries. At the time, jokes were expressed as salaries going to their wives, and the envelope money was cigarette money to be kept by men.

Table 10.3 Relation to household heads by gender among Indonesian Elderly 2020

Relation to household head	Males	Females	Total
Household head	87.8	37.3	60.5
Spouse	0.6	27.3	15.0
Parents/in-laws	10.2	31.3	21.6
Others	1.4	4.1	2.8
Total	100.0	100.0	100.0

Source Processed from Statistics Indonesia, 2020 National Social Economic Survey

million men in 2020. Note also the gender contrasts in the marital status composition. Whereas most elderly men are married (79%), most elderly women are and tend to remain widowed¹⁸ (65%). It is commonly understood and socially accepted that upon loss of their spouse, men will remarry not long thereafter, especially when the couple used to live by themselves. In contrast, elderly women are less likely to remarry after the loss of their spouse and are widowed. They continue life but without a husband.

Even though most Indonesians trace descent through both parents and individuals can choose who stay with, if there is a man in the household, he will be the household head. This custom is not just socially sanctioned but legally reinforced in the 1974 Indonesian Marriage law, which states: “Husbands are the heads of the household and wives are housewives” (Article 31).¹⁹ By implication, Indonesians basically follow a patriarchal system of male power relations and preferential treatment with gender discriminatory consequences, much discussed in the feminist domestic and international literature.

And thus, elderly males, irrespective of household size in which they reside, are very likely to claim and be named household head (88%, Table 10.3). That there are also women who are household heads (37%) is a function of age, and among this group of elderly women, a good proportion is widowed (65% in Table 10.2) and has thus become the household head (Table 10.3). It can also be noted, however, that there are 10% of elderly males who are in fact either parents or parents-in-law of the household heads, reflecting the condition in which they live as dependents of their children. I also like to call attention to the fact that the probability for elderly women to be dependents (31%) living in possibly their children’s households.

In fact, most elderly live in households with other members as well (Table 10.4). That is true of 94.5% of elderly males and 84% of elderly females live in households with multiple members. There is a substantial difference in the gender-specific proportion of the elderly living alone or as couples, while the proportions living in larger households are rather similar between elderly men and women.

¹⁸ Maybe anecdotal but corroborated by these data is the author’s personal experience at the death of her husband was visited by quite a number of elderly women who came alone to the wake, not because their husbands could not make it but rather that they were already widowed.

¹⁹ One consequence of this regulation is that within a household, which is socially acknowledged as a nuclear family consisting of one male father, one female mother, and their children, but is legally split into two families, as experienced by the author.

Table 10.4 Composition of elderly males and females (65+) by household size, Indonesia 2020

No. HH members	Males	Females	Total
1	5.5	16.1	11.2
2	30.8	22.8	26.5
3	18.5	14.4	16.3
4	13.6	14.2	13.9
5	13.9	14.8	14.4
6+	17.7	17.6	17.7
Total	100.0	100.0	100.0

Source Processed from Statistics Indonesia, 2020 National Social Economic Survey

We argue that the data reflect gender cultural patterns of male dependence in households, and thus the small proportion of elderly males living alone (5%), while almost a third (31%) live in two-person households, and the remainder live in larger households (64%). Note the contrast with elderly women, who are much more capable to live on their own (16%), and thus, a slightly smaller proportion live in two-person households (23%), while not too different from males, the majority live in larger households of three persons and more (61%).

Who to Live with in Old Age?

The choice of which adult children the elderly live with is another statement of the Indonesian bi-lineal kinship system which is not supposed to favor either sons or daughters but there used to be a general preference to live with daughters, at least among the X-generation born after World War II in the 1950s–1960s. Below are opinions and experiences of a number of elderly women (Box 1):

Box 1—Living Arrangements Experiences

I am lucky because my father died in 1994 when visiting with us from the village. His last wish was that my mother should stay with us, which she did until I had to take care of my husband in 2012.

Today she is staying with my younger sister.

One day I had to take my husband to the hospital which was full of women. Why? I guess, when husbands are sick it is their wives who take them to the doctor. If the wife is sick, it is the daughter who accompanies her. If a child is sick, it is the mother who takes care. – Zum is Javanese

It is true of myself. It is my daughter who currently takes care of me.

My daughter in law is like a little angel to me, always busy with her husband who is very active.

We are lucky with our customs. – Yudha, a Javanese

I think that daughters take care of their parents is our tradition because parents are also closer to their daughters than daughters in law. This is true of ethnic groups in Sumatra as well as Java.

My mother stayed with my sister until she died. – Tini, a Minangkabau from West Sumatra

My in-laws prefer to stay with their daughter in Surabaya, but every year they will stay with us for a few months as my husband is their eldest son. – Henny is Javanese and her husband is Karo from North Sumatra

My parents and in-laws all stayed in their own homes until they died. It is my younger sister who moved in together with her children to keep our parents' company and take care of them. – Mia, is Javanese

As the data show, there is no gender preference in who can stay with parents into adulthood and even in marriage. This is true of all children as well as married children living with their in-laws (Table 10.5). We show here the number of elderly heads of households who live with their adult children, most of whom are ever married. There are more male household heads (6.1 million) compared to female household head (3.1 million). Male household heads are more likely to live with their own children (54%) compared to female household heads (43%), a phenomenon attributed to dependence of men in managing their households or the independence of women under similar circumstances and therefore the greater likelihood of elderly male household heads having children living with them.

Table 10.5 Living arrangements of elderly household heads with adult children by gender, Indonesia 2020

Children in the household of elderly HHH	All Children				Married Children			
	Males		Females		Males		Females	
	No	%	No	%	No	%	No	%
No own children	2819	45.9	1731	56.6	2795	45.5	1715	56.1
Male children	1502	24.4	608	19.9	991	16.1	413	13.5
Female children	1148	18.7	524	17.1	649	10.6	347	11.4
Male and female children	677	11.0	194	6.3	1712	27.9	582	19.0
Total (000)	6147	100.0	3057	100.0	6147	100.0	3057	100.0

Source Processed from Statistics Indonesia, 2020 National Social Economic Survey

Table 10.6 Living arrangements of dependent elderly parents in their children's households, by gender, Indonesia 2020

Children	Males		Females	
	No	%	No	%
Sons	48.9	6.8	241.0	9.4
Daughters	69.0	9.6	327.6	12.8
Sons and daughters	597.9	83.5	2000.0	77.9
Total	715.8	100.0	2568.6	100.0

Source Processed from Statistics Indonesia, 2020 National Social Economic Survey

Notice also that irrespective of gender of the household head, there appears a greater tendency for adult male children to stay with their parents. It is suggested that this phenomenon is not a function of following a particular kinship rule, which in bilinear societies generally favor uxorilocal or matrilocal residence, but is rather driven by practicality of the situation and/or condition of the household members, including the children. Among male heads of households, 24% have their male children stay with them as opposed to 19% female children, and a similar pattern is also observable for female household heads—20% have their sons live with them as opposed to 17% daughters. The pattern for married children is similar even though at lower levels—16 and 11% for male household heads living with married sons and daughters, and for female household heads, it is 13 and 11%. These are new phenomena in the context of a society dominated by Javanese culture, where marriage used to mean setting up a new household meaning separate from parents, even though in the neighborhood of the wife's mother following patterns of uxorilocality or matrilocality (Geertz, 1961). This tendency is attributed to high divorce rates resulting in women returning to their maternal home²⁰ and men tending to move further away on subsequent marriages. It is suggested that these changes are a function of changing residential patterns with population and economic growth resulting in higher land taxes the closer to the city center of elite residences, a hypothesis worth testing.

