

CHAPTER I

AGEING OF THE POPULATION

'The twentieth century was known as an era of sustained population growth and the twenty-first century will be an era of population ageing'
(Bloom et al., 2008).

Introduction

Until the early eighteenth century, global population was relatively static and the lives of the vast majority of people were “nasty, brutish, and short”¹. Age distribution of the various countries in the world was pyramid shaped i.e., broad bottoms and tapering apex. Since then, the size and structure of the population of countries has undergone tremendous changes. After agricultural and industrial revolutions, mortality in Europe, United States and other countries started declining because of better diets, clothing, shelter, and other elements of consumption; and (after approximately 1850) by developing better sanitation and better medicine (Davis, 1990). After some lag, crude birth rate (CBR) started declining and many countries started experiencing a demographic transition.

At one stage, fertility was high but mortality went down, and their populations grew at a higher rate. Then fertility started declining in those countries and it was realized by the demographers that the birth rate will also go down at the lowest level.

About 200 to 250 years ago, almost all countries in the world were characterized by high and fluctuating mortality and high fertility. The age structures of their populations were quite similar. As a result of demographic transition, population started ageing as shown in the Table 1.1 for the years 1950 to 2000, along with the United Nations (UN) projections to the year 2050 for the developed countries (DCs) and the less developed countries (LDCs).

The ageing of the DCs population is shown by the projected increase in their median age by the corresponding increase for the LDCs population by about 14 years. It reflects that the population of LDCs in 1975 had a younger median age than it did in 1950, as well as a higher proportion of children and lower proportion of elderly.

¹ This phrase comes from Thomas Hobbes (1588-1679), the English moral and political philosopher, writing about life in an unregulated state of nature in *Leviathan* (1651).

Table 1.1: Age structure for developed (DCs) and less developed countries (LDCs): 1950-2050.					
	1950	1975	2000	2025	2050
Median age (years)					
DCs	28.6	30.9	37.4	44.1	46.4
LDCs	21.4	19.4	24.3	30.0	35.0
Per cent less than age 15					
DCs	27.3	24.2	18.3	15.0	15.5
LDCs	37.6	41.1	32.8	26.0	21.8
Per cent age 60 and older					
DCs	11.7	15.4	19.4	28.2	33.5
LDCs	6.4	6.2	7.7	12.6	19.3
Source: United Nations, 2002.					

Mortality declined rapidly from 1950 to 1975, illustrating how falling mortality can make a population younger (Bhende and Kanitkar, 2011). Many actual population age distributions are highly irregular rather than smooth and geometric like stable populations. Irregular distributions can come about in several ways:

- A) The populations of a number of industrial countries, for example, experienced a baby boom from the late 1940s through the mid - 1960s, followed by subsequent baby busts. These changes in fertility created large bulges and hollows in the population age distributions as the affected birth cohorts reached higher ages. The changing relative sizes of cohorts has important consequences for average wages, unemployment rates and prospects for promotion, and they eventually will exert differential fiscal pressures through public pension and health - care systems (Bhende and Kanitkar, 2011).
- B) Population age distribution can also be heavily marked by traumatic events such as major wars or, for example, China's disastrous famine resulting from the Great Leap Forward (an economic plan launched in the late 1950s). Such crises cause heavy mortality that is sometimes concentrated at certain age and sex groups, and they also lead to sharp reductions in fertility and, therefore, in the size of generations born during and immediately after the crisis. The effects of both World Wars I and II are still apparent in the age pyramids of many European countries.

- C) A third cause of irregular structure is age - focused patterns of immigration and emigration. These are more frequently seen in a sharp differential at the local rather than national level.
- D) A fourth cause is out - migration of the younger population from some rural areas which leaves behind an elderly population.

Way back in 1956, the attention of the Population Division of United Nations was drawn to the issue of ageing of populations and its socio-economic consequences (United Nations, 1956). At that time, the phenomenon of ageing was observed only in the DCs and the populations of the LDCs were young as most of them were experiencing high fertility and high mortality and some were experiencing high fertility and declining mortality. In 1960s and 1970s, ageing had a limited role in the discussions on population policy. One important reason was the existence of other issues of higher priorities (such as rapidly increasing populations and family planning programmes). As the proportion of the aged was low in many DCs, it was thought that ageing was not to be regarded as an issue of concern. Thus, the rapid increase in the absolute numbers of the aged which has a high relevance for planning was overlooked (United Nations, 1992). In the World Assembly on Ageing held at Vienna in 1982, the attention of policymakers and planners was drawn to the problems arising out of ageing of populations in the DCs and LCDs. In this Assembly, the Plan of Action on Ageing was adopted (United Nations, 1982). The concern of the demographers, social scientists and social workers toward the elderly population increased with time. In India the topic of ageing of population has begun receiving attention on official level quite recently, although several non-governmental voluntary organizations (NGOs) have started working for the welfare of the elderly since 1980s. It would be relevant here to analyze the age data.

What is meant by population ageing?

An elderly person is defined as a person who has completed the age of 60 years and above. The United Nations generally uses the age of 60 years as the lower limit to define elderly population (United Nations, 1965, 1993 and 2005). Ageing of the population and that of the individual should be distinguished.

- ‘Ageing’ of a population is a process whereby the share of older persons in the population grows relative to that of younger persons (United Nations, 2005).

