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Changing demography of elderly in India

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Demographic projections indicate that India's old-age population would increase at a rate of about four per cent per annum in the next three decades due to the declines *in mortality and fertility* levels. Although the expected rise in the proportion of old-age population is modest in the near future, the increased survival chances to older ages are likely to induce workers to save more for retirement and the state to spend more for the welfare of the elderly. Therefore a phenomenal rise in the demand for geriatric medicine and in-patient hospital care is anticipated.

Introduction

The five censuses conducted in the post-independence India have indicated that its population has grown steadily at a rate of about two per cent per year – a rate that is sufficient to make its huge population double in a matter of 35 years. During the first decade of independence (i.e. 1951–61), population grew at a rate of 2.0 per cent, the second and the third decades witnessed a growth rate of 2.2 per cent, and the fourth decade had a growth rate of 2.1 per cent. However, this seemingly unchanging pattern of growth hides a quiet revolution taking place in India's vital rates: The birth and death rates have fallen steadily for some time now, even though their difference has remained more or less unchanged (see Table 1). At the turn of this century, both birth and death rates were high and population growth was small. But around 1921 the crude death rate began to fall steadily, and population growth began to accelerate. It was only when the country entered the sixth decade of the present century that the crude birth rate began to fall appreciably, and was able to match the fall in the crude death rate. According to the population projections made by the United Nations[1,2], it would take another ten years before the fall in the birth rate would be able to surpass the fall in death rate, and make a dent in the growth rate of population. However, the Standing Committee on Population Projections set up by the Planning Commission expects the growth rate to fall to 1.7 per cent per annum in the present decade itself[3].

Demographic transition

When birth and death rates shift from their high-level equilibrium to a low-level equilibrium, the population is said to have undergone a demographic transition. Since the crude death rate usually takes the lead while descending, population grows enormously during the period of transition. Figure 1 depicts the course of this transition in India, with the help of some further extrapolations of the UN population projections. When the population of India stabilizes, it would have grown at least to twice the current size, and the crude death rate would have increased to around 12 per 10,000 after falling to a level as low as 7 per 1,000. The crude death rate is expected to rise, not because the expectation of life would fall, but due to population ageing.

Table 1. Estimates of crude birth rate, crude death rate and crude rate of natural increase in India (per 1,000 population)

Period	Crude birth rate	Crude death rate	Crude rate of natural increase
1891–11*	48.2	44.1	4.1
1951–61*	47.1	28.2	18.9
1961–71*	43.0	20.8	22.2
1971–81†	37.2	15.2	22.0
1981–90†	32.5	11.4	21.1
1990–00‡	29.6	9.6	20.0
2000–10‡	23.9	7.8	16.1
2010–20‡	18.4	7.0	11.4

*Estimated by the author from intercensal analysis[14].
†Estimates from the Sample Registration System
‡According to the projections made by the United Nations[1].