Another interesting finding is the choice elderly make of who to live with as parents or as parents-in-law. These data are contrary to an idea held by the author of parents preferring to live and stay with adult daughters and their husbands rather than with sons and their wives.²¹ In a way the pattern appears similar to the above, of elderly parental choices which children to stay with when they become dependent (Table 10.6). Notice that there are far fewer dependent fathers (716 thousand), compared to the number of dependent mothers (at 2.6 million there are more than three times the number of fathers), living with one or more of their children, one of them being the

²⁰ Transportation was relatively underdeveloped until the end of the last century.

²¹ This idea held by the author is based on personal experiences in the family, friends, and acquaintances (expressed in Box 1). This is a valuable lesson not to just rely on anecdotal and personal experiences, but it is always better to check with available data.

head of the household.²² Part of this difference in numbers is of course a function of women living longer than men. Besides, for this generation of elderly women, the youngest were born in 1955 and the oldest during the worldwide depression of the 1930s, the majority were and are poor throughout most of their lives, and thus, in old age, they have no savings and are thus most likely financially dependent and therefore live with their children when possible.²³

Even though, yes, the proportion of elderly parents choosing to live with their daughters is slightly higher than those living with sons, still the overriding majority live with both sons and daughters. Seven and ten percent of elderly fathers choose to live with their sons and daughters, while among mothers, it is 9 and 13%. In both cases, the majority of dependent parents live with their sons (84%) and/or daughters (78%), at times moving between their children. These data reflect that Indonesian society does not practice a fixed normative gender-specific preference in living arrangements of adult children, some married already, in their elderly parents' homes or the other way round when elderly parents have to live with one of their children. Instead, we suggest that the pattern reflects pragmatic decision making of who lives with who in the life cycle of family members.

These findings on adult children living with parents as well as the other way round of dependent parents with children do not exactly follow "ideal" bi-lineal kinship rules of residence that favor matrilocality. Similar findings were observed toward the end of the last century by Ihromi (2000), who suggested that flexibility, which I rather call practicality, characterizes residential decisions. And we agree that the practices may well be here to stay and with even further modifications should be expected as life continues to change, especially in light of what we are currently experiencing, living with the new coronavirus COVID-19, which dictates a new normal, the outcome of which remains unknown today.

Access to Housing

What a cultural shock! After enjoying a holiday in well-organized neat and clean countries of Western Europe, we landed in New York, one of the most cosmopolitan and rich cities of the richest country in the world. I was bewildered and shocked to find the kind of poverty when walking around the city meeting a number of scavengers and then being informed that they were also homeless. I thought that if in such a rich country there are so many homeless, it must be much worse in a poor country like Indonesia. Besides, listening to the news in May of 2020 when many cities are in lockdown mode, the impact of which weighs heavily on many Americans' inability

²² Notice that there are no elderly living in institutions like old people's homes, because the survey that does not cover institutions. The data collection unit of the survey is the household.

²³ While there are state-run and private old people's homes in the country, when possible, children are more likely to take care of the elderly parents.

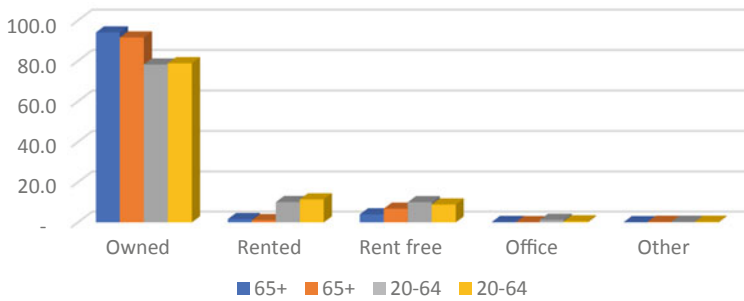


Fig. 10.7 Home ownership by age and gender of household head. *Source* Processed from Statistics Indonesia, 2020 National Social Economic Survey

to pay rent. However, home ownership data are only available for 46²⁴ and 52²⁵ of 197 countries²⁶ in the world, and Indonesia is in neither list. The highest recorded rates of 96–97% are for Romania in both lists. Except for Singapore, other countries having high home ownership rates of around 90% are Eastern European countries. At the other end of the spectrum, the lowest recorded rate is 43% for Swiss. These data suggest the absence of a relation between home ownership and wealth.

In the absence of an international comparison to gain an understanding of home ownership status among Indonesian elderly, we turned to the younger generation. It turns out that there is an intergenerational difference, even though only slightly, in the level of homeownership. Interestingly, homeownership is not a gender issue in Indonesia, but there is a substantial generation difference. The elderly strongly value owning their homes, as an overwhelming majority of more than 90% of both male and female household heads own their homes (Fig. 10.7). On the other hand, the younger generation, adults aged 20–64 years²⁷ are not as much concerned with having to own their homes at almost 80%. These adults include the millennials, often defined as those born during the last two decades of the last century and would thus be aged between 20 and 38 years in 2018. The true reference to the millennials is that

²⁴ <https://tradingeconomics.com/country-list/home-ownership-rate>.

²⁵ https://en.wikipedia.org/wiki/List_of_countries_by_home_ownership_rate.

²⁶ As a matter of fact, home ownership rates are only published for about one of four countries. According to the World Population Review (<https://worldpopulationreview.com/countries/how-many-countries-are-there/>), there are a total of 197 countries, consisting of 193 UN member countries, two UN observers (Holy See (Vatican) and Palestine), and two self-governed territories (Taiwan and Kosovo).

²⁷ Noticeably, we have placed the lower age limit of adults to 20 years. The reason for this cut-off is the current working definition of childhood, which ends at age 18 years, adopted by the United Nations in the Convention of the Child since November 30, 1989, and ratified by the Indonesian Government on September 24, 2012. It is since then that issues on children, like age at marriage if before age 18 are currently referred to as child marriage, draw the attention of the feminist movement.

they are also reasonably educated, with at least some post-secondary education,²⁸ and therefore can afford to want to feel free, including not to be bothered and tied down by home ownership. Millennials are not like their predecessors who strive for ownership of fixed assets, including their homes. Instead, as this generation prefers experience over ownership of goods, it is not surprising to note the survey recorded a slightly lower proportion of adults owning their homes (78 and 79% for males and females).

Next, notice the age difference among the home renters—around 1 of 10 adults but only 1 (one) percent among the elderly. While not as extreme, adults are slightly more likely to live-in rent-free accommodation than the elderly: For adult males, it is 10% and females at 9%; among the elderly, relatively slightly more females live in rent-free housing at 7% and males only 4%. The slight gender difference in access to rent-free housing is here attributed to the earlier discussed greater dependency status among women, a societal norm and also legalized in the 1974 Marriage Law.

Given the overwhelming level of home ownership in Indonesia in general and especially among Indonesian elderly, obviously it is not an indicator of differentiation. The survey is a rich source of housing information, which allows measurement of a variety of indicators often searched as indicators of development. With that goes the increase in home improvement projects across the world,²⁹ the development of the real estate industry, and the commensurate studies and reports on the value of housing on improving welfare and quality of life (Kemeny, 2001).

While an overwhelming majority of the population and also the elderly Indonesians live in their own homes, like elsewhere in the world, most would appreciate living in better quality housing. Indonesia's development achievements have taken 52 million people out of poverty into the middle class (World Bank, January 2020, right before COVID-19 became a pandemic) with rising expectations, wishing and wanting better living conditions, including better housing quality.

