

# Demographics Of Aging In India: An Abstract

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## Abstract

The continuing population growth in India during the past 50 years has been accompanied by a marked increase in the number of the aged (persons aged 60 and above). According to the decennial censuses, the number of aged has increased from about 19.8 million in 1951 and to 56.7 million in 1991 or by 189 percent over the 40 year period. Their share in the total population has increased from 5.5 to 6.8 percent, or by 24 percent. If the proportion of the aged had not risen, the number of the aged would have grown to 46.5 million or 137 percent. In effect, nearly 72 percent of the increase in the number of the aged has to be attributed to population growth, whereas the balance 28 percent has been due to the ageing of the population.

Many Indians do not really know their age and there is a widespread “digit preference”, the data on the aged need to be examined with caution. The smoothing for errors of age reporting is impossible in relatively small sample surveys.

According to the population projections for the Ninth Plan, the number of aged 60 and above will rise from 54.5 million in 1991 and 62.3 million in 1996 to 70.6 million in 2001, 81.8 million in 2006, 95.9 million in 2011 and 113.0 million in 2016. While the total population will increase by 49 percent from 846.2 million in 1991 to 1263.5 million in 2016, the number of the aged will rise by 107 percent over 25-year period. The share of the aged in the total population will rise to 8.9 percent (from 6.4 percent in 1991 according to the smoothed age distribution). Unlike during 1951 – 1991, the contribution of the changing age structure to the growth in the number of the aged will be a major factor, accounting for 55 percent of the projected increase.

Alternative estimates of the aged are available from a long – term population projection, based on a differently smoothed age distribution, and a more optimistic rate of decline in the level of fertility and mortality. These estimates suggest that the number of the aged will rise more rapidly to 124 million by 2016 and 179 million by 2026 (10.2 and 13.3 percent of the total population of 1221 and 1331 million, respectively).

The differences in the projected pace of increase in the number and proportion of the aged arise because of alternative assumptions about the rate of decline in mortality and fertility in the years ahead. However, the main factor contributing to the rise in the number and proportion of the elderly is not so much the mortality decline but the drop in fertility. In the absence of a decline in fertility, mortality decline is expected to lead to a younger age distribution. The underlying reason is the typical age pattern of mortality decline, which favours the younger age groups more than the elderly. Fertility decline, on the other hand, affects the number of births or children in a population and influences its percentage distribution much faster.

As the expectation of life at birth among males and females of the country has risen from 50.5 and 49.0 years during 1970-75 to 59.0 and 59.7 during 1989-93 (i.e. by 8.5 and 10.7 years), the expectation of life at age 60 has risen by only 1 year from 8.6 to 9.6 years among

males and from 9.2 to 10.1 years among females. These data, based on the life tables compiled on the basis of the sample registration system, imply a slower increase in the length of life of the Indian elderly than would be expected according to the international experience.

The aged resident in urban areas in 1991 formed 21.9 percent, less than the national urbanisation level of 25.7 percent. Also, the aged constituted a smaller proportion of the urban population (5.7 percent) than of the rural population (7.1 percent).

The process of ageing promises to lower the share of the “young old” (60 to 69) and to raise that of the “old-old” (70 and above) over the next 30 year period. The former share will drop from 64 percent in 1991 to 58 percent in 2021, while the share of the latter will rise from 17 to 24 percent. The absolute number of the young-old will rise by about 149 percent from 35 to 87 million, whereas that of the “old-old” will rise more than three-fold from 19 to 63 million.

The illiteracy rate among the aged in India exceeded that in the population aged 15 and over, both in 1987-88 and 1993-94. However, the decline in illiteracy already evident in urban areas suggests change over time as the post-independence cohorts join the ranks of the aged.

In 1993-94, 41 to 42 percent of the aged were widowed. The percentage of widows exceeded that of widowers.

In 1993-94, over 80 percent of the aged urban males but only 17 percent of the aged females were reported to be heads of their households. The rural rates were 85 and 14 percent for males and females, respectively. Over 92 percent of the female heads of household were widows, whereas the percentage was 12-15 percent for male heads of households.

In 1993-94, nearly 70 and 44 percent of the rural and urban aged males were workers during the previous year. Among aged females, the percentage of workers was lower than the average both in rural and urban areas and was 24 and 11 percent, respectively. A majority of the aged workers were self-employed. The second most important work category was casual work. Only about 14 to 16 percent of the urban aged workers had “regular” employment.

The non-workers aged 60 and above in urban areas included about 24 percent of all males and less than 5 percent of all females, who were classified as rentiers, pensioners, remittance recipients, etc. In rural areas, less than 5 percent of the aged were in this category.

According to a recent survey of the aged, 30 to 31 percent of the aged males in rural and urban areas were reported as fully dependent on others. The figures for females in rural and urban areas were 71 and 76 percent, respectively.

Another 30 to 31 percent of the aged reported not being dependent on others. The percentage was much lower (11 to 12 percent) for females. Only about 5 to 6 percent of the aged did not have a surviving son or daughter. Almost 88 percent had two or more living children. Only about 4 to 5 percent of the aged lived alone. Less than 1 percent were inmates of old age homes.