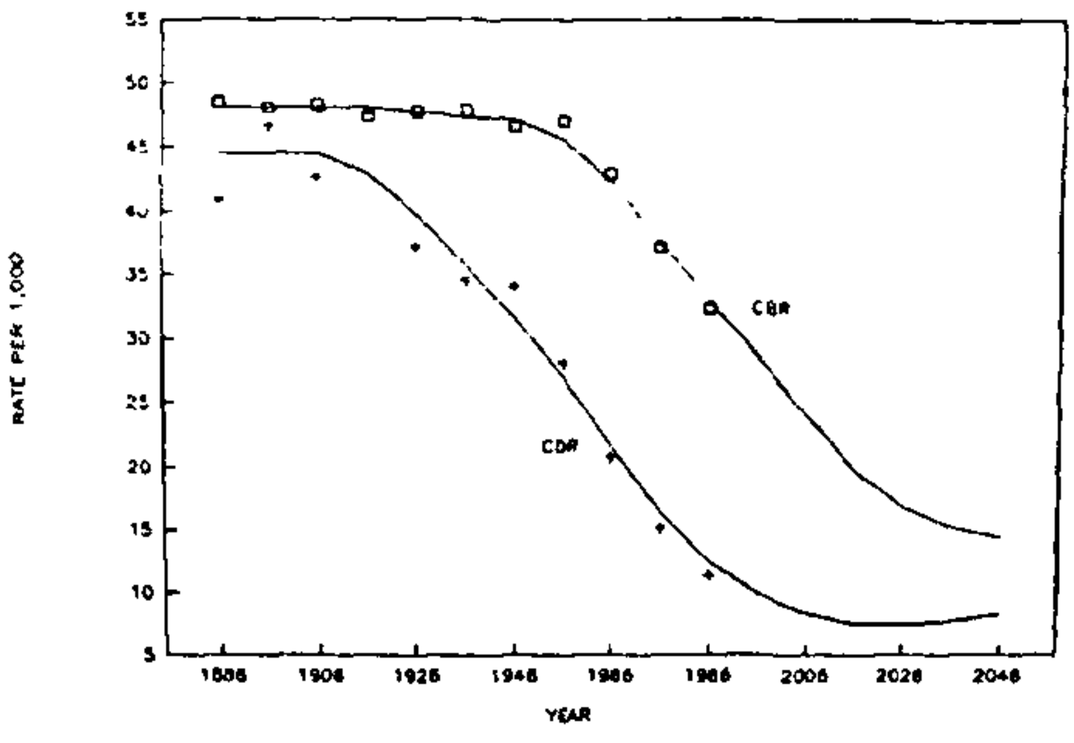

Figure 1. Trends in crude birth rate and crude death rate in India, 1880 to 2050.

This brings us to the point that the meaning of the demographic transition is far more profound than a mere shift in the levels of birth and death rates. During the course of demographic transition, man gains greater control over birth and death processes. At the beginning of the transition, natural, environmental and institutional factors have an iron hold on the levels of fertility and mortality. At the end of the transition, individual and households choices reign supreme. An epidemiologic transition also accompanies the demographic transition: infectious and parasitic diseases become rare, while degenerative diseases and injuries gain in importance as cause of death[4].

Population ageing

The age structure of the population also undergoes a profound change during transition. Although the population may become younger initially, ultimately it would age; i.e. the proportion of older people in the population would increase enormously. Since this change occurs quite late in the transition, India's population has not yet aged substantially. But there are already signs of what might be in store. Table 2 shows the proportion of India's population in broad age intervals, as derived from the census data for years 1901 to 1981, and relying on the UN projections for years 1990 to 2020. The table also shows certain systematic changes that are occurring in India's age structure. In 1901, 38 per cent of the population was composed of children under age 15 years, 57 per cent were adults in the ages 15–59, and 5 per cent were aged 60 and over. With the onset of demographic transition, the percentage of adults aged 15–59 began to fall steadily and the percentage of children and elderly increased. A reversal of the trend began in the seventies. Although the percentage of elderly population continued to increase, the percentage of population below 15 has begun to decline, and the proportion of population in the working ages 15–59 has begun to increase. It is expected that in the year 2020, only 25 per cent of the population would be under age 15, 64 per cent would be adults in the age interval 15–59, and 11 per cent would be elderly population in ages 60 and over.

The reversal in the trend occurred in the seventies because the fall in fertility began to exhort its influence on the age structure around this time. Contrary to the common belief, the decline in mortality does not make automatically a population's age structure older. The decline in mortality that increases the survival chances to older ages also raises the growth rate of the population. As long as the birth rate remains unchanged, the increase in the growth rate brings more births into the population each year, thus raising the number of children in the population. If *absolute* reductions in death rates are the same at all ages, the impact through the growth rate of the population would exactly offset the effect of increased survival to older ages. More typically, however, reductions in death rates are larger among children and elderly, which has the impact of raising their proportions in the population compared to that of adults. This was precisely what happened in India until 1971. At the beginning of this century, famines and epidemics used to take a heavy toll of the most vulnerable section of the population, namely the very young and the very old. Consequently, larger absolute reductions in mortality have occurred in these groups, raising their populations disproportionately. It may be noted, however, that a mortality decline that is primarily concentrated in older ages, such as from a cure for cancer, or a decline in coronary heart disease, could have much larger impact on population ageing because they do not influence the annual flow of births. The impact of fertility decline on population ageing is less ambiguous: it reduces the proportion of children in the population and increases the relative size of the population at older ages who were born when fertility was high.

An elegant method of illustrating these changes in the age structure of the population is through 'population

Table 2. Age distribution of India's population in broad intervals and dependency ratios, 1901–2020

	Percentage of population in age interval				Dependency ratio (%)		
Year	0–14	15–59	60+	80+	Young	Old	Total
1901	38.0	56.9	5.1	NA	66.9	8.9	75.8
1951	38.4	56.1	5.5	NA	68.5	9.8	78.3
1961	41.0	53.3	5.6	0.6	77.0	10.6	87.5
1971	42.0	52.0	6.0	0.6	80.8	11.5	92.3
1981	39.6	53.9	6.5	0.6	73.4	12.0	85.4
1990*	36.5	56.4	7.1	0.4	64.7	12.6	77.3
2000*	35.5	56.7	7.8	0.5	62.6	13.8	76.4
2010*	30.4	60.9	8.7	0.7	49.9	14.3	64.2
2020*	25.1	64.0	10.9	1.0	39.2	17.0	56.3