Quality housing is here defined in terms of longer lasting construction materials for roofing, walls, and flooring. We distinguish here between permanent and temporary housing. When and where possible most households would like to improve the quality of their homes toward permanent housing. In 2018, households living in permanent housing were still less than 40%. Or on the contrary, more than six of every ten households still live in temporary homes with roofs made of either asbestos, tin, bamboo, or straw, or thatched roofs; walls made of meshed bamboo or wires, wood; flooring made of wood, bamboo, or dirt. Notice that the share of households headed by elderly women (29%) is significantly less likely than those headed by elderly males (35%) to live in permanent housing (Fig. 10.8). We suggest that as stated earlier, this phenomenon is a function of elderly women being older and poorer than the men, the latter being a consequence of earlier dependence on men, their husbands, during their married lives. This is a condition which should be attended to.

²⁸ Millennials are here defined as aged 20–39 with post-secondary education. They constitute 16% of the age group.

²⁹ Some of course with loans from well-known international banks.

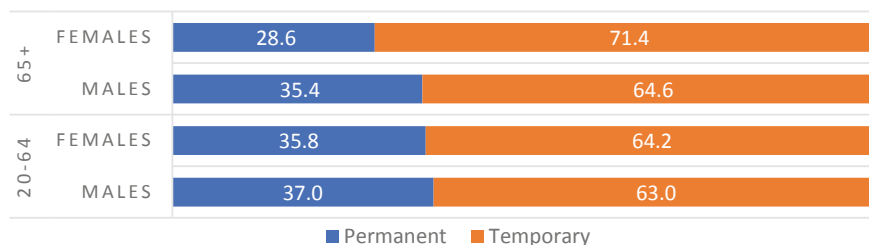


Fig. 10.8 Building materials of homes of household heads by age and gender. *Source* Processed from Statistics Indonesia, 2020 National Social Economic Survey. *Note* Permanent building materials is here defined in terms of (a) Roofing is either concrete or tiles; (b) Walls is made of bricks; and (c) Floors are covered with marble or granite, ceramic, or parquet tiles. Temporary materials are any other

The above assertion is supported by the pattern for the younger generation of adults of 20–64 years old. Among adults, there is great similarity between genders in the shares living in permanent housing. The proportions of households headed by men or women living in permanent housing are fairly similar (37 and 36% for males and females). As we have noted earlier, women dominate among the elderly and are more likely to have to take care of themselves and their dependents, often as widows with little experience of earning a living as main breadwinner.

Hygiene and Sanitation

Besides construction materials, quality of life improvements in living arrangements also include other components of the house. In the country's development efforts, improving the lives of the people, an important health concern is the absence of proper sanitation accessible to the poor. When living in rural areas of many areas of the country, where population densities were low and settlements were sparsely populated, personal disposals or defecation was often conducted over ponds or in open fields. Prepared for a few years before, in 2008, the Government started a program called PAMSIMAS (*Penyediaan Air Minum dan Sanitasi Berbasis Masyarakat/Community-Based Drinking Water and Sanitation Provision*). The general purpose of the program was directed at improving the access to drinking water and sanitation for the poor in rural and peri-urban areas through raising the value and healthy behavior by building and providing sustainable and adaptable community-based facilities and infrastructure. This program becomes a model for replication, scaling up, and mainstreaming models for other areas in an attempt to achieve the MDG target. More specifically, the objectives are as follows: (a) Promoting hygienic behavior in the community; (b) Improving community access to sustainable drinking water and sanitation facilities; (c) Improving local capacity (both in local government as well as the community) to focus and expand program

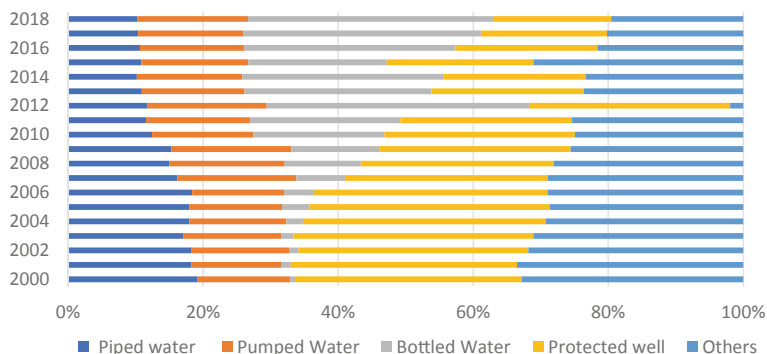


Fig. 10.9 Sources of drinking water, Indonesia 2000–2018. *Source* Statistics Indonesia, Annual Statistical Yearbook of Indonesia 2000–2019

implementation; and (d) Increase effectivity and sustainable long-term development of the community-based drinking water and sanitation infrastructure (Badan Perencanaan Pembangunan Nasional et al., 2006). This document served as it is called, an Implementation Guide, for at least the first Phase of 2008–2012 and followed by Phase 2 of 2013–2015. The success of the program, having reached 10.4 million people in 12 thousand villages, spread out in 233 district/cities in 32 provinces of Indonesia, has strengthened the commitment to continue to the next Phase 3 for the period 2016–2020, with a much greater target to create access to the overall Indonesian population, at the time estimated at 51 million people (Lestari, 2015), living on large and small islands, at various stages of development. Continuation of the Program as Phase 3 for the period 2016–2020 is legalized by the Minister of Health of the Republic of Indonesia Regulation Number 3 of 2014 on Community Based Total Sanitation (World Bank, 2014).

Regrettably, the excitement with the program is not fully reflected at the macroscale, which appears to increasingly rely on drinking water obtained in the market. This is reflected in the data collected by *Statistics Indonesia* (national statistics office). Data for the period 2000–2018 (Fig. 10.9) show the following patterns: First, access to piped water does not seem a popular alternative with the consequent declining share of overall household choice of source of drinking water. In fact, in 2000 one of five households relied on piped water as their main source of drinking water, but in two decades or more exactly by 2018, only half or one of ten households subscribes to that service. This is an interesting tendency considering that toward the end of last century provision of running water, supposedly delivering clean water for health purposes in particular, was handled by improving access to piped water. As a public sector service, it is the government or more specifically local governments, which are responsible for provision of clean water and services.³⁰ Quite likely, this

³⁰ The Western part of the Indonesian capital city of Jakarta is serviced by a joint company between the local government and an international company, here called PT Pam Lyonnaise Jaya, better known as Palyja. The company is under a current contract starting on February 1, 1998 for a

trend may well be a reflection of declining appreciation for the service in favor of other alternatives.

One alternative is pumped water, which, based on the photos in the various reports, including those promoted by the World Bank (2014), seems the choice for community-based alternative source of drinking water under PAMSIMAS. Pumped water can be built and then maintained by the community. Besides the underlying idea for the pump is that it also serves as a gathering focal point, especially for women, an idea which may well have been a misguided observation of very incidental occurrence. At the overall macrolevel, this source is also not an overwhelming popular choice, rising by only 2 percentage points from 14% in 2000 to 16% over a period of almost two decades ending in 2018.

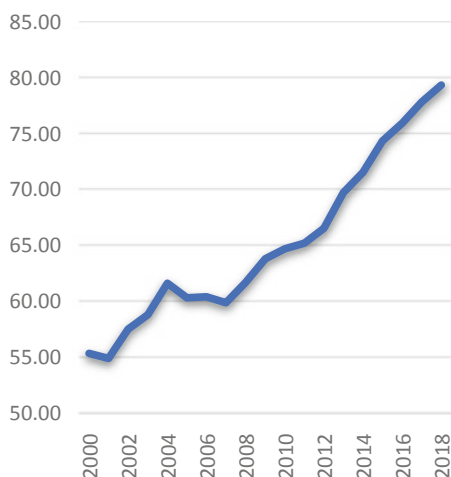
Unexpectedly from the beginning of the century when branded bottled water was slowly introduced in the country, today it is bottled water that dominates drinking water choice of Indonesian households, which rose from less than one percent (0.8%) in 2000 to 36% in 2018. In Indonesia, we currently know two types of bottled water: branded (of all sizes and brands) and refills (non-branded gallon size bottles), and it is the latter which has gained significant popularity among the rapidly growing lower middle class. The refill drinking water businesses can be found in residential neighborhoods, not just in major cities or urban areas but also in less populated rural areas. This type of drinking water is a popular choice for drinking water, for it has become increasingly affordable and it is also a practical source of drinking water which does not require boiling, as is the practice with other sources of ground or surface water. Its popularity is reflected by Indonesia recording the highest growth rate in the world at 10.1% between 2013 and 2018 (Bedford 2020).