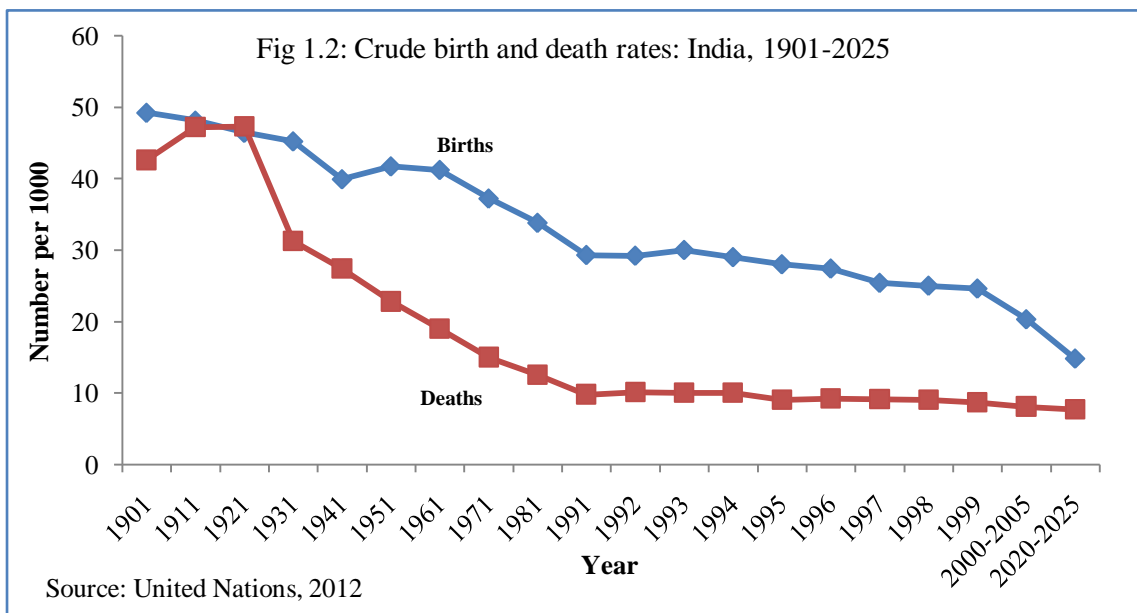
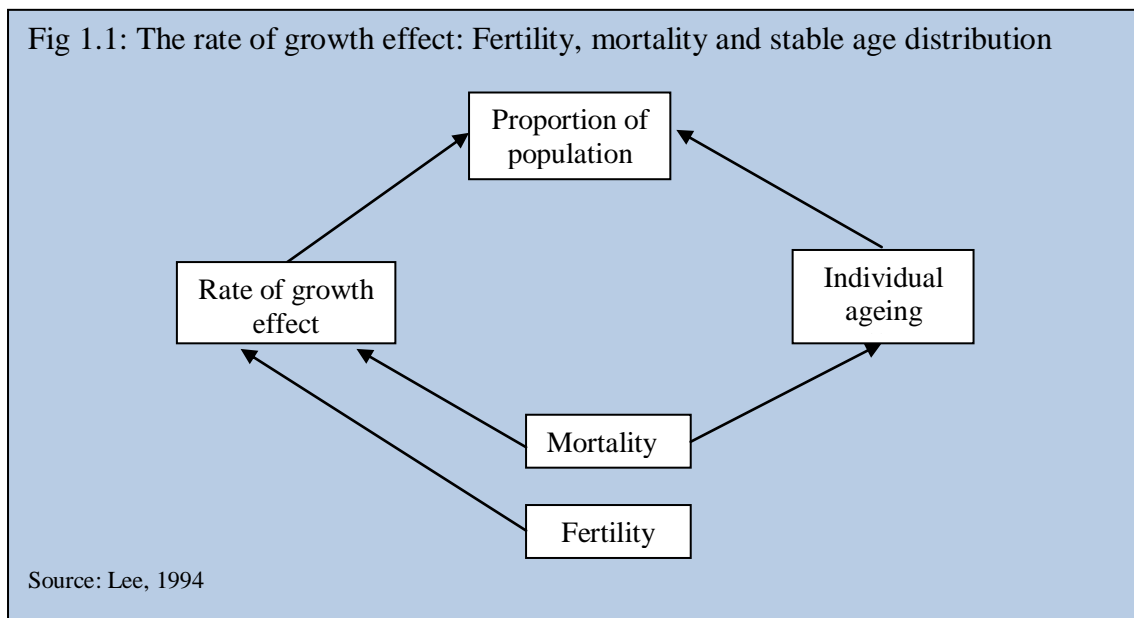
- ‘Ageing of population is a summary term for shifts in the age distribution (i.e., age structure) of a population toward older ages’ (*The Encyclopedia of Population, 2003*).
- ‘The ageing of population is often measured by increase in the percentage of elderly people of retirement ages. The median age - the age at which exactly half of the population is older and another half is younger - is perhaps the most widely used indicator’ (*The Encyclopedia of Population, 2003*).
- ‘An increase in the mean or median age of the population, decrease in the proportion of the child population or a rise in the proportion of elderly population are all aspects of population ageing’ (*Wikipedia, the free encyclopedia - Population ageing*).