NA-Data not available.
*According to the population projections of the United Nations[2].

pyramids'—horizontal bar graphs for males and females, placed on either side of a central axis, showing the proportion of persons in each age group. Figure 2 shows the population pyramids of India's age–sex composition as reported in the 1901 and 1971 censuses, and as expected in 2020 according to the UN population projections. It can be seen that the graphs of the 1901 and 1971 age–sex structures clearly resemble the shape of a pyramid. The population pyramid of 1971 has a broader base, and narrows rapidly at adult ages, implying a fast growing population compared to 1901. By 2020, the pyramidal shape of the age–sex distribution of the population is expected to change to an oval. The narrow bottom and the bulge at the middle indicate a population in the midst of fertility transition. The dramatic changes in the age structure of the population caused by fertility decline, *vis-a-vis* that of mortality decline, is clearly illustrated by these figures.

An important consequence of the changes in the age structure of the population is on the dependency burden. Since a welfare-state must avoid putting either the very young or the very old to work, the ratio of population in ages under 15 and over 60 to the population in ages 15–59 is a good indicator of the dependency burden of the population. This ratio went up from 76 per cent in 1901 to 92 per cent in 1971 (see Table 2). With the decline in fertility, the dependency ratio has begun to fall, and it is expected to reach 56 per cent by 2020. However, the fall is primarily due to the reduced dependency at younger ages. In fact, the old-age dependency is expected to rise from 12 per cent in 1981 to 17 per cent in 2020 with the ageing of the population. Because of this structural change in the dependency burden, India should progressively shift its social sector expenditures from services that cater mainly to children (e.g. education) to services provided for the elderly (e.g. pension).

More than the changes in its relative size, a matter of great concern is the absolute increase in the elderly population. The population aged 60 and over has increased from 20 million in 1951 to about 60 million in 1990, and it is expected to reach 150 million in 2020 (see Table 3). The population in the age segment above 60 is doubling once in 23 years with no reduction in the growth rate in sight in the near future, even though the growth rate of the total population is expected to fall dramatically. The growth of old-old population (aged 80 years and over) is even more alarming. The