The last categories have also been pushed out of the market by the continuously expanding businesses of refill bottled water. These are the protected wells, which declined in reliance of households from 33 to 17%. A similar fate is experienced by all other sources of not very good quality water consisting of unprotected wells, protected spring, unprotected spring, surface water, rainwater, and others, which combined declined from 33 to 20%, still substantial. We suggest that these changes are a function of the development process itself as the market economy expands toward rural areas. With development and rising education³¹ increasingly people are willing and recognize the importance of attending to one's health, in spite of blaming morbidity and mortality to fate, including the choice of drinking water consumption. Second, it is further suggested that the underlying assumption of the

25 years cooperation agreement with PAM Jaya, to end in the not-too-distant future, which, given the trend is questionable to continue.

³¹ Unlike in the past when the poor felt helpless against disease and death, today there is greater awareness of how it can be prevented. We suggest that this is a function of rising education. School enrolment among elementary aged youngsters (7–12 years) is practically universal at more than 99, 95% among lower secondary school-aged youngsters (13–15 years), and 72% among upper secondary aged youth (16–18 years). This means that even upper secondary aged youngsters in rural areas are increasingly also attending school. We suggest that it is this rising education which introduces the populace to an awareness about health, what it takes to be healthy and that morbidity and mortality can be prevented.

Fig. 10.10 Percent of households having private toilets, Indonesia 2000–2018. *Sources* Statistics Indonesia, Annual *Statistical Yearbook of Indonesia*

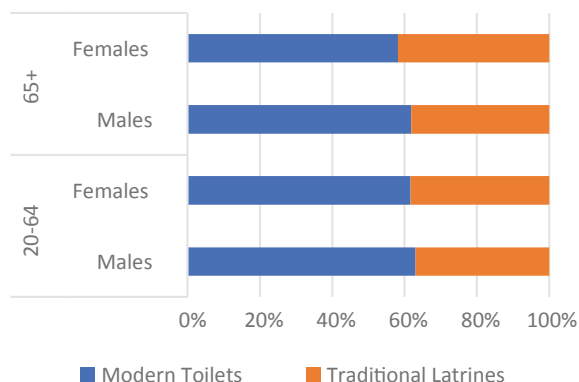


community-based organization, the pump being a meeting place, ignores technological developments, where face-to-face relations are no longer a requirement for interpersonal exchanges to occur. Third, efficiency and practicality become increasingly appreciated in a world when and where time becomes an increasingly scarce commodity.

We are also able to verify the impact of the complement component of the PAMSIMAS program. Besides improving access to clean drinking water, the program also promotes households to invest in private toilets. Even at the beginning of this century, in some rural areas, there was an unwillingness to have toilets in the house, if necessary then they would agree with outhouses. That was of course also still the time when population densities were low and space for outhouses was still available. Today, it is suggested that socialization of sanitation appears to have been effective. Households are increasingly willing to invest in private toilets (Fig. 10.10). In fact, there was already a movement for households to build private toilets at the beginning of the century (from 55 to around 60%) then a lull between 2004 and the beginning of the program in 2008 at around the 60%, and thereafter, it seems to have taken off, hopefully attributable to the program, and with the program strengthened. By 2018, close to 80% of households already had an indoor private toilet.

The above general finding of 8 out of every 10 households claiming ownership of indoor private toilets generally also means an absence of striking gender gaps. The rich dataset also allows us to measure at more refined levels, by combining additional information. Specifically, we differentiate between toilets (modern) and latrines (traditional) options. Modern toilets are defined as privately owned, of the gooseneck type (water based), and disposed of in a septic tank. Traditional latrines are of the following types: shared with the public and no specific disposal. The results show slight differences between generations as well as gender in favor of the younger generation and males (Fig. 10.11). Among adults, the difference is minimal as 63, and 62% of households headed by males and females have modern toilets, but

Fig. 10.11 Access to sanitation facilities by type, age, and gender, Indonesia 2018. *Source* Processed from Statistics Indonesia, 2020 National Social Economic Survey. *Note* Modern = Private toilet, Goose neck closet, and Septic tank disposal



among the elderly, there is a greater gender gap of 4 percentage points composed of 62 and 58% of elderly households headed by males and females. Since the criteria used to classify households relying on toilets or latrines imply differences in access to financial resources, these apparent gender differences may well be a reflection thereof. These findings suggest gender differences between generations—greater among the elderly than the younger generation. Given the difference in age and education composition by gender of the elderly (see Figs. 10.4 and 10.6), there is a difference in welfare status. And thus, when the concern is about the ability to access from the market, differential welfare status may well explain some of the gender difference, which we argue is being dampened by a feminist argument³² that women run households and therefore they make such decisions, including acquisition of hygiene and sanitation facilities for the household. And thus, the consequence is also on younger households which show hardly any difference.

Unlike the case of having a private toilet in one's residence, which is true of eight out of every ten households, access to drinking and cooking water is far more varied (Fig. 10.12). As noted earlier when focusing on drinking water at the national level, the most popular source is bottled water, consisting of branded and refill bottles. And, it is significantly higher for younger adults than elderly, but only slightly higher for males than females—38 and 36% of adult males and females and 23 and 22% among elderly males and females. The significant difference of about 15 percentage points between generations in the ability to consume bottled water as drinking water is attributed to differences in general welfare and second also differences in education. The younger generation is better off and can therefore better afford bottled water which can be reasonably expensive. This preference is also related to the younger generation being better educated (Fig. 10.6) and therefore also better recognizes the important relation between relying on clean drinking water consumption and health, where morbidity and mortality are not just a function of fate. Today, it is widely believed that the cleanest and reasonably accessible water is still bottled water. But

³² Currently, still based on personal and friend's experiences as no wider survey data are as yet available.

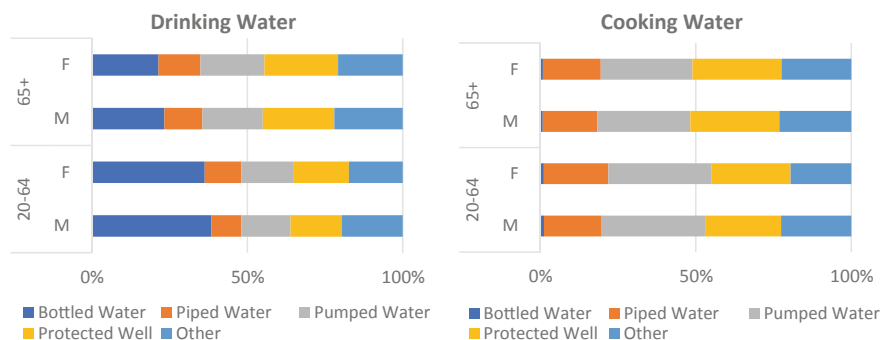


Fig. 10.12 Access to different sources of drinking and cooking water by adults and elderly, Indonesia 2018. *Sources* Processed from Statistics Indonesia, *Annual Statistical Yearbook of Indonesia*. *Note* M = Males; F = Females

then, bottled water is rather expensive, and thus, very few households use bottled water for cooking. Only around one percent of all households can afford to use bottled water for cooking.