About 76 percent of the aged, who were economically dependent on

others, received support from their children or grandchildren. About 14 to 15 percent depended on their spouse. Only 6 to 7 percent reported that they depended on others. For about 3 percent of them, no response was recorded.

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## 1 INTRODUCTION

The continuing population growth in India during the past 50 years has been accompanied by a marked increase in the number of the aged (persons aged 60 and above). It has led to a widespread concern about their socio-economic situation. The possible role of state-sponsored or non-familial sources of support to enable them to live with self-respect and without undue hardship needs to be explored. The Ministry of Social Welfare has, therefore, done well in setting up an expert group for a careful review of the relevant facts and possible policies. This paper attempts to present a comprehensive review of the available data on the subject and highlights the difficulties in obtaining precise estimates of the number of the aged and therefore of their needs. Because of the time constraint, only the key features of the situation are covered in this preliminary draft.

## 2 KEY STATISTICS AND THEIR LIMITATIONS

It is possible to debate the definition of the aged. In many developed countries, the aged are defined as persons in the age group of 65 and over. The age limit is partly decided by the current norms about the retirement age applicable in the formal or the organised sector of the economy. Some countries such as the U.S.A. have even removed the concept of a fixed retirement age and permit the workers to continue to work until they are physically and mentally fit.

In India, however, the retirement age for the government employees was, until recently, 58 years and it has been raised to 60 years only a few months ago after the report of the Fifth Central Pay Commission. Even now, Kerala continues to follow a retirement age of unemployment among the youth in the state. Yet, throughout the country, pressures continue to mount to permit the retired persons to take up alternative employment or to work as self-employed. In the present study, the aged have been defined as persons who have completed 60 years or more.

Population growth in India since Independence has been accompanied by an increase in the number as well as the proportion of person's aged 60 and above. According to the data available from the decennial censuses, summarised in Table 1, the number of aged has increased from about 19.8 million in 1951 and to 56.7 million in 1991 or by 189 percent over the 40 year period. (1) Their share in the total population has increased from 5.5 to 6.8 percent, or by 24 percent. If the proportion of the aged had not risen, the number of the aged would have grown to 46.5 million or 137 percent. In effect, nearly 72 percent of the increase in the number of the aged has to be

attributed to population growth, whereas the balance 28 percent has been due to the ageing of the population.

Prima facie, the figures mentioned above appear to be a fair description of the ongoing changes in the age structure of the Indian population. However, a large proportion of the Indian people do not really know their ages, and errors of age reporting typically lead to an overstatement of the number and proportion of the aged. There is a general preference for reporting ages ending with digits 0 and 5; and age 60 seems to be particularly preferred by respondents. The statisticians and demographers try, therefore, to estimate the "true" or the correct age distribution of the population through mathematical smoothing. The precise formula used for the purpose can make a notable difference to the estimated number as well as the proportion of the aged. To illustrate, in 1961 and 1971, the smoothed age data indicated the number of the aged in India as a whole to be 21.32 and 28.25 million or about 14 percent less than the reported figures of 24.71 and 32.70 million, respectively. In 1981, the difference between the reported and smoothed estimates of the aged had narrowed to 3.3 percent. The smoothing for the population projection based on the 1991 age distribution has lowered the number of the aged by only 1.3 percent and their share in the total from 6.8 to 6.7 percent.

An alternative smoothing procedure applied to the 1991 age distribution lowers the percentage of the aged in the population to 6.4 percent. It has lowered the number of aged males from 29.63 million to 26.34 million and raised the number of aged females from 27.56 million to 28.18 million. As a result, the deficit of females among the aged (with a masculinity ratio of 1075) in 1991 is replaced by an excess of females (a masculinity ratio of 935). The latter feature is consistent with the higher life expectancy of females than of males of ages 60 and above, that is evident in the Indian life table for 1989-93 (16.2 and 14.9 years, respectively); this difference was higher than at birth (59.7 and 59.0 years, again respectively). (Registrar General, 1996a.p. 17) In Kerala, on the other hand, with a life expectancy at birth of 68.8 and 74.7 years during 1989-93, the expected length of life at age 60 was 17.2 and 20.0 years, among males and females, respectively. The gender difference in the length of life at age 60 was smaller than at birth.

Obviously, therefore, the data on the aged need to be examined with considerable caution. The smoothing or correction for errors of age reporting is ordinarily impossible when one uses the data based on relatively small sample surveys. Also, any effort to reconcile the numbers relating to the aged, based on alternative sources of information, can prove quite frustrating and due judgment must always be exercised.

### 3 PROJECTED GROWTH IN THE NUMBER OF THE AGED, 1991-2016

The differences in the estimates of the aged in 1991 are likely to lead to corresponding differences in the projections about the number of the aged in the population in the years ahead. Of course, if one assumes a closed population, unaffected by immigration or emigration, persons in the age group 60 and above over the next 25 years will be survivors of those who are already in the country in the age group 35 and above. The survivorship ratios can be approximated through the international experience, summarised in what are known as “model” life tables, prepared by the Population Division of the United Nations and earlier by Coale and Demeny at the Office of Population Research at Princeton University. The critical question is to estimate the likely future trends in mortality.