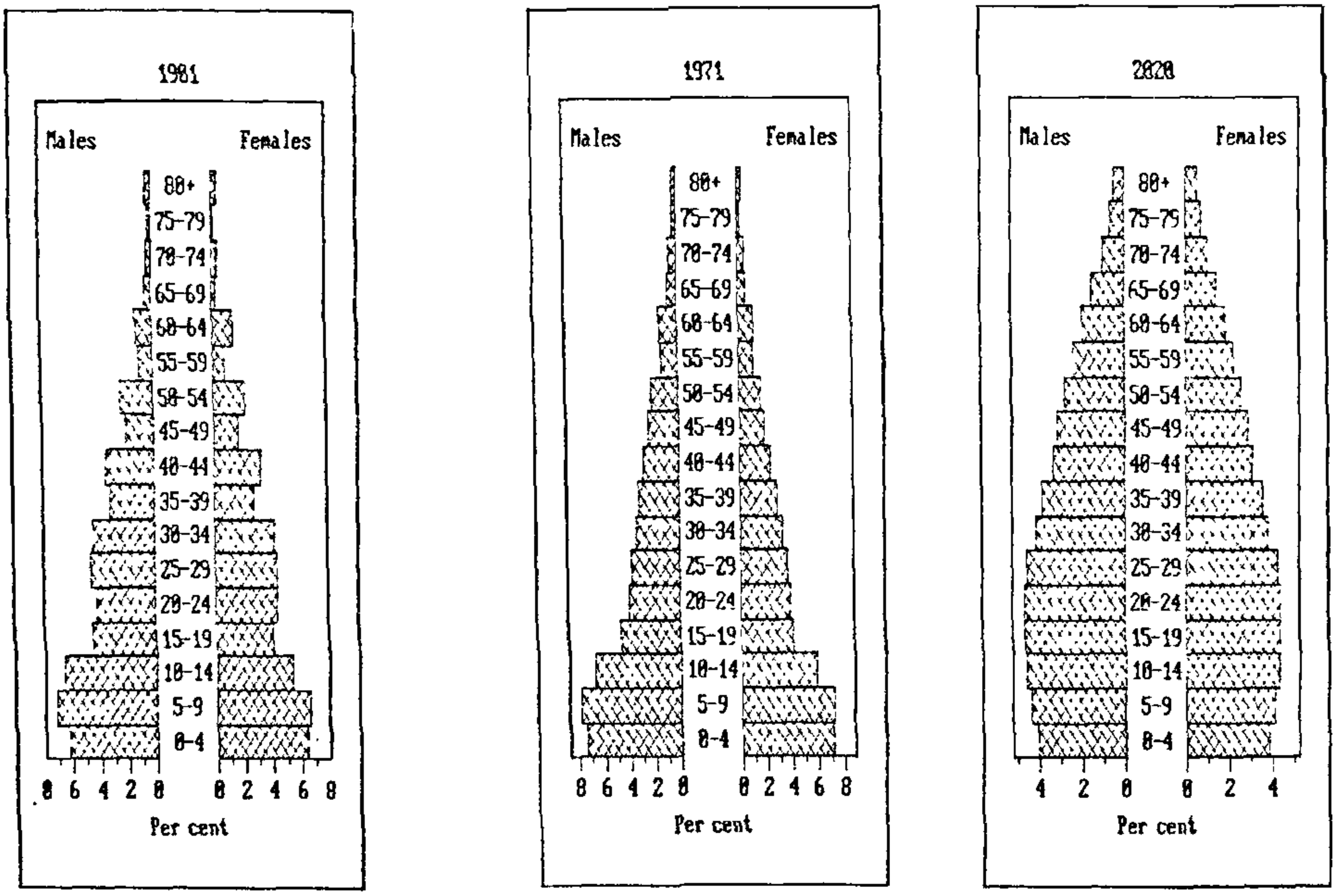

Figure 2. Population pyramids by age and sex: India, 1901, 1971 and 2020

Table 3. Trends in the size of the elderly population, 1901 2020

Year	Population (millions)			Average annual growth rate (%)		
	All ages	Age 60+	Age 80+	All ages	Age 60+	Age 80+
1901	238.4	12.1	NA	—	—	—
1951	361.1	19.8	NA	0.8	1.0	NA
1961	439.2	24.7	2.5	2.0	2.2	NA
1971	548.2	32.8	3.3	2.2	2.8	2.9
1981	683.3	44.3	4.2	2.2	3.0	2.5
1990*	853.1	60.5	3.7	2.1	3.1	4.4
2000*	1,041.5	81.3	5.7	2.0	3.0	4.5
2010*	1,223.5	107.0	9.0	1.6	2.7	4.6
2020*	1,371 8	149.5	13.8	1.1	3.4	4.2

NA. Data not available.
*According to the population projections of the United Nations[2].

population of old-olds is expected to grow from around 4 million in 1990 to 14 million in 2020. The annual growth rate of oldest-olds is as high as 4.5 per cent, which implies a doubling time of only 16 years! It should also be kept in mind that the elderly population of 2020 are already born, and the predictions of their absolute size and increase are far more certain than the estimates of their relative size given in Table 2.

A comparison of the estimates of elderly population in India and the US, given in Table 4, brings out the enormity of the problem even more vividly. The number of people aged 60 and over in India is already one-and-half times that of the US, and by the year 2020 it will grow to a size twice that of the US. India's old-old population is now only half the number in the US, but in the year 2020 it would exceed that of US by 20 per cent. It is this fact that, more and more of the elderly population would be living in countries which have more pressing problems to deal with than taking care of the elderly, is a matter of world-wide concern.

There is, however, one reason why the problem might have been slightly exaggerated in the foregoing discussion. Unfortunately, the age data from the Indian censuses are not of high quality and, at older ages, they become even less precise. In particular, age misstatements have the impact of exaggerating the size of the elderly population, especially those of males. From an analysis of 1971 and 1981 censuses, I had concluded that the reported population above 60 years might have been exaggerated by 20 per cent, and population over age 80 might have been inflated by 150 per cent[5]. This problem is, of course, not so severe in the future estimates of population made by the United Nations, but it seems as though the base population used in the UN projection was not sufficiently corrected for the exaggeration of the magnitude suggested above. There is thus some uncertainty in the figures quoted above on the size of the elderly population. However, the growth rate of the elderly population indicated for the future is probably not so biased, or may even be an underestimate.

Concerns of the common man

There is another reason why we ought be concerned with ageing. Although from a collective standpoint, ageing becomes a serious social problem only when fertility falls to very low levels, for an individual it is a matter of worry as soon as mortality begins to fall and chances of survival to older ages improve. At the beginning of this century, in India, life expectancy at birth was less than 25 years and only one out of ten births survived to age 60 (see Table 5). At that level of mortality, a man could typically expect to spend only five per cent of his total life span at old age (i.e. over 60). In such conditions, for a bread winner, problems of old age are so remote and uncertain that they could be dismissed as irrelevant. Planning for old age was virtually non-existent in those days. Although couples begot as many children as they could, it is doubtful that the main reason for this was security at old age[6].