Population ageing or demographic ageing is the process whereby, in the total population the proportion of older person increases and that of children decreases. This is caused by decline in fertility and mortality rates prevailing in the population. The interesting exception to the above statement is in the occurrence of the ‘baby boom’ which rendered the population of DCs slightly younger. After World War II, median age of the population also went down. Population became younger as fertility went up. With the upsurge in the birth rate during 1940-45 and during the post - World War II, population became slightly younger (United Nations, 1963). It can be stated that during this period, the median age of the population of USA and Australia came down due to a rise in the birth rate.

Because the decline of mortality precedes a decline in fertility, there is a period during which population grows rapidly. As time goes by, however, fertility declines faster than mortality with the result that a country’s population growth stabilizes at a low or negative level. This has happened in most of the DCs. Table 1.2 shows the stylized pattern of change (see Fig 1.1 also). Table 1.3 and Fig 1.2 represent an actual example of the demographic transition by taking India as an example.

Table 1.2: Demographic transition: Vital rates in transition.			
Phase	Death rate	Birth rate	Rate of natural increase
Early	High	High	Low
Middle	Low	High	High
Late	Low	Low	Low
Source: Daly, 1990.			

An individual's ageing moves in only one direction - increase as time passes. It is important to consider the implication of ageing for the society and for individual and his/her family. At this point it will be correct to explore more about 'demographic transition' which leads to ageing of the population. In any study of population and resources, the demographic transition cannot be ignored. It represents a powerful tool for connecting demography with 'outside' factors in a process of change. Demographic transition is the process underlying the global population ageing, i.e., a process whereby reductions in mortality, particularly at young ages, are followed by reductions in fertility (Davis, 1945).



On the fertility side, a noteworthy feature of the post - World War II era has been the enormous difference between the DCs and LDCs. The latter, comprising more than two-thirds of the globe, have had five to seven births per woman, while the highly advanced nations, despite their postwar baby boom, have had a drop in births so drastic as to portend reproductive failure.

Year	CBR	CDR
1901	49.2	42.6
1911	48.1	47.2
1921	46.4	47.3
1931	45.2	31.3
1941	39.9	27.4
1951	41.7	22.8
1961	41.2	19.0
1971	37.2	15.0
1981	33.8	12.5
1991	29.3	9.8
1992	29.2	10.1
1993	30.0	10.0
1994	29.0	10.0
1995	28.0	9.0
1996	27.4	9.2
1997	25.4	9.1
1998	25.0	9.0
1999	24.6	8.7
2000-2005	20.3	8.1
2020-2025	14.8	7.7

Source: United Nations (2012), *Demographic Yearbook*, 2012.

The world population was almost static for a long time because both the birth rates and death rates were high. Later, the countries of north-west Europe - England, France and Sweden - began to attain a new kind of demographic stability, that is, low population growth, not through high fertility and high mortality but through low fertility and low mortality. These two conditions are known as ‘the old balance’ and ‘the new balance’ respectively. This shift in population from the old balance to the new balance, experienced by Europe, North America, Australia and New Zealand and later by Japan, is known as ‘the demographic transition’ (Davis, 1945).

According to United Nations (2009) the ageing of the population is characterized by the following seven factors:

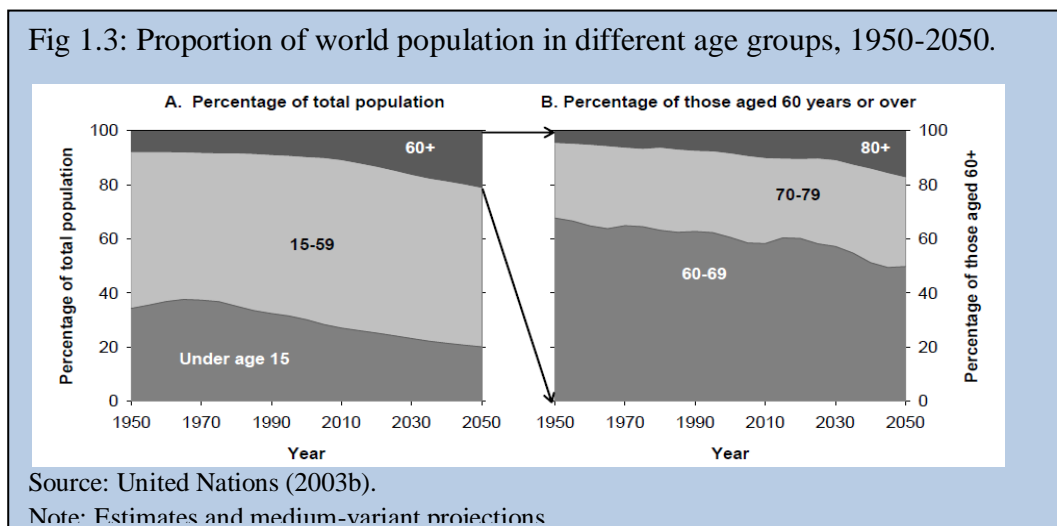
1. Population ageing is an unprecedented, a process in the history of humanity. A population ages when increases in the proportion of older persons (that is, those aged 60 years or over) is accompanied by reduction in the proportion of children (persons under the age of 15 years) and then by decline in the proportion of persons in the working ages (15 to 59 years). At the world level, the number of older persons is expected to exceed the number of children for the first time in 2045/2050. In the DCs, where population ageing is far advanced, the number of children dropped below that of older persons in 1998.
2. Population ageing is pervasive since it is affecting nearly all the countries of the world. Population ageing results mainly from reduction of fertility that has reduced the number of children coupled with a steady increase in the number of older persons. This has a direct bearing on both the intergenerational and intra - generational equity and solidarity that are the foundations of society.
3. Population ageing is profound, having major consequences and implications for all facets of human life. In the economic area, population ageing will have an impact on economic growth, savings, investment, consumption, labour markets, pensions, taxation and intergenerational transfers. In the social sphere, it influences family composition and living arrangements, housing demand, migration trends, epidemiology and the need for healthcare services. In the political arena, population ageing may shape voting patterns and political representation.
4. Population ageing is enduring. Since 1950 the proportion of older persons has been raising steadily from 8 per cent in 1950 to 11 per cent in 2009, and is expected to reach 22 per cent in 2050. As long as old - age mortality continues to decline and fertility remains low, the proportion of older persons will continue to increase.
5. Currently, women outnumber men as feminization of population is part of ageing process. The number of females in the elderly group increases because women live longer than men and they constitute the majority of older persons.
6. Marked differences exist in the number and proportion of older persons between DCs and LDCs. In the DCs, over a fifth of the population is currently aged 60