Since Independence, there has been a marked decline in the level of mortality in the country, particularly infant and child mortality. The average length of life of an Indian child at birth in the mid-and late 1940s was no higher than 32 years. During 1989-93, according to the Sample Registration System covering a sample of 1.1 million households and 6 million population, the life expectancy at birth was 59.0 and 59.7 years among males and females, respectively, an increase of nearly 27-28 years over a period of nearly 44 years. The official population projections for the period 1996-2016, prepared for the Ninth Plan by a Technical Group, envisage an increase in life expectancy at birth for males from an estimated 62.4 years during 1996-2001 (with a mid-point in 1998) to 67.0 years during 2011-2016; the corresponding values for females are assumed to be 63.4 and 68.8 years. The annual increase in the expected length of life is expected to slow down during successive quinquennia.

According to these population projections, summarised in Table 2 , the number of persons aged 60 and above is expected to rise from 54.5 million in 1991 and 62.3 million in 1996 to 70.6 million in 2001, 81.8 million in 2006, 95.9 million in 2011 and 113.0 million in 2016. (Registrar General, 1996b.pp. 94-95.) In other words, while the total population is projected to increase by 49 percent from 846.2 million in 1991 to 1263.5 million in 2016, the number of the aged is likely to grow by 107 percent over the 25-year period. The share of the aged in the total population will rise to 8.9 percent (from 6.4 percent in 1991 according to the smoothed age distribution). Unlike during 1951-1991, the contribution of the changing age structure to the growth in the number of the aged will be a major factor, accounting for 55 percent of the projected growth.

The projected narrowing of the sex-differentials in mortality promises to lower the excess of males among the aged with the sex ratio postulated to decline from 1078 in 1991 and 1996 to 1032 by 2016.

Alternative estimates of the aged during the next 25-356 years are available from a long-term population projection, which is based on a differently smoothed age distribution. It is more sanguine about the rate of decline in the level of fertility and mortality. (Visaria and Visaria, 1998) These estimates, also summarised in Table 2, suggest that the number of the aged will rise even more rapidly to 124 million by 2016 and 179 million by 2026 (10.2 and 13.3 percent of the total population of 1221 and 1331 million, respectively). The projection begins with an excess of females among the aged in 1991 itself and does not imply any noteworthy change in the sex ratio, which fluctuates between 940 and 946 over the 35-year period.

#### 4 SHARE OF THE AGED IN OTHER COUNTRIES

Table 3 summarises the United Nations projections for 2020 and the estimated proportions of children aged 0-14 and the aged 60 and above in 1995 and in 2020. It illustrates the wide diversity of situations among the ten most populous countries of the world. The ageing index, shown in Table 3, is defined as person's aged 60 and above as percent of persons aged 0-14.

With its history of a rapid decline in fertility and one of the lowest current levels of fertility, Japan had the highest proportion of the aged (and the highest ageing index exceeding 1) in 1995. Japan is projected to have almost 31 percent of its population in 2020 in ages 60 and above; and its ageing index will approach 2.2. In the Russian Federation and the USA, with the aged forming about 16-17 percent of the total in 1995, the continuing ageing will raise the share of the aged in 2020 to almost 23 percent, higher than in 1995 in all the countries listed in Table 3. The ageing index for the two countries will approximate 1.4 and 1.2

The ageing index is projected to more than double over the 25-year period not only in India and China, but also in Brazil, Indonesia, Bangladesh and Pakistan. The lowest increase will be in Nigeria, which will have the youngest population among the ten most populous countries listed here.

#### 5 DETERMINANTS OF AGEING

The differences in the projected pace of increase in the number and proportion of the aged arise because of alternative assumptions about the rate of decline in mortality and fertility in the years ahead. However, the main factor contributing to the rise in the number and proportion of the elderly is not so much the mortality decline but the drop in fertility. In the absence of a decline in fertility, mortality decline is expected to lead to a younger

age distribution. The underlying reason is the typical age pattern of mortality decline, which favours the younger age groups more than the elderly. Fertility decline, on the other hand, affects the number of births or children in a population and influences its percentage distribution much faster.

To elaborate, according to the model life tables, while the expectation of life at birth among females rises from 30 to 75 years or by 150 percent, the life expectancy at age 60 rises by 71 percent or 8.09 years from 11.35 to 19.44 years. The corresponding estimates for males suggest a smaller rise of 66 percent from 10.41 to 17.31 years life expectancy at age 60 as the expectation of life at birth rises by 157 percent from 27.67 to 71.19 years. The model life tables summarised here refer to the typical experience of several currently developed countries, which implies a higher life expectancy among females than among males. They are called the “West” model life tables, prepared by Ansley Coale and Paul Demeny of Princeton University in late 1960s. The more recent United Nations model life tables for developing countries also indicate a similar situation.