Table 4. Elderly population in India and the US, 1990 2020

Year	Population 60 and over (millions)			Population 80 and over (millions)		
	US	India	Ratio	US	India	Ratio
1990	42 1	60 5	1 44	6 9	3 7	0 54
2000	44 7	81 3	1 82	8 9	5 7	0 64
2010	54 3	107 0	1 97	10 6	9 0	0 85
2020	71 8	149 5	2 08	11 4	13 8	1 21

Source United Nations[2]

Table 5. Trends in mortality indices, 1901-11 to 2020-25

Period	Expectation of life (years)		Per cent surviving from birth		Per cent of total life span spent at ages 60+
	At birth	At age 60	To age 60	To age 80	
Males					
1901-11*	22.6	10.0	11.2	1.0	5.0
1941-51*	32.5	10.1	31.4	3.2	9.8
1961-71*	46.4	13.6	42.1	10.4	12.3
1970-75†	50.5	13.4	51.5	NA	13.7
1976-80†	52.5	14.1	54.1	NA	14.5
1981-85†	55.4	14.6	58.9	NA	15.5
1990-95‡	60.1	15.9	67.0	21.9	17.7
2000-05‡	64.4	16.9	73.4	27.0	19.3
2010-15‡	67.6	17.8	78.1	31.6	20.6
2020-25‡	69.6	18.4	80.9	34.9	21.4
Females					
1901-11*	23.3	10.1	12.2	1.2	5.3
1941-51*	31.7	11.3	31.3	4.7	11.2
1961-71*	44.7	13.8	39.2	10.0	12.1
1970-75†	49.0	14.3	51.4	NA	15.0
1976-80†	52.1	15.9	55.7	NA	17.0
1981-85†	55.7	16.4	60.8	NA	17.9
1990-95‡	60.7	16.6	69.2	24.8	18.9
2000-05‡	65.9	17.9	76.6	32.0	20.8
2010-15‡	70.5	19.3	82.8	39.9	22.7
2020-25‡	73.6	20.5	86.6	46.2	24.1

NA — Data not available.
*Taken from the actuarial tables based on intercensal analysis.
†Based on the Sample Registration System
‡According to the projections of the United Nations[1].

But now in the early nineties, the life expectancy at birth has reached nearly 60 years, and two-thirds of the babies born could be expected to survive to age 60. Today an average Indian may expect to live one-sixth of his total life span in old age. The chances of survival from birth to age 80 have also dramatically increased: from just one per cent around 1900 to 20 per cent in 1990. Therefore, even though the share of the elderly in the population might not have gone up significantly, for a common man, problems of old age and life after retirement have become a reality and a cause for worry. The current interest in the elderly population in India could be traced to this impact of the declining mortality at the individual level rather than at the societal level.

State-level variations

India is a huge country and its many regions exhibit considerable demographic diversity. Table 6 presents some selected statistics on the population of the elderly in 17 major states of India. Although birth and death rates have fallen in every Indian state, the small state of Kerala is far more advanced in the demographic transition than any other state. The life expectancy at birth in this state is approaching 70 years, and birth rate has fallen below 20 per thousand. Nearly 80 per cent of the births survive to age 60, and an average Keralaite could expect to spend one-fifth of his lifetime in old age. Not surprisingly, Kerala's population is ageing rapidly. In 1981, about 8 per cent of the population was in ages 60 and over, which was one of the highest in India. By 2026 it is expected that 18 per cent of the population would be in these ages[7].

Among other states, Punjab and Tamil Nadu could be expected to experience rapid ageing of the population in the near future. In fact, in 1981, Punjab reported the highest percentage of elderly population in India, even higher than that of Kerala. A cautionary note seems to be in order here: The quality of information on age collected in the census appears to vary from among states, and consequently, state-level variations in the percentage of elderly population, especially that of old-old population, may not be highly reliable. However, Punjab has a life expectancy at birth next only to that of Kerala, and an average Punjabi, like his counterpart in Kerala, could expect to spend one-fifth of his lifetime in old age. There is also evidence suggesting that the practice of contraception is spreading rapidly in the state[8], though this is yet to be confirmed by the SRS birth rates.

In Tamil Nadu, fertility appears to have fallen very rapidly in recent years, giving rise to the fear of population ageing. However, mortality levels are comparatively high in the state, consequently, the expected years to be spent in old age is considerably shorter than

either in Kerala or Punjab. But this does not offer much comfort because mortality decline could accelerate any moment.

The demographic transition has been relatively slow in the northern and eastern India, which comprises such populous states as Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar, Orissa and Assam. The population is expected to age slowly in these states.

