

## Chapter 6

### **PATTERN OF LIFE EXPECTANCY BY SOCIO-ECONOMIC CHARACTERISTICS**

Few attempts have been made to derive ASDRs and construct life tables for various subgroups of a population due to question of stability of such estimates based on small sample sizes. However, uniform sampling design of both the rounds of NFHS provide a good opportunity to carry out such an analysis to examine the pattern of life expectancy across various religious, class and caste groups in the country. This summary index of mortality would help to understand the vulnerability of marginalized groups for incorporation in developmental planning including targeted intervention to improve health condition. The results of this analysis are summarised in Tables 6.1 to 6.4, while the individual life table for each of the subgroups is provided in Appendix Tables 6.1 to 6.3.

#### **Differentials by Residence and Religion**

The rural-urban differential in life expectancy, discussed earlier in Chapter 4, indicates the advantage of the urban residents over their rural counterparts (Tables 4.2 and 4.3). In fact, there is a distinct rural-urban gap in life expectancy at different ages, even after consideration of 95 percent confidence interval of the estimates (Table 6.1). For example, the rural-urban gap in  $e_0^r$  for males and females is 4-7 years although such a gap in life expectancy, as expected, reduces with age. The pattern of life expectancy by religious groups reveals little differential between Hindus and Muslims, but shows a higher life expectancy at different ages among religious groups other than Hindus and Muslims, such as Christians, Jains and Parsis during the

**Table 6.1: Life Expectancy at Selected Ages by Place of Residence, India, 1992-98**

Place of residence / Age	Average expectation of life of a person <sup>+</sup>		
	Person	Male	Female
<b>Rural</b>			
Age			
0	61.4 (60.7-62.1) <sup>++</sup>	60.8 (59.9-61.6)	62.3 (61.1-63.5)
1	65.4 (64.7-66.1)	65.0 (64.1-65.8)	66.0 (64.8-67.2)
5	63.3 (62.6-64.0)	62.5 (61.7-63.3)	64.4 (63.2-65.7)
50	24.7 (24.0-25.5)	23.6 (22.7-24.5)	26.1 (24.7-27.4)
70+	11.5 (10.3-12.6)	10.6 (9.2-12.0)	12.6 (10.6-14.6)
<b>Urban</b>			
Age			
0	66.6 (65.4-67.9)	64.7 (63.1-66.2)	68.9 (66.8-71.1)
1	69.0 (67.7-70.3)	67.2 (65.7-68.7)	71.1 (69.0-73.3)
5	66.0 (64.8-67.3)	64.1 (62.6-65.6)	68.4 (66.2-70.5)
50	25.8 (24.4-27.1)	24.2 (22.5-25.9)	27.6 (25.3-30.3)
70+	12.4 (10.3-14.4)	11.9 (9.2-14.6)	13.1 (9.9-16.3)
<b>All India</b>	<b>62.4 (61.8-63.0)</b>	<b>61.6 (60.9-62.3)</b>	<b>63.4 (62.4-64.3)</b>

Note: Please see Appendix Tables 2-4 for details.

<sup>+</sup> Based on combined estimates of ASDRs computed from NHFS-1 and NFHS-2

<sup>++</sup> Figures within parentheses indicate 95% confidence interval of the estimate

**Table: 6.2: Life Expectancy at Selected Ages by Religion, India, 1992-98**

Religion / Age	Average expectation of life of a person <sup>+</sup>		
	Person	Male	Female
<b>Hindu</b>			
<b>Age</b>			
0	62.3 (61.6-62.9)	61.4 (60.6-62.2)	63.0 (62.0-64.1)
1	66.0 (65.3-66.6)	65.4 (64.6-66.2)	66.4 (65.4-67.5)
5	63.7 (63.1-64.4)	62.9 (62.1-63.7)	64.5 (63.5-65.6)
50	24.8 (24.1-25.5)	23.8 (22.9-24.7)	25.7 (24.5-26.8)
70+	11.5 (10.4-12.6)	11.0 (9.6-12.4)	11.7 (10.1-13.4)
<b>Muslim</b>			
<b>Age</b>			
0	61.4 (60.2-62.6)	61.0 (59.4-62.6)	62.0 (60.0-63.9)
1	64.8 (63.6-66.0)	64.6 (63.1-66.1)	65.3 (63.3-67.2)
5	62.5 (61.3-63.6)	61.8 (60.3-63.2)	63.4 (61.5-65.3)
50	22.5 (21.2-23.7)	21.8 (20.3-23.3)	23.2 (21.2-25.2)
70+	7.9 (6.1-9.7)	7.6 (5.2-10.0)	8.2 (5.3-11.0)
<b>Non Hindu- Non Muslim</b>			
<b>Age</b>			
0	65.9 (63.8-67.9)	64.5 (62.0-66.9)	67.1 (63.8-70.4)
1	68.4 (66.4-70.5)	66.7 (64.3-69.2)	70.0 (66.6-73.4)
5	65.9 (63.8-68.0)	63.6 (61.2-66.1)	68.2 (64.7-71.6)
50	26.5 (24.2-28.8)	25.0 (22.3-27.8)	27.7 (24.0-31.4)
70+	12.7 (9.4-15.9)	11.9 (7.9-15.8)	13.0 (8.0-18.1)
<b>All India</b>	<b>62.4 (61.8-63.0)</b>	<b>61.6 (60.9-62.3)</b>	<b>63.4 (62.4-64.3)</b>

Note: Please see Appendix Tables 2-4 for details.