years or over, and by 2050 nearly a third of the population is projected to be in that age group there. In the LDCs, older persons account for just 8 per cent of the population today but by 2050 they are expected to account for a fifth of the population. Thus, by the mid - century, the LDCs are likely to reach the same stage in the process of population ageing that the DCs are in at present.

7. The pace of population ageing is faster in LDCs than in DCs. Consequently, LDCs will have less time to adjust to the consequences of population ageing. Moreover, population ageing in LDCs is taking place at lower levels of socio economic development than has been the case in DCs.

Elderly in the World - Current Scenario

Before presenting information on ageing in Pune, Maharashtra, it will be helpful to know the situation of elderly in DCs and LDCs of the world. According to United Nations population estimates and projections prepared by the Population Division of the Department of Economic and Social Affairs, 2012, persons aged 60 years or older comprised 10 per cent of the world’s 6 billion inhabitants in the year 2000. This number is projected to increase to about 2 billion or 22 per cent of the world population by 2050. In other words, it will be as large as the population of children today. This historic crossover of an increasing share of older persons and a declining share of children will mark the first time that the number of children and older persons are the same. The ageing process is not only a matter of changing proportions of children and older adults because the older population itself is ageing. Figure 1.3 shows, for the world as a whole, the changing proportions of younger and older persons since 1950, and the changes that are projected to occur by 2050 (United Nations, 2012).



Most of the world population lives in a few countries. In 2013, 37 per cent of it lived in China and India. In the DCs, 23 per cent of the population is already aged 60 years or over and that proportion is projected to reach 32 per cent in 2050 and 34 per cent in 2100. In DCs as a whole, the number of older persons has already surpassed the number of children (persons under the age of 15 years). By 2050 the number of older persons in DCs will be nearly twice the number of children and by 2100, that ratio will be closer to 2.2. Population ageing is less advanced in LDCs. Nevertheless, the population of a majority of them is poised to enter a period of rapid population ageing. In LDCs as a whole, 9 per cent of the population today is aged 60 years or over, but that proportion will more than double by 2050, reaching 19 per cent that year, and triple by 2100, reaching 27 per cent. Globally, the number of persons aged 60 years or over is expected to more than triple by 2100, increasing from 841 million in 2013 to 2 billion in 2050 and close to 3 billion in 2100. Furthermore, already 66 per cent of the world's older persons live in the LDCs and by 2050, 79 per cent will do so. By 2100, this figure will reach 85 per cent.

Until 2013, population ageing had been considerably slower in the LDCs where fertility has been relatively high. The proportion of children in total population declined from 38 per cent in 1950 to 28 per cent in 2013, while that of older persons increased from 6 per cent to 9 per cent. However, a period of more rapid population ageing lies ahead for the LDCs. By 2050, the proportion of older persons is projected to reach 19 per cent, whereas the proportion of children is projected to decline to 22 per cent. After 2050, population ageing in the LDCs will continue but at a slower pace. By 2100, the proportion of older persons is projected to increase to 27 per cent while that of children is projected to decline to 18 per cent (Table 1.4).

In an ageing population, the number of persons grows faster in higher age range. The number of persons aged 60 years and above is expected to be more than triple by 2100, and that of persons aged 80 years and above to increase almost seven - fold by 2100, i.e., increasing from 120 million in 2013 to 392 million in 2050 and 830 million in 2100. Today, just over half of all persons aged 80 years and above live in LDCs, but that share is expected to reach 68 per cent in 2050. Although the population of all countries is expected to age in the foreseeable future, it will remain relatively young in countries where fertility is still high.

Among the older population, the number and proportion of the oldest-old, i.e., persons aged 80 years and above, are rising. In 2013, there were 120 million oldest - old persons in the world, corresponding to 1.7 per cent of the world population. By 2050, this segment of the population is projected to reach 392 million or 4.1 per cent of the world population and by 2100 to 830 million or 7.6 per cent of the population (Table 1.4). The group of oldest old is the fastest growing segment of the world population. Rapid increases in this group are particularly expected in LDCs, where the oldest-old are projected to increase from 63 million in 2013 to 268 million in 2050 and to 666 million in 2100, implying an average annual rate of increase of 3.9 per cent during 2013 - 2050 and of 1.8 per cent per year during 2050-2100 (United Nations, 2012).