Another significant variation is with regard to rural and urban areas. Rural settlements typically lag behind urban settlements in the demographic transition. India is no exception to this rule (see Table 6). However, the percentage of elderly in the total population is lower in urban areas than in rural areas because of the influx of young men into cities and towns seeking opportunities for gainful employment. As few return to rural areas after retirement or at old age, the true magnitude of the old-age problem in urban areas is reflected not in the proportion of elderly in the total population, but in their growth rate: during 1971–81, the annual growth rate of population in ages 60 and over was 4.6 per cent in urban areas whereas it was only 2.7 per cent in rural areas.

Demographic and socio-economic profile of the elderly

The demography of elderly would not be complete without a discussion of composition and characteristics of the elderly population. We have already learnt a little about the age composition of the elderly. According to the 1981 census, 64 per cent of the population 60 and over was were aged 60–69, 26 per cent in 70–79 years, and 10 per cent were aged over 80. However, the reported age distribution of elderly could have been severely distorted due to age misstatements, and the true percentages might be around 69 per cent in ages 60–69, 26 per cent in 70–79, and 5 per cent in ages 80 and over[5]. Whatever may be the true figures, it is almost certain that the percentage share of the old-old population among the elderly is on the rise. Thus, according to the UN projections the percentage of population aged 80 and over among those aged 60 and over would increase from 6 per cent in 1990 to 9 per cent in 2020.

India is one of the few countries in the world where males outnumber females. But among the elderly, this is probably not the case. According to the 1981 census, there were 104 men for every 100 women in ages 60 and over. Among the oldest-olds, the reported sex ratio was 99 men for 100 women. However, it is likely that the size of the male population was exaggerated relative to that of women in the elderly because of greater exaggeration of age among men and under enumeration of widows in the census. The true sex ratio was probably around 92 males per 100 females in ages 60 and over, and 73 males per 100 females in ages 80 and over[5]. Population projections indicate that the elderly population would become even more feminine in the future owing to the expected larger increments in longevity of females.

Table 6. Percentage of elderly population, mortality measures and crude birth rate in major states of India

State	Percentage of population (1981 census)		Mortality measures, 1981–85*				
			Life expectancy				
	At ages 60+	At ages 80+	At birth	At 60	Per cent surviving to age 60	Percentage of life span after age 60	Crude birth rate* 1988–90
Andhra Pradesh	6.65	0.58	58.4	15.1	63.5	16.4	26.5
Assam	—	—	51.9	13.4	51.8	13.4	30.7
Bihar	6.80	0.58	52.9	15.1	55.2	15.8	34.8
Gujarat	5.95	0.54	57.6	16.4	60.7	17.3	29.3
Haryana	6.34	0.63	60.3	17.2	67.1	19.1	33 6
Himachal Pradesh	7.50	0.95	60.4	16.3	65.9	17.7	29.1
Jammu and Kashmir	5.75	0.75	60.4	16.2	64.8	17.4	31.5
Karnataka	6.49	0.74	60.7	16.6	66.2	18.1	28.2
Kerala	7.50	0.73	68.4	17.9	77.3	20.3	20.1
Madhya Pradesh	6.45	0.64	51.6	14.5	55.8	15.6	36.5
Maharashtra	6.39	0.59	60.7	16.2	66.9	17.9	28.5
Orissa	6.39	0.58	53.0	14.3	56.3	15.2	30.8
Punjab	7.80	1.10	63.1	17.9	70.8	20.1	28.1
Rajasthan	6.03	0.48	53.5	15.3	57.3	16.4	33.7
Tamil Nadu	6.41	0.51	56.9	14 6	61.7	15.9	22.5
Uttar Pradesh	6.84	0.71	50.0	14 8	52.7	15.6	36 6
West Bengal	5.55	0.50	57.4	15.1	62.1	16 3	27.9
India, Total	6 49	0.62	55.5	15.4	59.8	16 6	30 8
Rural	6.84	0 65	53.7	15.1	57.5	16.1	32 3
Urban	5.36	0.53	62.8	16.9	68.7	18.5	25.4

*From the Sample Registration System.

In India, elderly population depends heavily on the family for economic and emotional support. The martial status and living arrangements of elderly are thus important indicators of their well-being. According to the 1981 census, if 81 per cent of men aged 60 and over were living with a spouse, only 32 per cent of women aged 60 and over were currently married. Such a large disparity between the sexes exists because of the institution of early marriage for females and sanctions against remarriage of widows. This arrangement has proved to be efficient in clearing the demand and supply in the marriage market, but has been particularly harsh on elderly women because unlike men, they have no independent means to support themselves, at the same time, they live longer than men in old age. Consequently women depend much more on the son than men for support at the old age. It is therefore not surprising if under the system women express a strong desire to have sons and a constant tussle exists between the monther-in-law and daughter-in-law.