+ Based on combined estimates of ASDRs computed from NHFS-1 and NFHS-2

++ Figures within parentheses indicate 95% confidence interval of the estimate

**Table: 6.3: Life Expectancy at Selected Ages by Caste, India, 1992-98**

Caste / Age	Average expectation of life of a person <sup>+</sup>		
	Person	Male	Female
<b>Scheduled Castes / Scheduled Tribes</b>			
<b>Age</b>			
0	<b>60.6</b> (59.7-61.5)	<b>59.6</b> (58.5-60.7)	<b>61.9</b> (60.3-63.4)
1	<b>64.7</b> (63.8-65.6)	<b>64.0</b> (62.9-65.1)	<b>65.7</b> (64.1-67.3)
5	<b>62.8</b> (61.8-63.7)	<b>61.6</b> (60.5-62.7)	<b>64.2</b> (62.6-65.8)
50	<b>24.5</b> (23.5-25.5)	<b>23.6</b> (22.3-24.8)	<b>25.8</b> (23.9-27.6)
70+	<b>11.5</b> (10.0-13.1)	<b>11.0</b> (9.0-12.9)	<b>12.6</b> (9.9-15.2)
<b>Other Castes</b>			
<b>Age</b>			
0	<b>63.6</b> (62.9-64.3)	<b>62.7</b> (61.9-63.6)	<b>64.7</b> (63.6-65.9)
1	<b>66.9</b> (66.2-67.6)	<b>66.2</b> (65.4-67.1)	<b>67.8</b> (66.6-68.9)
5	<b>64.3</b> (63.6-65.0)	<b>63.4</b> (62.6-64.2)	<b>65.5</b> (64.3-66.7)
50	<b>24.4</b> (23.6-25.1)	<b>23.4</b> (22.5-24.3)	<b>25.6</b> (24.4-26.9)
70+	<b>10.1</b> (9.0-11.1)	<b>9.6</b> (8.3-10.9)	<b>10.9</b> (9.2-12.6)
<b>All India</b>	<b>62.4 (61.8-63.0)</b>	<b>61.6 (60.9-62.3)</b>	<b>63.4 (62.4-64.3)</b>

Note: Please see Appendix Tables 2-4 for details.

+ Based on combined estimates of ASDRs computed from NHFS-1 and NFHS-2

++ Figures within parentheses indicate 95% confidence interval of the estimate

**Table 6.4: Life Expectancy at Selected Ages by Household Standard of Living Index (SLI)\*, India, 1992-98**

SLI / Age	Average expectation of life of a person <sup>+</sup>		
	Person	Male	Female
<b>Low SLI</b>			
Age			
0	58.4 (57.7-59.2)	57.6 (56.6-58.6)	59.4 (58.1-60.6)
1	62.6 (61.8-63.4)	62.1 (61.2-63.1)	63.1 (61.8-64.4)
5	60.9 (60.1-61.7)	60.0 (59.0-60.9)	61.9 (60.7-63.2)
50	23.3 (22.4-24.2)	22.3 (21.2-23.3)	24.4 (22.9-25.8)
70+	10.6 (9.2-12.0)	10.4 (8.5-12.2)	10.9 (8.8-13.0)
<b>Medium SLI</b>			
Age			
0	65.6 (64.5-66.8)	64.3 (63.1-65.6)	67.3 (65.1-69.6)
1	68.8 (67.7-70.0)	67.4 (66.2-68.7)	70.6 (68.3-72.9)
5	66.1 (64.9-67.3)	64.4 (63.2-65.6)	68.2 (65.9-70.6)
50	26.2 (24.9-27.5)	24.3 (22.9-25.6)	28.7 (26.0-31.3)
70+	12.9 (11.0-14.7)	10.9 (8.9-12.8)	15.3 (11.7-18.9)
<b>High SLI</b>			
Age			
0	69.7 (68.4-71.0)	68.4 (66.7-70.0)	70.9 (68.9-72.9)
1	71.1 (69.9-72.4)	70.0 (68.5-71.6)	72.1 (70.1-74.1)
5	67.6 (66.4-68.8)	66.4 (64.9-67.9)	68.6 (66.6-70.6)
50	25.8 (24.5-27.1)	24.9 (23.2-26.5)	26.8 (24.7-28.8)
70+	10.3 (8.5-12.0)	9.8 (7.6-12.1)	10.7 (8.0-13.3)
<b>All India</b>	<b>62.4 (61.8-63.0)</b>	<b>61.6 (60.9-62.3)</b>	<b>63.4 (62.4-64.3)</b>

Note: Please see Appendix Tables 2-4 for details.