The Indian experience of mortality decline broadly conforms to the model patterns, but the elderly in India seem to enjoy somewhat lower life expectancy. The South Asian pattern of model life tables implies that with a female life expectancy of 75 years at birth, the expected length of life at age 60 would be 21 years. In Kerala, the SRS life tables for females during 1989-93 suggest an expected length of life of 74.7 years at birth and 20 years at age 60. In Maharashtra, the females had a life expectancy of 65.4 years at birth and 17.1 years at age 60; the corresponding figure in the model life table with an  $e(0)$  of

65 years is 17.7 years. As the expectation of life at birth among males and females of the country has risen from 50.5 and 49.0 years during 1970-75 to 59.0 and 59.7 during 1989-93 (i.e. by 8.5 and 10.7 years), the expectation of life at age 60 has risen by only 1 year from 8.6 to 9.6 years among males and from 9.2 to 10.1 years among females. These data, based on the life tables compiled on the basis of the sample registration system, imply a slower increase in the length of life of the Indian elderly than would be expected according to the international experience.

Table 4 shows the expected length of life at age 60 and above (at five year intervals), corresponding to expectation of life at birth ranging from 50 to 75 years, separately for males and females, according to the South Asian pattern of model life tables prepared by the United Nations. The SRS-based 1989-93 life tables, summarised in Table 4, indicate a life expectancy at birth ranging between 53.8 years for females in Madhya Pradesh and 74.7 years for their sisters in Kerala. The inter-state range of differences in the length of life of females at ages 60, 65, and 70 is rather small, of the order of 6.3 to 6.6 years, but it is wider than would be expected on the

basis of the model life tables summarised in Table 2. Quite likely, the errors in the reported ages of the population and the deceased in the SRS data for some of the states contribute to inflating the estimates of the length of life at older ages relative to the model life tables. Insofar as the SRS life tables exaggerate the expected length of life at age 60 and above, the future increases in these values will presumably be smaller. One can presume them to approximate to the values based on the Model Life Tables, summarised in Table 4

## 6 SELECTED CHARACTERISTICS OF THE AGED IN INDIA

To understand the problems of the aged, it is necessary to identify their demographic and economic characteristics. Reference has already been made to their sex composition. It is noted that the typical pattern of sex-differences in mortality is likely to enable women to live longer and their number will exceed that of males. However, these differences have a link with age and the age composition of the aged needs to be examined. The sex-age specific chances of survival have an effect also on their marital status composition, a topic to which shall turn presently. First, let us look at the rural-urban composition of the aged.

### 6.1 Rural-Urban Distribution of the Aged

The general presumption seems to be that the better health care conditions in urban India will lead to a higher proportion of the aged in urban India. In fact, the problems of the aged are widely perceived to be more acute in urban areas of the country than in rural India. Surprisingly, however, the proportion of the aged resident in urban areas in 1991 was 21.9 percent, lower than the urbanisation level for the total population (25.7 percent). Also, the aged constituted a smaller proportion of the urban population (5.7 percent) than of the rural population (7.1 percent). The previous three censuses conducted during 1961-81 and the three recent large surveys of the NSS conducted between 1983 and 1993-94 have reported a similar situation. Interestingly, a similar pattern of rural-urban differences in the proportion of the aged was evident in 1990 in China, Indonesia, Japan, Republic of Korea, and Thailand. The difference was particularly marked in Japan and the Republic of Korea.

Both the key determinants of age distribution, mortality and fertility have declined earlier and presumably faster in urban India than in rural India. The SRS estimates of fertility suggest the total fertility rate during 1994-96 to be around 2.5 in urban India and 3.8 in rural India. Assuming that

there were no significant rural-urban differentials in the level of fertility in pre-Independence India, it has clearly declined faster in urban India than in rural India. Also, the  $e(x)$  values of the SRS-based 1989-93 life table, do indicate the life expectancy at birth for males and females to be 5.8 and 8.2 years higher in urban areas than in rural areas of India. However, the rural-urban difference in  $e(60)$  and higher values was no more than one year among males and 1.5 to 2.4 years among females. (In fact, the gender-difference in  $e(x)$  values, indicating a female advantage similar to that noted in the developed countries, is smaller in rural India than in urban India. If the level and pattern of age – mis - reporting are assumed to be similar in rural and urban areas, the observed gender-differences cannot be attributed to differentials in overstatement of ages at death by rural and urban females.) The smaller proportion of the aged in urban India, despite the higher life expectancy at birth and a faster decline in fertility than in rural India, is an interesting noteworthy fact. The factors underlying this situation are yet to be understood.

A simple explanation might be a possible higher degree of overstatement of age by the rural population, with its higher level of illiteracy and less frequent need to know the precise age. Differential undercount of the aged might also be a contributory factor. (Censuses are known to suffer from net undercount, which tends to be higher in urban areas than in rural areas. The Post-Enumeration Check, conducted after the 1981 Census, also indicated a higher than average net omission rate for the aged females and direction of the difference was reversed but it was small in the case of males.