Over half of the oldest - old live in the DCs but they are expected to become increasingly concentrated in LDCs. Thus, in 2050, 68 per cent of all persons aged 80 years or over are expected to live in LDCs and by 2100, 80 per cent of them are expected to do so. Just as the overall population, the oldest-old population tends to be concentrated in the most populous countries. In 2013, 22.6 million of them lived in China, 11.9 million in the United States and 9.9 million in India. In 2050, these countries will still have the largest numbers of persons aged 80 years and above - 90.4 million in China, 37.2 million in India and 31.7 million in the United States. By 2100, China is projected to have 120 million persons, India 116 million and the United States 52 million aged 80 years and above persons.

Table 1.4: Distribution of population of the world, development groups by broad age groups, 2013, 2050 and 2100 (medium variant).												
Development group	Population in 2013 (millions)						Population in 2050 (millions)					
	0-14	15-24	25-59	60+	80+	Total	0-14	15-24	25-59	60+	80+	Total
World	1878	1205	3238	841	120	7162	2034	1312	4184	2020	392	9551
MDCs	206	152	608	287	57	1253	210	142	533	417	124	1303
LDCs	1672	1053	2630	554	63	5909	1825	1169	3651	1603	268	8248
	Percentage distribution by age groups											
World	26	17	45	12	1.7	100	21	14	44	21	4.1	100
MDCs	16	12	48	23	4.5	100	16	11	41	32	9.5	100
LDCs	28	18	45	9.4	1.1	100	22	14	44	19	3.2	100

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2013). *World Population Prospects: The 2012 Revision*. New York: United Nations.

Ageing in India

The census of India provides data on age in quinquennial (5 year age group) age groups up-to age 80+ years. It identifies the elderly as aged 60 years and above. Indian demographers while studying the demographic and socio-economic aspects of the elderly have used the proportion of persons of age 60 years and above as an indicator of ageing (Registrar General, 1999; Visaria, 2001; Rajan, 2003; Bose, 2004). Elderly population is not a homogeneous group so it is worthwhile to form groups as young-old, old and oldest-old. Demographers and sociologists sometimes categorize the elderly in three groups: young-old aged 60-69 years, old aged 70-79 years and oldest-old aged 80 years and above.

‘Young’ and ‘old’ populations

Population which has a higher proportion of children and young persons is termed as ‘young’ while that with a lower proportion of children and a higher proportion of adults and old population is known as ‘old’.

The distinction between an individual person’s ageing and the ageing of a population should be kept in mind. The former moves in only one direction - increases as time passes, whereas a population can get ‘older’ or ‘younger’ in the sense that the proportions of different age groups may undergo changes with the passage of time. The populations of the DCs have aged. However some hundred and fifty years ago they were also ‘young’ with a larger proportion of children below the age of 15 years.

According to the latest census of India (2011) there are 103.8 million (103836714) persons of aged 60 years and above (Registrar General and Census Commissioner, India, 2011). As shown in Tables 1.5 and 1.6, the elderly accounted for 8.6 per cent of the total population. Although percentage - wise the Indian population may not appear to be highly aged, the absolute number of 103.8 million is huge for the planners, policy makers and programmers for planning. The share of elderly population in India in the total elderly population of the world was 13 per cent around 2000 (United Nations, 2004).

Table 1.5: Growth of elderly population and its percentage to general population by gender in India, 1901-2011.						
Year	Elderly population (in million)			Elderly population to general population (in %)		
	Persons	Males	Females	Persons	Males	Females
1901	12.1	5.5	6.6	5.06	4.55	5.59
1911	13.2	6.2	7.0	5.22	4.81	5.65
1921	13.5	6.5	7.0	5.37	5.04	5.70
1931	14.2	7.0	7.3	5.09	4.86	5.35
1941	18.0	9.0	10.0	5.66	5.43	5.91
1951	19.6	10.0	10.0	5.43	5.21	5.66
1961	24.7	12.4	12.4	5.63	5.46	5.80
1971	32.7	17.0	16.0	5.97	5.94	5.99
1981	44.0	22.5	21.5	6.42	6.35	6.50
1991	55.3	28.2	27.1	6.55	6.45	6.66
2001	76.0	38.2	37.7	7.70	7.55	7.86
2011	49.2	50.8	103.8	8.6	8.5	8.7

Source: 1. Sharma and Xenos, 1992.
2. *Census of India 2001 and 2011.*

Age - reporting in India

Although collecting information on the age of a person (age completed on last birthday) in census and surveys appears to be a fairly simple and straightforward operation, the age returns in India are inconsistent with the true ages for a part of population (Registrar General and Census Commissioner, 2004). The age data suffer from various errors such as not knowing one's own age, preference for certain ages and digits, etc. There is a general tendency to report ages ending with the digits 0 and 5 and to some extent ages ending with the digits 2 and 8. The age 60 seems to be particularly preferred. This tendency may lead to an over statement of the number and thus proportion of the elderly population (Registrar General and Census Commissioner, 2004; Visaria, 1998).