+ Based on combined estimates of ASDRs computed from NHFS-1 and NFHS-2

++ Figures within parentheses indicate 95% confidence interval of the estimate

\* Household Standard of Living Index - a summary household measure called the standard of living index (SLI), which is calculated by adding the following scores:

<i>House type:</i>	4 for <i>pucca</i> , 2 for semi- <i>pucca</i> , 0 for <i>kachha</i> ;
<i>Toilet facility:</i>	4 for own flush toilet, 2 for public or shared flush toilet or own pit toilet, 1 for shared or public pit toilet, 0 for no facility;
<i>Source of lighting:</i>	2 for electricity, 1 for kerosene, gas, or oil, 0 for other source of lighting;
<i>Main fuel for cooking:</i>	2 for electricity, liquid petroleum gas, or biogas, 1 for coal, charcoal, or kerosene, 0 for other fuel;
<i>Source of drinking water:</i>	2 for pipe, hand pump, or well in residence/yard/plot, 1 for public tap, hand pump, or well, 0 for other water source;
<i>Separate room for cooking:</i>	1 for yes, 0 for no;
<i>Ownership of house:</i>	2 for yes, 0 for no;
<i>Ownership of agricultural land:</i>	4 for 5 acres or more, 3 for 2.0-4.9 acres, 2 for less than 2 acres or acreage not known, 0 for no agricultural land;
<i>Ownership of irrigated land:</i>	2 if household owns at least some irrigated land, 0 for no irrigated land;
<i>Ownership of livestock:</i>	2 if owns livestock, 0 if does not own livestock;
<i>Ownership of durable goods:</i>	4 each for a car or tractor, 3 each for a moped/scooter/motorcycle, telephone, refrigerator, or colour television, 2 each for a bicycle, electric fan, radio/transistor, sewing machine, black and white television, water pump, bullock cart, or thresher, 1 each for a mattress, pressure cooker, chair, cot/bed, table, or clock/watch.

Index scores range from 0-14 for a low SLI to 15-24 for a medium SLI and 25-67 for a high SLI.

last decade i.e. 1992-98 (Table 6.2 and Appendix Table 6.1). For example,  $e_0^o$  for Hindus is 62 years (95 percent Confidence Interval ranging between 62 to 63 years) and for Muslims is 61 years (95 % CI ranging between 60-63 years), while the  $e_0^o$  for other religious groups is 66 years (95 % CI ranging between 64-68 years). Similarly, large sex differentials are noted, with male  $e_0^o$  being 61 years among Hindus and Muslims as against 65 years for other religious groups and female  $e_0^o$  being 62-63 years among Hindus/Muslims as against 67 years among non-Hindus and non-Muslims. Similar differentials in life expectancy at different ages are noted for males and females by religion.

The advantageous position of these other religious groups may be attributed to their relatively better socio-economic conditions.

### **Differentials by Caste and Standard of Living**

The caste differentials in life expectancy also confirm the social advantage of castes other than scheduled castes and scheduled tribes. The  $e_0^o$  for Scheduled Castes (SCs)/Scheduled Tribes (STs) (both sexes) is 61 years (with 95 % CI ranging between 60 to 62 years), which increases to 64 years (with 95 % CI ranging between 63 to 64 years) for caste other than SCs/STs. The impact of socio-economic condition is further reiterated by the higher life expectancy among people belonging to households with a high standard of living followed by those in the medium and low standard of living. For example,  $e_0^o$  for both sexes is as high as 70 years (with 95 % CI ranging between 68 to 71 years) among households belonging to a high SLI, as against an  $e_0^o$  of 66 years (with 95 % CI ranging between 65 to 67 years) among households with a medium SLI and an  $e_0^o$  of 58 years (with 95 % CI ranging between 58 to 59 years) among households with a low SLI

(Table 6.4 and Appendix Table 6.3). Similar differentials in life expectancy at different ages are noted for males and females by the standard of living. Such differentials prevail at other ages as well as among males and females (Table 6.3 and Appendix Table 6.2). Among all groups the female advantage over the male is also evident during the recent period.

The above results seem to suggest that religious or caste differentials in the life expectancy or survival across the life cycle of the population are basically due to difference in the standard of living of population among various groups, which is evidenced from various earlier studies. For example, populations belonging to SCs/STs are generally less educated and have less access to modern amenities and health services than those who belong to castes other than SCs/STs (Das, 2001). Similarly, the recent data from NFHS-3 (IIPS and Macro International, 2007) confirms that Hindus and Muslims are generally less educated than those belonging to other religious groups particularly, Christians, Jains and Parsis who generally enjoy a better standard of living and have greater access to health care services. The advantageous position of these religious groups (other than Hindus and Muslims) is evident by their much higher life expectancy compared to that noted among Hindus and Muslims. Thus, the present study also confirms the finding of the earlier studies that life expectancy at birth of a population is largely a function of their socio-economic conditions. The observed large differentials in life expectancy across state or region as well as in the rural and urban areas may therefore largely be attributed to the socio-economic condition of the population in a state or region.