Another possible explanation for the smaller proportion of the aged in urban India might be the age-pattern of rural-urban migration and of return migration after retirement from the urban labour market by the relatively low-paid employees or the self-employed. However, hard data to assess this hypothesis can be obtained only after considerable effort to study the census and the NSS data on migration.

Overall, this discussion must caution to the reader about the errors in the reported data on the number of aged persons. These errors are presumably not wilful distortions but are a result of ignorance of the actual age on the part of a sizeable proportion of our population. Therefore, our inferences about the broad trends in the share of the aged in the population must be tentative, and the observed pattern of a lower percentage of the aged in urban areas than in rural areas must be accepted as quite probably real.

## **6.2 The Young Old and the Old Old**

Many discussions relating to the elderly population aged 60 and above distinguish between the young-old in the age group 60-69 and the old-old aged 70 and above. According to the 1991 Census as well as the three large surveys of the NSS, the “young old” formed about 62 percent of the aged, with the first five-year age group 60-64 accounting for almost 65 percent of the group. The process of ageing promises to lower the share of the young old and to raise that of the “old-old” over the next 30-year period. The former share will drop from 64 percent in 1991 to 58 percent in 2021, while the share of persons aged 70 and over will rise from 17 to 24 percent. In absolute terms, however, the number of the young-old will rise by about 149 percent from 35 to 87 million, whereas the ranks of the “old-old” will swell more than three-fold from 19 to 63 million. These prospective changes merit careful attention in evolving adaptive mechanisms to moderate the inevitable pain in the ongoing process of transformation of the Indian society.

## **6.3 Literacy among the Aged**

The aged of today are survivors of an era when the facilities for schooling and education were relatively quite limited. Therefore, it is no surprise that the level of illiteracy among them was higher than in the population aged 15 and over both in 1987-88 and 1993-94. However, the decline in illiteracy already evident in urban areas confirms that the situation will change over time as the post-independence cohorts join the ranks of the aged. (See Table 8).

At the other end, there is clear evidence also that the progress of higher education will have its effect on the composition of the aged by educational attainment. In 1993-94, 5 percent of the aged 60 and above in urban India were reported to be college graduates or higher educated. The figure for males and females were 9.2 and 1.1 percent, respectively. (The corresponding figures for the urban population aged 15 and above were 13, 8, and 11 for males, females, and both sexes together.) In the years ahead, these proportions will certainly rise for the adult urban population as well as the aged population. The aspirations and expectations as well as the consumption pattern of these people will be different and will need due consideration in the relevant programme formulation.

## **6.4 Marital Status of the Aged Population**

An important aspect of ageing is the loneliness associated with the mortality of near relatives. It is reflected in the marital status of the aged. According

to the data of the 1993-94 survey, summarised in Table 7, about 41 to 42 percent of the aged were widowed. As in the general population, the tradition of avoiding remarriage after widowhood is followed more by women than by men, (who also suffer from higher risks of death than women at ages 60 and above). As a result, the percentage of widows is much higher than that of widowers.

In the years ahead, the projected decline in mortality will contribute towards a lower risk of widowhood. However, the future gains in mortality are expected to be slower than during the past; and therefore the improvements in the marital status distribution of the aged will also be rather limited.

### **6.5 Headship of Households by the Aged**

It is generally presumed that the heads of households are likely to receive relatively better treatment and attention with respect to their problems of health. However, accurate data on the headship of households in terms of role in decision-making are difficult to get. The surveys and censuses necessarily accept the reports of respondents about the head of the household to be valid and do not probe the responses. The estimates of sex-age-specific headship rates have, therefore, been compiled from the household-level files of the NSS data for 1983, 1987-88 and 1993-94. All the three surveys of 1983, 1987-88 and 1993-94 indicated a broadly similar pattern, with only small differences.

The data confirm the patriarchal character of the Indian society. In 1993-94, over 80 percent of the aged urban males 60 and above but only 17 percent of the aged females were reported to be heads of their households. The corresponding rates for rural areas were 85 and 14 percent for males and females, respectively. The headship rates for males and females in urban and rural areas were 89-92 and 19-14 percent in the age group 60-64; 84-86 and 17-14 percent for the age group 65-69; and 67-75 and 15-13 percent in the age group 70 and above.

An interesting feature of these data, noticeable in Table 7, is the fact that over 92 percent of the female heads of household were widows, whereas the corresponding percentage for male heads of households was only 12 to 15 percent among urban and rural heads of households. Only a small percentage of the currently-married females were reported to be heads of their households, presumably following the out-migration of their spouses.

The headship of a household is also likely to carry with it also the responsibility of looking after the welfare of other members of the household. However, it means that the aged heads have the company of other members and may not have to suffer from the acute problems of loneliness. On this reasoning

the data suggest that about 15 to 20 percent of the aged males but over 86 to 83 percent of the aged females live with other relations.

## 6.6 Work Status and the Type of Work

As shown in Table 9, in 1993-94, nearly 70 percent of the aged males reported work. To be their usual activity during the previous year; but the corresponding figure for their urban counterparts was only 44 percent. The latter figure was also lower than during the previous two surveys and lower than the average for urban males (of all ages together). Among aged females, the percentage of those working was lower than the average both in rural and urban areas and was 24 and 11 percent, respectively.