Earlier we noted that over time piped water for drinking water has lost its popularity as main source of drinking water. This is not surprising given the sharp decline in water and service quality. Complaints include inconsistent water flow as well as the quality of the water. Specific complaints include inconsistency in water flow and the often-poor water quality, such as smelly, dirty with mud.³³ However, given that about one of every ten households still rely on piped water as their main source of drinking water and double or two of every ten households use it for cooking, and it suggests that the complaints are not nation-wide or that in some areas the connections are of reasonable quality and are willing to put up with a few inconveniences. But, for all the complaints about the service and quality, an important message to leave is that gender of household head is not an important differentiator in access to piped water.

The gender message is similar for other sources of drinking and cooking water—the difference is not that striking. The greater difference is in the use of the water. The earlier noted striking difference is in the reliance on bottled water mainly for drinking. And thus, other sources of water are more likely to be used for cooking. Take the example of pumped water,³⁴ an important source for cooking, three of every ten households rely on this source, but only two or less in regards to drinking water. Similar differential patterns can be noted for protected well water, is more likely used for cooking water, and the same is true of other sources of water. Although not very

³³ There is a dearth of studies on this declining trend in piped water connections and thus no information on reasons for this trend.

³⁴ In fact, pump water users can be differentiated between the majority of those who rely on surface wells, and a few others have dug far deeper artesian wells. This is a difference in investment and resulting quality of water. Deep wells produce clean and clear water, believed to be the best quality water besides bottled water.

striking, if there is a gender difference, it is slightly more pronounced in terms of drinking rather than cooking water. The fairly equitable access to the various sources of drinking and cooking water suggests that these are likely caused by other factors, such as household welfare, which also takes into account residence and therefore often also availability. This brings us to close this section with the assertion that reliance on different sources of drinking and cooking water can mostly be attributed to welfare conditions of household. It appears that piped water is no longer in vogue and the less advantaged are to rely on shallow pump or well water or even worse alternatives, most likely not producing good clean and clear water.

So, Who Cares?

If women have fairly equal access to drinking and cooking water as men, we notice a rather pronounced gender difference in the common sources of livelihood. Interestingly, the survey identified sources of livelihood that are common to all and more applicable to the better off. The survey provides four categories: (1) a working household member; (2) care package (money and/or goods); (3) investment; and (4) pension, where the first two are the common sources, and the latter two can only be done by the better off (Fig. 10.13).

An important difference between Indonesia and many rich countries of the world is that even in old age, so far, the government cannot yet be present to take care of its

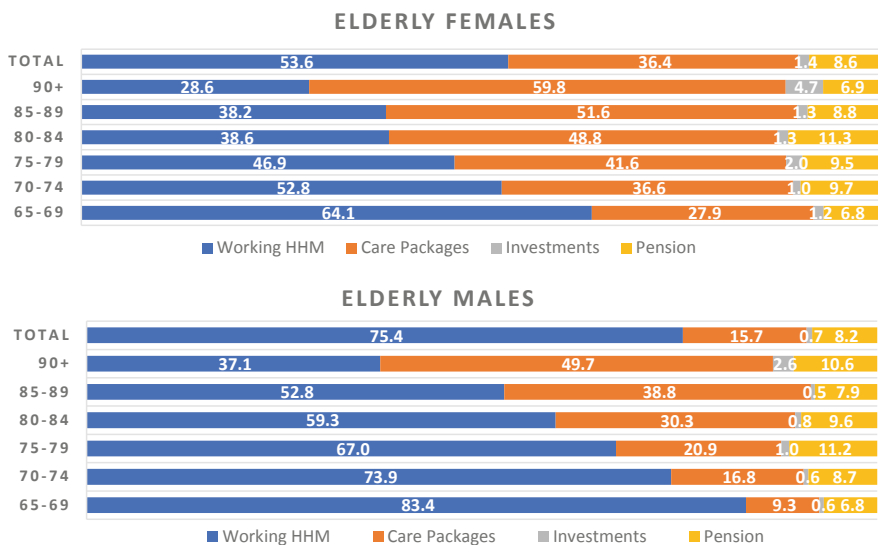


Fig. 10.13 Age-Specific Sources of Livelihood to Elderly Household Heads in Indonesia 2020. Source Processed from Statistics Indonesia, 2020 National Social Economic Survey

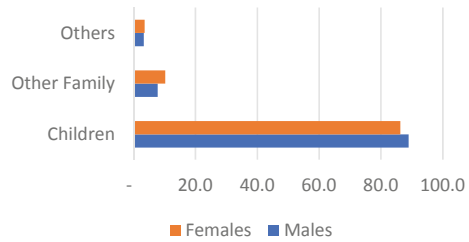
citizens. Indonesia does not have a social security system. And thus, when in need Indonesians turn to the family as they have always done. In the past, large numbers of children were a social security for old age, guaranteeing at least some children to survive to take care of their parents in old age. And reliance on children continues until today for the current elderly, in some cases for company and care, but also for financial support. As shown earlier (Tables 10.5 and 10.6), many elderlies live with children, male and/or female, single or married, own children and/or in-laws. That is how even in old age, some may have to continue to earn their own living even when they have reached a very advanced and tender age of the 80s and even 90s and irrespective of gender, or, if they are sufficiently lucky, they may be living with a younger family member still in the workforce (Fig. 10.13). However, as the elderly advance in age, this availability of a working household member declines (for females from 64 to 29% and for males from 83 to 37%), and reliance on care packages rises (for women from 28 to 60% and for men from 9 to 50%).

It is suggested that the underlying explanations for the complementary sources of livelihood in households with an elderly are rather different. The greater dependence of households with a male elderly on a working member as source of livelihood can partly be attributed to the much lower proportion of single households headed by men (Table 10.4 single households among men were only 5% while 16% among women).

Another important arrangement for survival in old age is reliance on care packages, more prevalent among women than men, but for men increasing in importance with age. This is again attributed to the higher proportion of women living alone compared to men (Table 10.4). This means that old-age survival is not ideal. The recipient is dependent on the condition and/or situation of the sender and therefore potentially not regular. The recipient is subject to having to do with what is available. On this count, for Indonesians, particularly for Javanese women, that is not too problematic as they have had to experience it throughout their lives. We remind that earlier we mentioned that women control the household purse. Men are supposed to give their earnings to their wives, the housewife, in charge of running the household in abundance or scarcity. Women are used to having to rely on their wits to manage the household, often by borrowing from family and neighbors and or local shops, owned by a member of the community.

Other sources of old-age survival (3) investment and (4) pension come from activities most likely achieved before retirement. Overall, there is hardly any difference in the percentages of elderly women and men relying on these sources of livelihood. These two types of sources of livelihood show that they are only accessible to the more fortunate. Only around one percent of both female and male elderlies benefit from investments they made during their younger years which in old age produce sufficient earnings as a major source of livelihood. More than eight percent live of their pensions (8.6 and 8.2% respectively). This latter relative similarity in the shares of pensioners between elderly women and men is surprising considering that women are far less likely to be in the labor force, and if they have to work, they have fewer

Fig. 10.14 Sender of care packages by gender of recipients, Indonesia 2020. *Source* Processed from Statistics Indonesia, 2020 National Socio-Economic Survey



opportunities to be absorbed in the formal sector.³⁵ And thus, to the question as to how elderly women have almost similar opportunity to men to be pensioners is because some of them are widowers of men who used to be civil servants eligible to pensions upon retirement.³⁶ In Indonesia to date, it is still only civil servants who enjoy the benefits of pensions.