However, for the 2001 census efforts were taken to improve the quality of age data (Registrar General and Census Commissioner, 2004). They have paid the dividends and the quality of age data has improved in 2001, in all the states and union territories (Registrar General and Census Commissioner, 2004). The same efforts must have paid the dividends in 2011 census also. The collected age data are available in the form of a single year. For demographic analysis, the age data are grouped in five-year age groups.

Age group (years)	Population (in millions)			Percentage of Population		
	Census 1991*	Census 2001@	Census 2011@	Census 1991*	Census 2001@	Census 2011@
All ages	838.6	1028.6	1210.6	--	--	--
0-4	102.4	110.4	112.8	12.2	10.7	9.3
5-9	111.3	128.3	126.9	13.3	12.5	10.5
10-14	98.7	124.8	132.7	11.8	12.1	11.0
15-59	464.8	585.6	729.9	55.4	56.9	60.3
60+	56.7	76.6	103.8	6.8	7.4	8.6
Age not stated	4.7	2.7	4.5	0.6	0.3	0.4

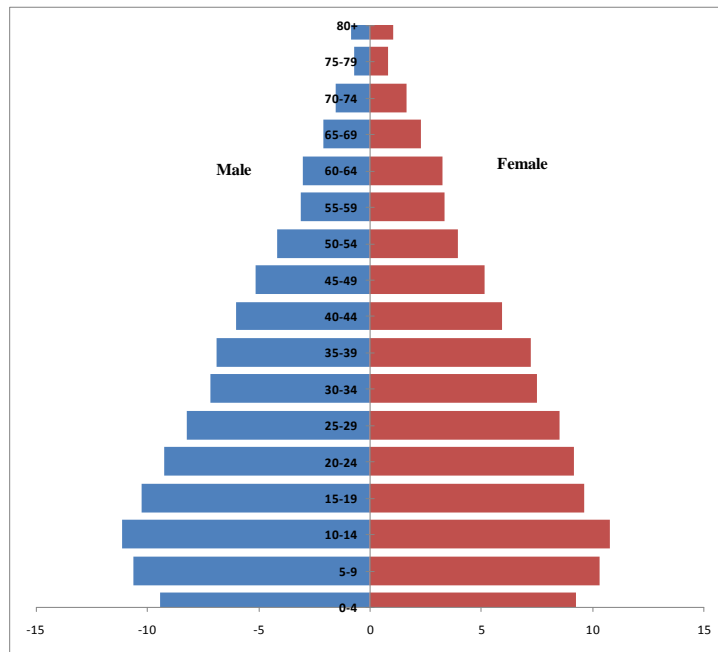
Note: * Excluding Jammu & Kashmir, @ Excluding Mao Maram, Pao Mata and Purul Sub Divisions of Senapati district of Manipur.
Source: Registrar General and Census Commissioner, India, 2004, *Report and Tables on Age, Series 1, India. Census of India, 1991, 2001 and 2011.*

In order to find out the proportion of elderly population in the total population of the country, a comparison is made with the census data and the estimates of proportions of the elderly population obtained from large size sample surveys around 2010. In Table 1.7, the per cent distributions of population by broad age groups, namely, 0-14, 15-59 and 60 years and above obtained from National Family Health Survey-2, 1998-99, Sample Registration System 2000 and 2012 and United Nations estimates of 2000 and 2050 are presented along with those of the census of India 2011. The comparison shows that the estimates more or less tally. Estimates regarding the elderly population vary within a narrow range of 7.5 per cent to 8.6 per cent.

Broad age groups	Name of the study							
	Census		National Family Health Survey		Sample Registration System		United Nations Estimates	
	2001	2011	II, 1998-99	III, 2005-06	2002	2011	2000	2050
0-14	35.3	30.8	36.1	35.2	33.1	29.5	34.1	19.5
15-59	56.9	60.3	56.6	56.3	59.8	62.5	58.3	62.2
60+	7.4	8.6	7.3	8.5	7.1	8.0	7.5	18.3

Source: 1. Registrar General, *Census of India, 2001.*
2. Registrar General, *Census of India, 2004.*
3. International Institute for Population Sciences, *ORC Macro 2001 National Family Health Survey (NFHS-2) 1998-99*, Maharashtra Mumbai; International Institute for Population Sciences and Macro International, *2007 National Family Health Survey (NFHS-3) 2005-06*, Maharashtra Mumbai.
4. SRS, 2002 and 2011.
5. The United Nations, 2012.

Fig 1.4: Population age pyramid for India 2011



Source: *Census of India, 2011.*

Level of ageing in Maharashtra:

According to the Census of India, 2011, there were 1,11,06,935 persons aged 60 years and over in Maharashtra. Of them 52,53,709 (47.3 per cent) were males while 58,53,226 (52.7 per cent) were females (Registrar General, 2011). Table 1.8 shows percentage distribution of the total population of Maharashtra by broad age groups 0-14, 15-59 and 60+ years. It is clear from it that in 2011, the elderly accounted for 9.9 per cent of the total population. In 1991, the population aged 60 years and above was 7 per cent and in 2001 it was 8.6 per cent in the total population showing an increase of 22.3 per cent from 1991 to 2001.