Table 10 indicates that according to both the 1987-88 and 1993-94 surveys, a majority of the aged workers were self-employed. The second most important category of work was casual work. Even in urban areas, only about 14 to 16 percent of the aged workers had "regular" employment in 1993-94. Given the slow growth of the public or organised (formal) sector employment, there is little prospect in the years ahead of an increase in the share of regular employment.

The non-workers aged 60 and above in urban areas included about 24 percent males and less than 5 percent females, who were classified as rentiers, pensioners, remittance recipients, etc. In rural areas, on the other hand, less than 5 percent of the aged were in this category. While it is difficult to estimate the proportion of them who were really self-sufficient because of past savings, etc., some data collected in special NSS surveys of the aged in 1986-87 and 1995-96 are summarised below.

## 7 KEY RESULTS OF THE SURVEYS OF THE AGED

Only 4 to 5 percent of the aged lived alone. Less than 1 percent were inmates of old-age homes. About 11 percent of the rural aged and 8 percent of the urban aged lived with the spouse only; about 46-47 percent lived with spouse and other relatives. Among others, 33 to 35 percent lived with their children. About 5 percent of the aged lived with "other relations or non-relations".

About 30 to 31 percent of the aged males in rural and urban areas reported that they were fully dependent on others. The corresponding figures for females in rural and urban areas were 71 and 76 percent, respectively.

About 30 to 31 percent of the aged reported that they were not dependent on others. The percentage was much lower (11 to 12 percent) for females.

Only about 5 to 6 percent of the aged reported that they did not have a surviving son or daughter. Almost 88 percent had two or more living children.

About 76 percent of the aged, who were economically dependent on others, received support from their children or grandchildren. About 14 to 15 percent depended on their spouse. Only 6 to 7 percent reported that they depended on others. For about 3 percent of them, no response was recorded.

About 54 percent of both the rural and the urban aged reported having financial assets; and a majority of them managed them as well. About 70 percent of the aged males reported possession of assets, whereas the proportion was much lower among females (39 and 38 percent in rural and urban areas)

About 63 percent of the rural aged and 58 percent of the urban aged reported possession of property. A majority of them managed it also.

About 52 percent of the rural aged and 54 percent of the urban aged reported that they suffered from a chronic disease. The most frequently reported ailments were "problem of joints", cough, and high or low blood pressure. The problem of cough was reported by 22 percent of the rural aged and 16 percent of the urban aged; the corresponding figures for blood pressure were 11 and 23 percent, in rural and urban areas, respectively. These chronic ailments would raise the needs of the aged for medical or health-related expenditure. The extent of which they are able to meet their needs has to be examined carefully.

## 8 CONCLUSION

The problems of the aged reported in the preceding section reflect the wear and tear of the human machine with the passage of time. The nature of work opportunities available to a majority of the Indians does not carry with it any assurance of social support after the person is no longer able to work. The Indian society has assigned the role of supporting the aged to their offspring, particularly sons. With the decline in the size of the family as well as the increase in the frequency of mobility or migration among the urban population, the aged are presumed to face a serious problem. However, the available data suggest that at least so far the traditional mechanisms are continuing to work. Quite probably, few of the aged would like to move to the old age homes. The prospective increases in longevity are not very large; but the projections outlined above suggest a sizeable increase in the number of both the "young-old" and the "old-old". The society needs to evolve mechanisms to facilitate responsive policies to ensure that these aged do not suffer unnecessary hardships.

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Sex/Data Source	1961	1971	1981	1991
<b>Males</b>				
Unsmoothed				
Number	12.36	16.87	22.02	29.63
Percent	5.6	5.9	6.2	6.7
Smoothed				
Number	10.61	14.78	21.31	29.28
Percent	4.7	5.2	6.0	6.7
<b>Females</b>				
Unsmoothed				
Number	12.35	15.83	21.14	27.56
Percent	5.9	6.0	6.4	6.8
Smoothed				
Number	10.71	13.47	20.41	27.17
Percent	5.0	5.1	6.2	6.7
<b>Both Sexes</b>				
Unsmoothed				
Number	24.71	32.7	43.16	57.19
Percent	5.6	6.0	6.3	6.8
Smoothed				
Number	21.32	28.25	41.72	56.45
Percent	4.9	5.2	6.1	6.7
<b>Sex Ratio</b>				
Unsmoothed	1001	1066	1042	1075
Smoothed	991	1097	1044	1078

Sources: Census of India 1961, 1971, 1981, 1991.