This brings us to close this study on a promising note. The family remains important in Indonesia, even in these modern times when families are much smaller with fewer children. In old age, parents continue to rely on their children to provide them with care packages. This is true not just of the majority but almost all, at close to 9 of 10 elderly females and males rely or even survive on care packages sent by their children (Fig. 10.14). And then, if not children then there are still other family members, could be nephews or nieces being reminded of their aunts and uncles who they feel they should take care of—indicating the strength of the family.

We found the answer to the question Who Cares? Which has become clear only at the end of this study—it is the family that cares.

The Strength of the Family Throughout Life

Like elsewhere the world over, Indonesia's population is aging, and onto the future the share of the elderly is expected to continue to rise at an increasingly rapid rate. As an Asian nation, Indonesia is part of Southeast Asia and therefore shares cultural values and norms favoring a bi-lineal kinship system where individuals, both males and females, can claim membership in their maternal as well as paternal lineages. And thus, even though the natural sex ratio at birth favors the male offspring, and therefore in youth, the patterns of masculinity are indistinguishable from strongly male preferred societies as exemplified by the Chinese population, in Southeast Asia, the population starts feminizing at an earlier age. That is the pattern that also characterizes the Indonesian population, the largest in Southeast Asia residing in an

³⁵ According to the 2018 National Labor Force Survey, participation among 15 + males stood at 83% while for females only 52%. Of these, males are also more likely absorbed in the formal sector with 46% while only 38% among females (BPS, 2018).

³⁶ The latest update is Government Regulation No. 18 of 2019 Establishing the Basic Pension for Civil Servants and their Spouses.

archipelagic state where all basic kinship systems are represented, but yet various social and family practices follow those commonly performed by the Javanese, the dominant ethnic culture in the country.

As female life expectancy exceeds that of men, the elderlies are dominated by women. Considering that this generation, in 2018 age 65 and older, the youngest were born in the 1950s, only a few years after Indonesia declared Independence, the country was still very poor and was thus not yet able to provide education for all, as is the case today. In poverty, sons are given priority to access education as they become household heads in marriage. This is reflected in the gender bias in human capital of the elderly as women were much more likely not to have had any schooling. In a bi-lineal society in which daughters and sons can be considered equally responsible for their parents in old age, a labor market that is gender friendly can help that cause. For that to happen, we argue, it is necessary for girls having equal access to education as their brothers. And this appears to have occurred in Indonesia. Whereas grandma is so much less educated than grandpa, among the millennials, girls are better educated than boys with a higher proportion of girls having enjoyed higher education.

The notable gender difference is found in the position and structure of their households. For one, in a predominantly Moslem society acknowledging polygamy and high divorce and remarriage, men, including elderly men, are most likely married, while women are more likely widowed as they are less likely to remarry upon the death of their husbands. And in marriage, men can continue life without ever having to be responsible for household finances, the domain of women as housewives, a cultural and reinforced as also legal status in the family. And thus, by sociocultural and legal definition, men are much more likely than women to be heads of households, and women can only claim that position when there is no adult male in the household. It is therefore no surprise to find women to be much more likely to live in single households than men, even though the majority live in households with multiple members.

Between norms and practicality is the best way to sum up who the elderlies live with. On the one hand, in Javanese society, the norm is for parents to live with their daughters, when married with their families as well. That is how it used to be. However, that is not what the data say. It is a mix and match reality between the sexes of parents with children in relations of both directions of who is living with who. In today's language, this is the new normal, and it is more a matter of who can best afford to support the relationship between parents and children rather than rules and regulations of culture.

On the physical side, the conditions are mixed between surprises and expectations. The surprise came in contrast to the developed world, and Indonesian elderly recorded almost universal home ownership with little gender difference. On the other hand, given that elderly women are less advantaged, it is no surprise that their housing conditions are less favorable with relatively more living in temporary housing. The reliance on bottled drinking water in Indonesia is phenomenal, the fastest growing in the world. This is a revolution negating the age old publicly supplied piped water as the source of supposed clean and running water but has become less accessible over time. Access is fairly similar by gender but lower among the elderly. A good

news concerns sanitation with rapidly rising ownership of modern toilets defined as privately owned, of the gooseneck type and connected to a septic tank final disposal. As the acquisition requires financial access, women are regrettably somewhat behind men in accessing this valuable sanitary facility.

What matters is the family. In one way or another, in old age, the bonds continue. Children are not only a source of love but also of care on to old age. In a society with no social security system in place, old age is a family affair. The majority survive on earnings of a working household member or they rely on care packages, where men are more likely to live of the first alternative and women of the second, but in both cases as they age both women and men increasingly rely on care packages. On both counts, reliance on the family is paramount, children are either the source of livelihood, and they are the primary source of care packages, true of both elderly mothers and fathers.

References

- Alkema, L., Chao, F., You, D., Pedersen, J., & Sawyer, C. C. (2014). National, regional, and global sex ratios of infant, child, and under-5 mortality and identification of countries with outlying ratios: A systematic assessment. *The Lancet Global Health.*, 2(9), e521–e530. [https://doi.org/10.1016/S2214-109X\(14\)70280-3](https://doi.org/10.1016/S2214-109X(14)70280-3). PMID25304419
- Anderson, S., & Ray, D. (2010). Missing women: Age and disease. *The Review of Economic Studies*, 77(4), 1262–1300. <https://doi.org/10.1111/j.1467-937X.2010.00609.x>. JSTOR40836647
- Attane, I. (2006). The demographic impact of a female deficit in China, 2000–2050. *Population and Development Review*, 32(4), 755–770. <https://doi.org/10.1111/j.1728-4457.2006.00149.x>
- Badan Perencanaan Pembangunan Nasional, Departemen Pekerjaan Umum, Departemen Kesehatan, Departemen Dalam Negeri, the World Bank. (October 2006). *Pedoman Pelaksanaan (Implementation Guide) Third Water Supply and Sanitation for Low Income Communities (WSSLIC-3)*, PAMSIMAS.
- Badan Pusat Statistik (2018). *Keadaan Angkatan Kerja di Indonesia*, August 2018.
- Bappenas, BPS, UNFPA (Badan Perencanaan Pembangunan Nasional, Badan Pusat Statistik, United Nations Population Fund) (2013). *Indonesia Population Projection 2010–2035*.
- Bappenas, BPS, UNFPA (Badan Perencanaan Pembangunan Nasional, Badan Pusat Statistik, United Nations Population Fund) (2018). *Indonesia population projection 2015–2045, results of SUPAS 2015*.
- Bedford, E. (January 28, 2020). *CAGR of the bottled water market worldwide 2013–2018, by country*. <https://www.statista.com/statistics/1091644/bottled-water-cagr-by-country-worldwide/>.
- Biro Pusat Statistik (1963). *Population census 1961 Republic of Indonesia*.
- Boer, A. D., & Hudson, V. (2017). Patrilineality, son preference, and sex selection in South Korea and Vietnam. *Population and Development Review*, 21 February 2017. <https://doi.org/10.1111/padr.12041>
- Buck, P. S. (1931). *The good earth*. The John Day.
- Choe, S.-H. (2007). South Koreans rethink preference for sons. *The New York Times*, Nov 28, 2007. <https://www.nytimes.com/2007/11/28/world/asia/28iht-sex.1.8509372.html>
- Chun, H., & Das Gupta, M. (2021). *Not a bowl of rice, but tender loving care’: From aborting girls to preferring daughters in South Korea*. <https://doi.org/10.1080/17441730.2021.1944408>
- Chung, W., & Gupta, M. D. (2007). The decline of son preference in South Korea: The roles of development and public policy. *Population and Development Review*, 33(4), 757–783.