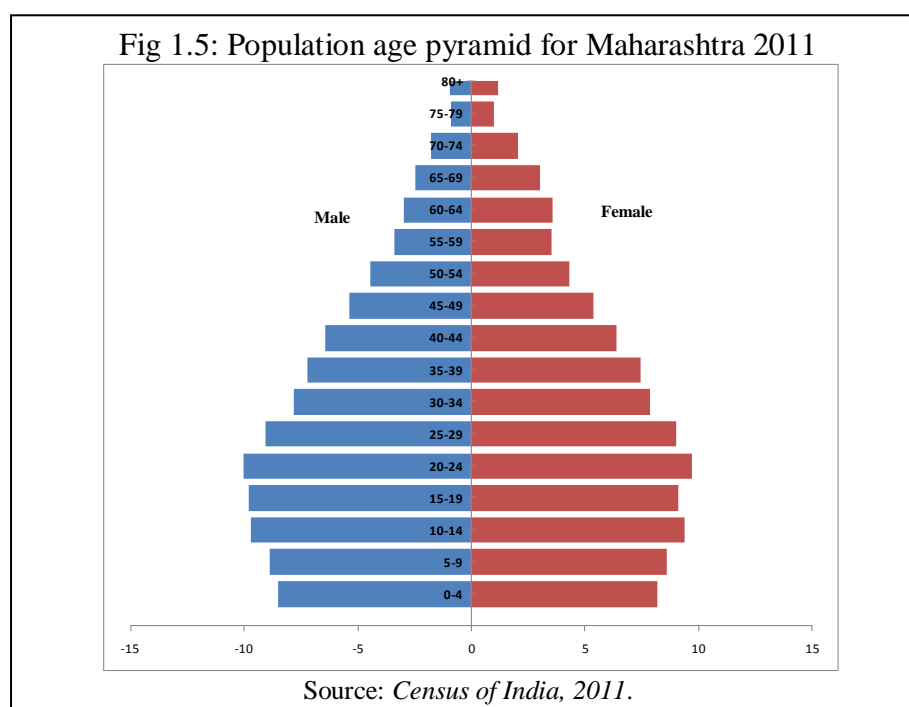
Table 1.8 also exhibits percentage distribution of total population by broad age groups for the National Family Health Surveys-2 and 3 of Maharashtra, 1998-99 and 2004-05 and for Sample Registration System, 2001 and 2011. Following points emerge from the Table: (1) About 9 to 10 per cent of the total population of Maharashtra accounts for the elderly population of 60 years and above; and, (2) In the earlier two broad age groups, namely, 0-14 and 15-59, the sex ratios – number of females per 1000 males – indicate numerical paucity of females. But in the elderly population females

outnumber males (Sex ratio being more than 1000). This is observed in the Census of 2001 and 2011 data as well as those of the NFHS-2, 1998-99.

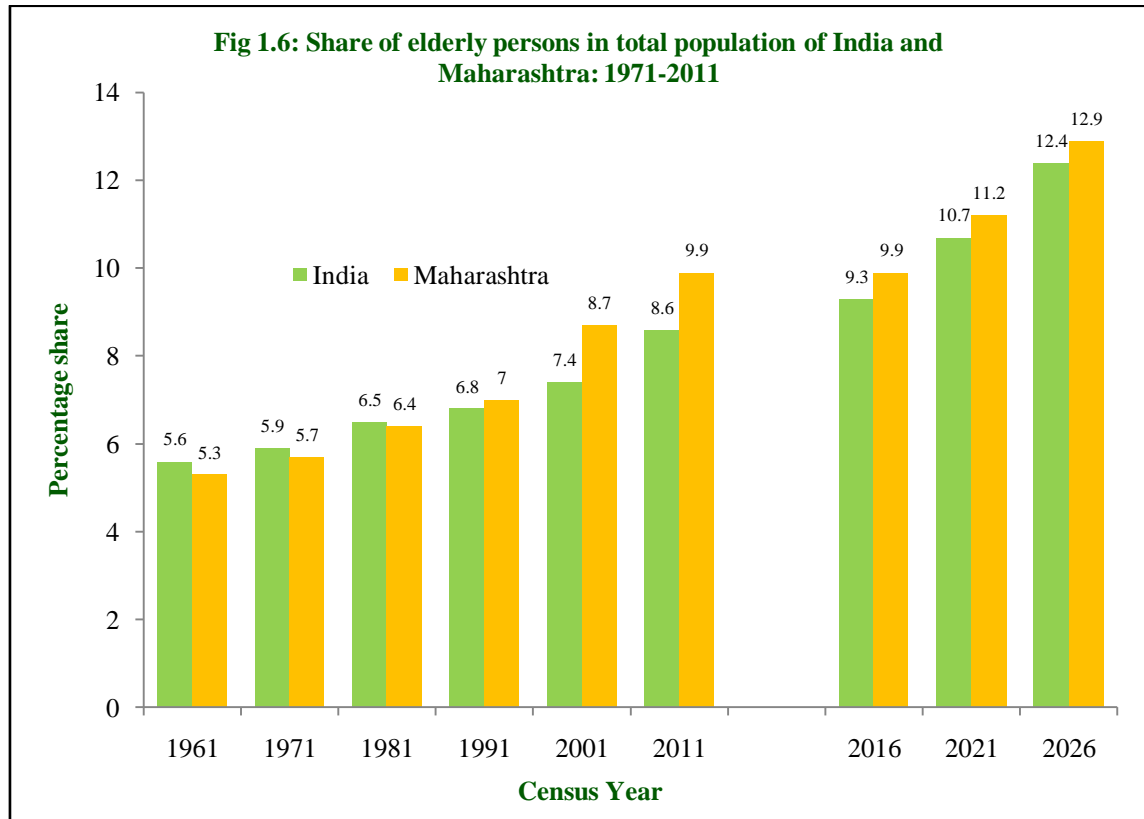
Although the elderly population in Maharashtra accounts for only 9 to 10 per cent of the total population, the absolute size of the elderly population is 11.2 million (Fig 1.5 and 1.6). This is a huge number for planning welfare activities for the elderly.