Table 1: Number (in millions) and Percentage of the Aged (60 and above) in India (incl. J&K) According to the Census Data for 1961-1991

Year	Males	Females	Persons
(a) Official Projections for the 9th Plan			
1996	32.32 (6.67)	29.99 (6.67)	62.32 (6.67)
2001	36.21 (6.91)	34.36 (7.03)	70.57 (6.97)
2006	41.83 (7.41)	39.99 (7.55)	81.81 (7.48)
2011	48.86 (8.05)	47.06 (8.23)	95.92 (8.14)
2016	57.36 (8.84)	55.60 (9.05)	112.96 (8.94)
(b) Alternative Long-Term Projections			
1996	31.02	32.81	63.83
2001	36.42	38.52	74.94
2006	42.68	45.33	88.01
2011	50.30	53.41	103.71
2016	60.20	63.86	124.06
2021	72.58	76.93	149.52
2026	87.16	92.20	179.36
2031	103.35	109.47	212.82

Source: Census of India, 1991, Population Projections for India and States, 1996-2016, Registrar General, India, New Delhi, 1996

Table 2: India: Projected Figures of the Population Aged 60 and Above

Country	1995			2020			Ageing index	
	Pop	0-14(%)	60+(%)Pop	Pop	0-14 (%)	60+(%)1995	2020	
China	1220.2	26.32	9.3	1448.8	19.6	14.2	0.35	0.72
India	929.0	35.0	7.2	1272.6	24.0	11.1	0.21	0.46
USA	267.1	22.2	16.4	322.3	19.7	22.8	0.74	1.16
Indonesia	197.5	32.9	6.7	263.8	23.5	1.1	0.20	0.47
Brazil	159.0	31.6	7.1	208.5	23.3	13.1	0.22	0.56
Russian Fed.	148.0	21.1	16.8	135.0	15.9	22.9	0.80	1.44
Pakistan	136.2	42.7	4.8	247.8	33.5	7.1	0.11	0.21
Japan	125.1	16.2	20.1	123.8	14.2	31.3	1.24	2.20
Bangladesh	118.2	41.6	5.0	171.4	27.3	7.9	0.12	0.29
Nigeria	111.7	45.5	4.5	214.6	39.2	5.5	0.10	0.14

Source: United Nations, 1996, World Population Prospects: The 1996 Revision. Annex II & III: Demographic Indicators by Major Area, Region and Country, New York.

Table 3: United Nations Projections of Population (Medium Variant) for the Ten Most Populous Countries, Percentage of Population Aged 0-14 and 60 and above and the Ageing Index, 1995 and 2020

$e_0$	Expectation at age					
	60	65	70	75	80	85
Females						
50	14.6	11.7	9.2	7.1	5.6	4.3
55	15.5	12.4	9.7	7.5	5.8	4.5
60	16.5	13.2	10.4	8.0	6.2	4.8
65	17.7	14.2	11.2	8.7	6.6	5.1
70	19.2	15.5	12.2	9.5	7.2	5.4
75	21.0	17.1	13.6	10.5	7.9	5.9
Males						
50	14.2	11.5	9.2	7.4	6.0	4.9
55	15.0	12.1	9.7	7.8	6.3	5.1
60	15.9	12.9	10.3	8.3	6.6	5.3
65	17.1	13.9	11.1	8.9	7.0	5.6
70	18.5	15.1	12.1	9.6	7.6	5.9
75	20.4	16.7	13.4	10.6	8.3	6.4

Source: United Nations, 1982, Model Life Tables for Developing Countries. New York pp. 125-159

Table 4: Expected Length of Life at Age 60 and Above Corresponding to Specified Life Expectancy at Birth ( $e_0$ ), Based on the South Asian Mortality Pattern of United Nations Model Life Tables

State	Expectation of life at age			
	0	60	65	70
India	59.7	16.2	12.9	10.1
Andhra Pradesh	61.5	14.6	11.1	8.2
Assam	55.3	14.5	11.7	9.3
Bihar	57.2	16.3	13.3	10.7
Gujarat	61.1	16.5	13.1	10.1
Haryana	63.7	18.4	15.3	12.3
Himachal Pradesh	63.6	16.5	12.9	10.0
Karnataka	63.5	18.0	14.6	11.6
Kerala	74.7	20.0	16.1	12.5
Maharashtra	65.4	17.1	13.6	10.6
Madhya Pradesh	53.8	16.1	13.1	10.4
Orissa	55.3	14.7	11.8	9.2
Punjab	67.6	21.1	17.6	14.5
Rajasthan	58.5	16.6	13.1	10.1
Tamil Nadu	63.4	15.5	12.2	9.4
Uttar Pradesh	55.1	15.7	12.5	9.8
West Bengal	62.3	16.3	13.0	10.2
Maximum	74.7	21.1	17.6	14.5
Minimum	53.8	14.5	11.1	8.2
Difference	20.9	6.6	6.5	6.3

Table 5: Expected Length of Life (in Years) of Females at Age 0, 60 and Above According to the SRS Based Life Tables for 1989-93 for States of India