- Das Gupta, M., Zhenghua, J., Bohua, L., Zhenming, X., Chung, W., & Hwa-OK, B. (2003). Why is son preference so persistent in East and South Asia? A cross-country study of China, India and the Republic of Korea. *The Journal of Development Studies*, 40(2), 153–187.
- Den Boer, A., & Hudson, V. (2017). Patrilineality, son preference, and sex selection in South Korea and Vietnam. *Population and Development Review*, 43(1), 119–147. <https://doi.org/10.1111/padr.12041>
- Ebenstein, A. (2013). The ‘Missing Girls’ of China and the unintended consequences of the one child policy. *The Journal of Human Resources*, 45(1), 88–115. https://www.cholars.huji.ac.il/sites/default/files/avrahamebenstein/files/ebenstein_onechildpolicy_2010.pdf
- Ebenstein, A., & Leung, S. (2010). Son preference and access to social insurance: Evidence from China’s rural pension program. *Population and Development Review*, 36(1), 47–70.
- Friedman, J. (1998). *System, structure, and contradiction: The evolution of ‘Asiatic’ social formations*. Alta Mira Press.
- Fuse, K. (2006). *Daughter preference in Japan: A shift in gender role attitudes?* Working Paper. <https://paa2006.princeton.edu/papers/60747>
- Fuse, K. (2013). Daughter preference in Japan: A reflection on gender role attitudes? *Demographic Research*, 28, 1021–1052. Published 17 May 2013 <http://www.demographic-research.org/Volumes/Vol28/36/>. <https://doi.org/10.4054/DemRes.2013.28.36>
- Gallego, M. S. (2015). Philippine Kinship and social organization from the perspective of historical linguistics. *Philippine Studies: Historical and Ethnographic Viewpoints*, 63(4), 477–506. <https://doi.org/10.1353/phs.2015.0046>
- Geertz, H. (1989, 1961). *The Javanese Family: A study of kinship and socialization*. Waveland Press. <http://hdl.handle.net/2027/heb.04452.0001.001>
- Guilmoto, C. Z. (2005). A spatial and statistical examination of child sex ratio in China and India. In Attané, I., & Véron, J. (Eds.), *Gender Discrimination among Young Children in Asia* (pp. 133–165). Ceped-French Institute of Pondicherry.
- Guilmoto, C. Z. (2009). The sex ratio transition in Asia. *Population and Development Review*, 35(3), 519–549.
- Gupta, M. D. (11 Oct 2018). Explaining Asia’s “missing women”: A new look at the data. *Population and Development Review*, 31 (3), 529–535. <https://doi.org/10.1111/j.1728-4457.2005.00082.x>
- Hesketh, T. (2009). Too many males in China: The causes and the consequences. *Significance*, 6(1), 9–13. <https://doi.org/10.1111/j.1740-9713.2009.00335.x>
- Hu, Z., & Peng, X. (2015). Household changes in contemporary China: An analysis based on the four recent censuses. *Journal of Chinese Sociology*, 2, 9. <https://doi.org/10.1186/s40711-015-0011-0dan>
- Ihromi, T.O. (2000). *Antropologi dan Hukum*. Jakarta: Obor
- Jacobsen, R., Møller, H., & Mouritsen, A. (1999). Natural variation in the human sex ratio. *Human Reproduction*, 14(12), 3120–3125. <https://doi.org/10.1093/humrep/14.12.3120>
- Jahan, R., Papanek, H. (1979). *Women and development perspectives from South and Southeast Asia*. Dacca, The Bangladesh Institute of Law and International Affairs.
- James, W. H. (1984). The sex ratios of Black births. *Annual Human Biology*, 11, 39–44.
- James, W. H. (1985). The sex ratio of Oriental births. *Annual Human Biology*, 12, 485–487.
- Jin, X., Li, S., & Feldman, M. W. (2007). Marriage form and son preference in rural China: An investigation in three counties. *Rural Sociology*, 72(4), 511–536. Online issue first published: 22 October 2009. <https://doi.org/10.1526/003601107782638684>
- Johansson, S., Nygren, O. (1991). The missing girls of China: A new demographic account. *Population and Development Review*, 17(1), 35–51 (17 pp.). Published By: Population Council. <https://doi.org/10.2307/1972351>. <https://www.jstor.org/stable/1972351>
- Junhong, C. (2011). Prenatal sex determination and sex-selective abortion in rural central China. *Economics Papers*, 27(2), 259–281. Retrieved 28 March 2018.
- Kemeny, J. (2001). Comparative housing and welfare: Theorising the relationship. *Journal of Housing and the Built Environment*, 16, 53–70. <https://doi.org/10.1023/A:1011526416064>

- Kementerian PPN/Bappenas, Badan Pusat Statistik, United Nations Population Fund (2018). *Indonesia population projection 2015–2045, result of SUPAS 2015*.
- Kusujarti, S., Miano, E. W., Pryor, A. L., & Ryan, B. R. (2015). Unveiling the mysteries of Aceh, Indonesia: Local and global intersections of women's agency. *Journal of International Women's Studies*, 16(3), 186–202. Available at <http://vc.bridgew.edu/jiws/vol16/iss3/1>
- Kuwinpant, P. (2002). *Thai society and culture*. Paper presented as Visiting Research Fellow of the Economic Research Centre of the Graduate School of Economics, Nagoya University on 12 June.
- Lei, L., & Pals (2011). Son preference in China: Why is it stronger in rural areas? *Population Review*, 50(2). <https://doi.org/10.1353/prv.2011.0013>
- Lestari, S. (2015). *Pemerintah menargetkan semua penduduk miliki akses toilet yang layak* (the Government targets the total population to have access to a decent toilet). BBC journalist, News Indonesia. https://www.bbc.com/indonesia/majalah/2015/12/151221_majalah_sanitasi
- Loh, C., & Remick, E. J. (2015). China's Skewed sex ratio and the one-child policy. *The China Quarterly*, 222, 1–25. <https://doi.org/10.1017/S0305741015000375>
- Mernissi, F. (2003). The meaning of spatial boundaries. In *Feminist postcolonial theory: A reader*. In Lewis, R., & Mills, S. (Eds.), Routledge.
- Murphy, R., Tao, R., Lu, X. (2011). Son preference in rural China: Patrilineal families and socioeconomic change. *Population and Development Review*, 37(4), 665–690.
- Notosusanto, S., & Kristi Poerwandari, E. (1997). *Perempuan dan Pemberdayaan, Kumpulan Karangan untuk Menghormati Ulang Tahun ke-70 Ibu Saparinah Sadli (Women's empowerment, collection of articles in respect to respect Saparinah Sadli)*. Printed by the Women's Studies Program, of the Graduate Studies Program at the University of Indonesia in cooperation with the daily Kompas and Publisher Obor.
- Oey-Gardiner, M. (1979). Rising expectations but limited opportunities for women in Indonesia. In Jahan, R., & Papanek, H. (Eds.), *Women and development perspectives from South and Southeast Asia*. Dacca, the Bangladesh Institute of Law and International Affairs.
- Oey-Gardiner, M. (1985). Changing work patterns of women in Indonesia during the 1970s: Causes and Consequences. *Prisma*, 37, 18–46.
- Oey-Gardiner, M. (1986). *Women in development: Indonesia*. Country Briefing Paper.
- Oey-Gardiner, M. (1989). Female School Attendance in Indonesia'. Unpublished paper prepared for the World Bank.
- Oey-Gardiner, M. (1991). *Women in development: Indonesia, an update for Indonesia*. Country Briefing Paper, Asian Development Bank, Programs Department East.
- Oey-Gardiner, M. (1993). A gender perspective in Indonesia's labour market transformation. In Manning, C., & Hardjono, J. (Eds.), *Indonesia assessment 1993: Labour: Sharing in the benefits of growth?* Political and Social Change Monograph 20, Proceedings of Indonesia Update Conference, August 1993, Indonesia Project, Department of Economics and Department of Political and Social Change Research School of Pacific Studies, Australian National University.
- Oey-Gardiner, M. (1996). Kesenambungan, perubahan dan perempuan dalam dunia laki-laki (Continuation, change and women in a men's world). In Oey-Gardiner, M., Wageman, M., Suleeman, E., Sulastri (Eds.), *Perempuan Indonesia: Dulu dan Kini (Indonesian women, then and now)*. PT Gramedia Pustaka Utama.
- Oey-Gardiner, M. (1997a). Educational developments, achievements and challenges. In Jones, G., & Hull, T. H. (Eds.), *Indonesia assessment: Population and human resources*. Research School of Pacific and Asian Studies, Australian National University, Canberra and Institute of Southeast Asian Studies, Singapore.
- Oey-Gardiner, M. (1997b). Feminisasi dunia Pendidikan (Feminization of education). In Notosusanto, S., & Kristi Poerwandari, E. (Eds.), *Perempuan dan Pemberdayaan, Kumpulan Karangan untuk Menghormati Ulang Tahun ke-70 Ibu Saparinah Sadli (Women's empowerment, collection of articles in respect to respect Saparinah Sadli)*. Printed by the Women's Studies Program, of the Graduate Studies Program at the University of Indonesia in cooperation with the daily Kompas and publisher Obor.