Unfortunately, Indian censuses do not provide information on the living arrangements of the elderly. However, several indepth investigations in rural areas indicate that about 80 per cent of the elderly population live with their children, mostly with their son(s)[9,10]. About 13 per cent of the elderly population live alone – either as a couple, or all by oneself. Mostly this is due to infertility or death of progeny, but now-a-days it is also occurring because of migration of children to urban areas. With the decline of fertility and rapid urbanization, one may expect a steady rise in the proportion of elderly population living all by themselves.

As there is no specific age of retirement in subsistence economy, a sizeable proportion of elderly population in India is engaged in gainful employment. According to the 1981 census, 38 per cent of the population aged 60 and over had worked for a major part of the year preceding the census. One would expect that a large percentage of the elderly might be part-time workers but according to the 1981 census, only three per cent of the elderly were marginal workers. Thus a majority of the elderly workers appear to be engaged in economic activity throughout the year. The census also revealed that even though more than 10 per cent of the elderly population might be living alone, only 0.5 per cent of the elderly are beggars and vagrants.

As one would expect, work participation rates of the elderly differ markedly in rural and urban areas. If 40 per cent of the elderly population in rural areas had participated regularly in work, only 27 per cent of the elderly population in urban areas were still in the working force. The rural–urban difference is largely explained by the higher proportion of the elderly population in urban areas relying on rent, pension and other savings to support themselves. The 1981 census showed that if only 4 per cent of elderly people in rural areas reported as not working because they have independent means (other than family members) to support themselves, 16 per cent of elderly persons in urban areas reported rent and private savings as the main source of support. There is also significant gender differentials in the work participation of the elderly population. The 1981 census showed that 64 per cent of men in ages 60 and over are workers while only 10 per cent of women in the same ages were engaged in gainful work. A further 9 per cent of elderly males (26 per cent in urban areas and 5 per cent in rural areas) were not working but had independent means to support themselves, whereas ony 4 per cent of elderly women were so fortunate. Thus over 85 per cent of elderly women were depending on the husband or children for economic support.

An interesting feature revealed by the Indian censuses is the steady decline in the work participation rate of elderly population[11]. The data on elderly men, which is more easily comparable over the censuses, indicate a fall in the work participation from 77 per cent in 1961 to 74 per cent in 1971 and further to 64 per cent in 1981. This cannot be explained by the sectoral changes in the work force, as the decline is seen in both rural and urban areas. In part, this may be due to the steady increase in the proportion of old-olds in the elderly population. Unfortunately, as the Indian censuses do not make detailed tabulations of work participation of the elderly population, the importance of this factor cannot be assessed. Only after ascertaining its importance can we be certain that the elderly have begun to retire from work early either because they have accumulated enough wealth, or they are being pushed out of work because of rapid population growth in the working ages.

The population censuses also reveal that there has been a significant fall in the proportion of destitute among the elderly. In the 1961 census one per cent of the elderly were reported as beggars and vagrants whereas in the 1981 census their proportion had come down to half a per cent. The decline in the proportion of destitute among the elderly population may be due to: (i) increased survival of children from the declining in death rates, (ii) destitute pension schemes introduced in many states, and (iii) decline in the incidence of poverty.

Health status of the elderly

Deteriorating health status and disability are the twin problems of old age. Data collected in several rounds of National Sample Surveys provide some light on these problems of elderly population. Information on morbidity collected in the 28th round of the NSS in 1973 revealed that about 7 per cent of the elderly population suffer from chronic illnesses and 28 per cent suffer from

temporary illnesses. If the prevalence of temporary ailments was found to be higher in rural areas, chronic illnesses were reported more in urban areas, which is consistent with our knowledge of epidemiology of diseases. The prevalence of both temporary and chronic illnesses was found to be lower among elderly women than elderly men. The difference was particularly large in the case of chronic ailments, where the reported rate for elderly women was lower by 40 per cent. This again is consistent with what we know about the gender differential in susceptibility to diseases.

However, in the case of disability, a complete reversal is observed. Data on disabilities of the elderly population were collected in the 36th round of the NSS in 1981. They revealed that about 11 per cent of the elderly population suffer from one form of disability or the other. Among them, visual impairment accounted for about half of the total disability burden. Next in importance were hearing and locomotor disabilities. The prevalence of physical impairments was found to be 20 per cent lower in urban areas than in rural areas. Blindness, which is more responsive to treatment than any other form of disability, was found to be 30 per cent lower in urban areas. Although the burden of illness was lower among elderly women, the overall disability rate was 13 per cent higher among them, and more significantly, they reported 50 per cent higher rate of visual disability than elderly men. There could be no better testimony for the neglect of females in the provision of health care. People generally believe that the aged do not need serious health care as they are not going to live long in any case[10,12]. Elderly women are victims of such a neglect more than men because they have no independent means to support themselves.