Age group	Males		Females		Both Sexes	
	1991	2021	1991	2021	1991	2021
60+	26.34 (100.0)	72.59 (100.0)	28.18 (100.0)	76.93 (100.0)	54.51 (100.0)	149.52 (100.0)
60-64	10.13 (38.4)	24.87 (34.3)	10.02 (35.5)	24.21 (31.5)	20.15 (37.0)	49.07 (32.8)
65-69	7.44 (28.2)	18.65 (25.7)	7.70 (27.3)	18.85 (24.5)	15.15 (27.8)	37.50 (25.1)
70-74	4.67 (17.7)	13.16 (18.1)	5.15 (18.3)	13.95 (18.1)	9.82 (18.0)	27.10 (18.1)
75-79	2.53 (9.6)	8.80 (12.1)	3.06 (10.8)	10.03 (13.0)	5.59 (10.2)	18.83 (12.6)
80+	1.57 (6.0)	7.19 (9.9)	2.25 (8.0)	9.90 (12.9)	3.81 (7.0)	17.01 (11.4)

Source: Visaria & Visaria, 1998

Table 6: Percentage Age Distribution of the Aged 60 and Above by Sex, 1991 and 2021, According to a Long-Term Population Projection

Area/Sex/Population	Never Married	Currently Married	Widowed	Divorced	All
Rural Males					
Population 60+	1.7	77.2	20.7	0.4	100.0
HHH 60+	1.3	83.2	15.2	0.4	100.0
Rural Females					
Population 60+	1.2	36.9	61.6	0.3	100.0
HHH 60+	1.0	3.6	94.8	0.6	100.0
Rural Population					
Population 60+	1.4	57.5	40.8	0.3	100.0
HHH 60+	1.2	72.7	25.7	0.4	100.0
Urban Males					
Population 60+	1.9	79.4	18.4	0.3	100.0
HHH 60+	1.8	85.8	12.2	0.2	100.0
Urban Females					
Population 60+	1.4	33.2	64.9	0.4	100.0
HHH 60+	3.7	3.5	92.2	0.7	100.0
Urban Population					
Population 60+	1.7	55.6	42.4	0.3	100.0
HHH 60+	2.1	82.2	8.9	0.5	100.0

Source: NSSO Report No. 409, Employment and Unemployment in India, 1993-94, New Delhi. March 1997. pp a37 to a 45.

Table 7: Marital Status Distribution of the Aged and Heads of Households Aged 60 and Above, 1993-94 (Percent)

Year	Age	Rural Areas			Urban Areas		
		Males	Females	Both	Males	Females	Both
Illiterates							
1987-88	60+	65.9	93.3	79.4	31.8	71.9	52.2
	15+	46.3	76.4	61.0	18.1	41.5	29.0
1993-94	60+	65.1	92.1	78.4	28.4	66.7	48.2
	15+	41.1	70.8	55.8	16.2	36.3	25.7
Graduates, Higher- Educated							
1987-88	60+	0.3	-	0.2	6.4	0.7	3.5
	15+	2.0	0.4			10.9	5.9
1993-94	60+	0.5		0.3	9.2	1.1	5.0
	15+	2.6	0.5	1.6	13.4	7.8	10.8

Source: Sarvekshna, Special Number, September 1990, pp 57 to 75

NSSO Report No. 409, Employment and Unemployment in India, 1993-94, New Delhi, March 1997, pp A46 to A51

Table 8: Percentages of Illiterates and Graduates and Higher-Educated Among the Aged (60 and above) and Population aged 15 and above in Rural and Urban India, 1987-88 and 1993-94

Area/Sex	1983	1987-88	1994-95
<b>Rural India</b>			
Males	66.2 (54.3)	66.8 (53.9)	69.9 (55.3)
Females	22.7 (33.0)	21.8 (32.3)	24.1 (32.8)
<b>Urban India</b>			
Males	50.8 (51.0)	48.0 (50.6)	44.2 (52.1)
Females	12.4 (14.6)	12.3 (15.2)	11.3 (15.5)

Source: NSSO, 38th, 43rd and the 50th Round Surveys on Employment and Unemployment in India

Note: Figures in parentheses relate to the total population of all age groups together.

Table 9: Percentage of Workers (in Terms of Usual Status) by Sex and Rural – Urban Residence 1983 to 1994-95

	Rural Areas		Urban Areas	
	1987-88	1993-94	1987-88	1993-94
<b>Males</b>				
Self Employed	78.8	77.5	71.6	73.8
Regular Employees	3.1	2.0	16.8	13.7
Casual Workers	18.1	20.4	11.2	12.4
All	100.0	100.0	100.0	100.0
<b>Females</b>				
Self Employed	72.9	67.5	62.6	60.8
Regular Employees	2.3	1.1	13.8	15.6
Casual Workers	24.7	31.2	23.5	23.4
All	100.0	100.0	100.0	100.0
<b>Both Sexes</b>				
Self Employed	77.3	75.0	69.7	71.0
Regular Employees	2.9	1.8	16.4	14.1
Casual Workers	19.7	23.1	13.7	14.7
All	100.0	100.0	100.0	100.0

Note: Figures rounded off for simplicity. Source: Sarvekshna, Special Number, September 1990, pp S188 to S193. NSSO Report No. 409, Employment and Unemployment in India, 1993-94, New Delhi. March 1997, pp A112 to A117

Table 10: Status Distribution of the Workers Among the Aged