- Oey-Gardiner, M. (2001). *Mendobrak Langit-langit Kaca: Lambat Memang Namun tak Terelakkan. (Breaking down the glass ceiling: Slow but unavoidable)*. Professorial speech at the University of Indonesia.
- Oey-Gardiner, M. (2002). And the winner is... Indonesian Women in Public Life. In Robinson, K., & Bessell, S. (Eds.), *Women in Indonesia, gender, equity and development*. Indonesia Assessment Series. ISEAS (Institute of Southeast Asian Studies).
- O'Neil, D. (2009). The nature of kinship: Glossary of terms. This page was last updated on Tuesday, September 08. Copyright© 1997–2009. <https://www.palomar.edu/anthro/kinship/glossary.htm>
- Poston Jr., D. L., & Conde, E. (2011). China's unbalanced sex ratio at birth, millions of excess bachelors and societal implications. *Vulnerable Children and Youth Studies*, 6(4), 314–320. <https://doi.org/10.1080/17450128.2011.630428>
- Pongou, R. (2012). Why Is Infant Mortality Higher in boys than in girls? A new hypothesis based on preconception environment and evidence from a large sample of twins. *Demography*, 50(2), 421–444. <https://doi.org/10.1007/s13524-012-0161-5>. PMID23151996.S2CID24188622
- Quanbao, J., et al. (2013). *Estimates of missing women in twentieth century China*. Dec 2013. National Institutes of Health. <https://doi.org/10.1017/S0268416012000240>
- Robinson, K., & Bessell, S. (2002). *Women in Indonesia, gender, equity and development*. Indonesia Assessment Series. ISEAS (Institute of Southeast Asian Studies).
- Ruder, A. (1985). Paternal-age and birth-order effect on the human secondary sex ratio. *American Journal of Human Genetics*, 37, 362–372.
- Sen, A. (Dec 20, 1990). More than 100 million women are missing. *The New York Review of Books*, 37(20).
- Sen, A. (2003). Missing women—Revisited. *British Medical Journal*, 327(7427), 1297–1298. <https://doi.org/10.1136/bmj.327.7427.1297>. PMC286281.PMID14656808
- Shi, Y., & Kennedy, J. J. (2016). Delayed registration and identifying the “missing girls” in China. *The China Quarterly*, 228, 1018–1038. <https://doi.org/10.1017/S0305741016001132>. ISSN0305-7410
- Shin, H. (2016). In South Korea, parents are increasingly saying, ‘we hope for a girl’. *The World*, Dec 08. <https://www.pri.org/stories/2016-12-08/south-korea-parents-are-increasingly-saying-we-hope-a-girl>
- Silverstein, M., Cong, Z., & Li, S. (2006). Intergenerational transfers and living arrangements of older people in rural China: Consequences for psychological well-being. *Journal of Gerontology: Social Sciences*, 61B, S256–S266.
- Sugiyarto, G., Oey-Gardiner, M., & Triaswati, N. (2006). Labor markets in Indonesia: Key challenges and policy issues”. In Felipe, J., & Hasan, R. (Eds.), *Labor markets in Asia, issues and perspectives*. Asian Development Bank, Palgrave Macmillan.
- Turner, J. W. (2013). Kinship matters: Structures of alliance, indigenous foragers, and the Austronesian Diaspora. *Human Biology*, 85(1), 16. Available at <http://digitalcommons.wayne.edu/humbiol/vol85/iss1/1>
- United Nations, Department of Economic and Social Affairs, Population Division (2007). *World Population Prospects, the 2006 Revision, Volume II: Sex and Age Distribution of the World Population*.
- United Nations, Department of Economic and Social Affairs, Population Division (2008). *World population prospects, the 2008 revision. Volume II: Sex and age distribution of the world population*.
- United Nations, Department of Economic and Social Affairs, Population Division (2009). *World population prospects, the 2008 revision. Volume II: Sex and age distribution of the world population*.
- United Nations, Department of Economic and Social Affairs, Population Division (2017). *World population ageing 2019: Highlights (ST/ESA/SER.A/397)*.
- United Nations, Department of Economic and Social Affairs, Population Division (2019). *World population ageing 2019: Highlights (ST/ESA/SER.A/430)*.

- Wikipedia (2020). *Poverty_in_China*. https://en.wikipedia.org/wiki/Poverty_in_China, downloaded 28 March 2020.
- World Bank (2014). *PAMSIMAS: Menjawab Tantangan Air Minum dan Sanitasi di Wilayah Perdesaan Indonesia (Community based provision of sanitation and drinking water: Response to the challenge of drinking water and sanitation di Rural Indonesia)*. World Bank.
- World Bank (2020). *Aspiring Indonesia: Expanding the middle class* (January).
- World Bank Database (2017, 2019). Retrieved in 2017 and 2019 https://en.wikipedia.org/wiki/Poverty_in_China
- Yeung, W. J., Desai, S., & Jones, G. (2017). Families in Southeast and South Asia. In IUSSP conference, media file, presentation, Paper 3537; Also published in *Annual Review of Sociology*, 44, 469–495 (2018). Downloaded from www.annualreviews.org. Access provided by University of Maryland—College Park on 01/17/19.
- Yi, Z., Ping, T., Baochang, G., Yi, X., Bohua, L., & Yongpiing, L. (1993). Causes and implications of the recent increase in the reported sex ratio at birth in China, *Population and Development Review*, 19(2), 283–302. Published By: Population Council. <https://doi.org/10.2307/2938438>, <https://www.jstor.org/stable/2938438>
- Yi, Z., & Wang, Z. (2003). Dynamics of family and elderly living arrangements in China: New lessons learned from the 2000 census. *China Review*, 3(2), 95–119.
- Yoo, S. H., Hayford, S. R., Agadjanian, V. (2017). Old habits die hard? Lingering son preference in an era of normalizing sex ratios at birth in South Korea. *Population Research and Policy Review*, 36(1), 25–54. Published online 2016 Jul 15. <https://doi.org/10.1007/s11113-016-9405-1>; PMID: PMC5272884; PMID: 28190907.
- Zhu, W. X., Li, L., & Hesketh, T. (2009). China's excess males, sex selective abortion and one child policy; analysis of data from 2005 national intercensus survey. *BMJ*, 338, b1211. <https://doi.org/10.1136/bmj.b1211.PMC2667570.PMID19359290>

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