	Broad Age Group			Total
	0-14	15-59	60+	
Maharashtra census 2001 (per cent)	32.1	59.2	8.7	100.0
Population	31,100,375	57,323,592	8,454,660	96,878,627
Sex - ratio (F/M)*1000	916	896	1150	922
National Family Health Survey-2 1998-99	33.5	58.2	8.3	100.0
Sex - ratio	916	952	1046	947
Sample Registration System 2001	31.8	60.3	8.0	--
Sex - ratio	960	998	1208	NA
Maharashtra census 2011 (per cent)	26.7	63.3	9.9	100.1
Population	29,917,215	70,942,487	1,11,06,935	112,3,74,333
Sex - ratio (F/M)*1000	896	918	1114	929
Sample Registration System 2011	27.2	63.6	9.3	--

Source: 1. Registrar General and Census Commissioner, *Report and Tables on Age, series I. India, Census of India 2001*, volume 1, 2004.
 2. International Institute for Population Sciences, *ORC Macro 2001 National Family Health Survey (NFHS-2) 1998-99*, Maharashtra Mumbai.
 3. Registrar General, India, *Sample Registration system, Statistical Report 2001*, New Delhi 2001.



The shift in age structure associated with population ageing has a profound impact on a broad range of economic, political and social processes (Cliquet and Nizamuddin, 1999) and for almost every aspect of life (Cheng et al, 2007) in the twenty-first century. In such circumstances it is important to review what the societies do to counter such changes and challenges.



Outline of the present study

The present study collected data for Pune city of Maharashtra regarding the socio-demographic and economic aspects of elderly persons, their living arrangements, and how these arrangements vary by demographic and socio-economic characteristics such as age, sex, education, marital status, place of residence, economic standard, source of income, income support, etc. Further, it also provides indicators of standard of living index of the households of the elderly people based on household possession and amenities. It also includes the economic dependence, work participation, economic source and support, health and activities of daily living among the elderly. It examines the role and influence of co-residence or living arrangements in care and support provided to the elderly. This study collected information on awareness about the schemes for elderly and views of the non-elderly about their own ageing.

It is broadly organized into ten major chapters, each running into several sections and subsections as follows: Chapter I relates to conceptual issues, the general understanding about the ageing population, and the facts and figures of ageing in DCs and LDCs. Based on the recent information for India and Maharashtra, the chapter provides details on the growth and speed of the ageing population.

Chapter II presents a review of Indian studies conducted on different aspects of ageing. For this purpose, it uses published and unpublished reports and research papers to get an overall understanding about the studies on ageing in India and find out gaps in the available literature.

Chapter III discusses the objectives of the study, conceptual framework along with sampling details of the data collected and field work. It also sheds light on the rationale behind collecting these data in Pune city and its relevance with elderly living arrangements.

Chapters IV and V give us the idea about the Pune's elderly population in the context of demographic, social and economic aspects. Attention is also given to the economic source and support of the elderly, their work participation, reasons behind the current working status, their saving for old age and their main instruments of saving.

Based on the background characteristics discussed in the previous chapters, Chapter VI and VII discuss the living arrangements of the elderly in the context of development. Chapter VI states the various definitions used for living arrangements. The available studies focus on the living arrangements and their correlation with various ageing issues, trends and types of living arrangements. This Chapter finds out the lacunae in the published studies and enforces the need for the current study mainly focusing living arrangements. Chapter takes advantage of newly available data from ageing survey. It examines how living arrangements are related to socio-economic characteristics, particularly gender, education, residence, marital status, religion, caste, standard of living index, number of children, etc. The bivariate and regression analyses are done to examine these issues and find out the determinants of living alone or living only with spouse.

Chapter VIII deals with health related issues and activities of daily living (ADL) and instrumental activities of daily living (IADL) including morbidity, illness in the past one year, self - reported health status and relative health of the elderly. Further, it finds out the determinants of poor health of the elderly.

Chapter IX focuses on the knowledge among the elderly about ageing, and various programmes and facilities provided by the government. It stresses the need of training for providing care and support to the elderly. It takes into account the views of non-elderly or future elderly about the awareness of ageing and shows how they see their ageing. It also assesses whether they find elderly as a burden on them, the need for old age homes and views of non-elderly regarding the admission of elderly in old age homes and providing family support by living together.

Chapter X focuses on the qualitative information on the old age home in Pune, the profile of the old age homes, available facilities and makes the case studies.

The concluding Chapter XI summarizes the main results of the study and points out some research directions that could contribute both (a) to improving the quality of the data on living arrangements of older persons and (b) to filling the knowledge gap regarding the theoretical aspects involving this important issue that can serve as a baseline for examining future trends. It shows the need for specially focused study on living arrangements and also need for longitudinal study.

The appendices provide information regarding the technical calculations made and the research tools used for this study data collection.