Welfare programmes for the elderly

Like in many developing countries, welfare programmes for the elderly in India are in their formative stages. The idea that responsibility of taking care of parents at old age rests with the children is still deep-seated in the Indian psyche. The intervention of the state is limited to those who have no family to support them, or those abandoned by the relatives. Such destitute pension schemes are in existence in all the major states of India, and in some states, widows and physically handicapped are also included among the beneficiaries. The pension payment is very modest (in some cases even less than Rs 60 per month) but it is estimated to cover about seven per cent of elderly population[11].

Thanks to the law passed way back in 1871, workers in the organized sector of the economy, comprising of about 11 per cent of the total work force, enjoy the benefit of pension or provident fund schemes. But those who work in the unorganized sector, who are in dire need of social security benefits, are not covered by any scheme. An exception however is the pension scheme for agricultural workers introduced in Kerala in 1980. Under this scheme an agricultural worker who completes 60 years of age and has income less than Rs 1,500 per annum is entitled to Rs 60 per month[7]. The scheme, however, is same in character as the destitute pension schemes in operation in all the states of India. It has the disadvantage of making the aged dependent on the state for social security. There is a need to develop earning-related pension systems and for involving private sector and voluntary agencies in the provision of social security for the elderly. Before introducing any scheme, it is necessary to learn from the experience of others who are ahead in the demographic transition, and examine the fiscal sustainability of the system. For, once a scheme is launched, it may become difficult to withdraw the benefits it ensures.

The demographic trends in India call for a rapid expansion of public support systems for the elderly in the years to come. The trends in industrialized countries in the last two decades indicate the magnitude of required changes. When the proportion of the population aged 65 and over in Japan rose from 6 per cent in 1960 to 10 per cent in 1984, social security payments to elderly rose from 5 per cent of the national income to 14 per cent of the national income. In Sweden, when the population aged 65 and over rose from 12 per cent in 1960 to 17 per cent in 1983, social security payments to elderly rose from 11 per cent of the national income to 44 per cent of the national income[13]. It makes demographic sense if the large increases in social security expenditure are financed by a reduction in educational and health expenditures on children and youth because, as old-age dependency increases in the society, young-age dependency tends to fall. Unfortunately, having neglected education and health sectors in the past, India faces a difficult challenge of raising at the same time educational and health services to children and youth and social security expenditures for the aged. The solution may lie in recognizing the regional diversity of India. States such as Kerala, Goa, Punjab and Tamil Nadu, where fertility has fallen substantially, could be asked to cut public expenditures on education and maternal and child health and step up social security benefits for the elderly. Other states should be encouraged to increase allocation for education and health until fertility drops to low levels. The strengthening of public support systems for elderly in these states may help to quicken the speed of fertility decline, but it may not be financially viable at the current juncture.

With the strengthening of public support system for the elderly, and as people begin to save for old age rather than investing on their children, the demand for

geriatric medicine and in-patient hospital care would increase enormously. For, despite the much idealized family support for the elderly, they tend to be neglected in the provision of health care. When they have their own resources to fall back upon, it is likely that the elderly would be spending more on their health care. Therefore, one can expect the increase in the demand for geriatric medicine and in-patient hospital care to outstrip even the growth in elderly population.

As the elderly begin to live longer, and the share of old-age pensions in the total public expenditure increases rapidly, there will be a demand for raising the age of retirement. However, the postponement of retirement age is likely to affect adversely the employment chances of youth and women. Therefore, it is prudent to withhold any move for raising the age of retirement until population in the working ages ceases to grow. For India, it will take another 30 years for this to happen; though there will be regional variations in this. At least, at present, the predominant trend appears to be to retire early from work rather than late.

Conclusion

Owing to the declines in mortality and fertility levels, India's old-age population is growing rapidly. The population in ages 80 and over is expected to increase by over four per cent per annum in the next three decades, with a doubling time of only 16 years. Although there would only be a modest increase in the proportion of population in older ages in India as a whole, states such as Kerala, Goa, Tamil Nadu and Punjab, where fertility has declined substantially, would witness rapid population ageing in the next few decades.

More importantly, due to the decline in mortality throughout India, more and more people are surviving to older ages and living longer at old age. This is likely to induce workers to save more for old age and look for the strengthening of public-support systems for the care of the aged. Consequently, the demand for geriatric medicine and in-patient hospital care is expected to rise phenomenally in the next few decades.

States which have experienced rapid fertility decline in recent years would do well by drawing upon the experience of countries which have undergone similar declines earlier. They are expected to reduce expenditure on education, maternal and child health and step-up allocation to welfare expenditure for the aged.

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