Chapter 4

ABRIDGED LIFE TABLES, INDIA, 1992-98

To meet with the basic study objectives of providing alternative life tables based on periodic national level survey data and assess the mortality pattern across various regions and communities in the country the relevant life tables were constructed by using the methodology described in Chapter 2. Table 4.1 shows the abridged life table by sex for India in 5-year age intervals for 1992-98, based on ASDRs derived from the two rounds of the NFHS conducted during 1992-93 and 1998-99. It is evident from this table that a life expectation at birth of 61.6 years is noted for males, against 63.4 years for females in India during 1992-98, while the combined current life tables of both sexes, for the same period shows a life expectation at birth of 62.4 years. As expected, the average expectation of life for both males and females increases by more than three years after crossing the crucial period of infancy, and thereafter the average expectation of life for males and females reduces with age. However, the life expectancy at all ages is relatively higher for females than that for males. For example, the average expectation of life at age 15 is slightly higher for females (56 years) than that for males (54 years). Similarly, at age 50 it is 26 years for females as against 24 years for males. The ${}_nS_x$ column also indicates the better survival chances of females, particularly at the older ages. The calculation of other columns of the life table is also shown in Table 4.1, the details of which are already described earlier. A study of the current life table estimates by age and sex, based on the combined estimates of ASDRs of NFHS-1 and NFHS-2, matches well with that of the SRS data based life tables for the corresponding period, validating the estimates obtained from the two rounds of NFHS data, details of which are presented in the relevant chapter.

Table 4.1: Abridged Life Table, Based on Combined Estimates of ASDRs, Derived from NFHS-1 and NFHS-2 Data, All India, 1992-98

Age Interval	${}_nq_x$	l_x	${}_nL_x$	${}_nS_x$	T_x	e_x^o	SE(e_x^o)
Person							
< 1	0.06908	100000	94758	0.92172	6238310	62.38	0.28849
1-4	0.02635	93092	366101	0.97799	6143553	65.99	0.28811
5-9	0.01094	90639	450717	0.99078	5777451	63.74	0.28773
10-14	0.00747	89648	446564	0.99085	5326734	59.42	0.28880
15-19	0.01144	88978	442480	0.98689	4880170	54.85	0.28971
20-24	0.01440	87960	436679	0.98577	4437690	50.45	0.29128
25-29	0.01390	86694	430465	0.98548	4001011	46.15	0.29342
30-34	0.01538	85488	424215	0.98354	3570545	41.77	0.29580
35-39	0.01784	84173	417231	0.97977	3146330	37.38	0.29862
40-44	0.02324	82671	408789	0.97228	2729099	33.01	0.30245
45-49	0.03347	80750	397459	0.95558	2320310	28.73	0.30778
50-54	0.05596	78047	379802	0.94105	1922851	24.64	0.31647
55-59	0.06306	73680	357412	0.91170	1543048	20.94	0.33239
60-64	0.11848	69033	325853	0.86681	1185636	17.17	0.35310
65-69	0.15085	60854	282453	0.69707	859783	14.13	0.39894
70+	...	51675	577330	...	577330	11.17	0.46897
Male							
< 1	0.07308	100000	94538	0.92047	6156313	61.56	0.35881
1-4	0.02130	92692	365699	0.98065	6061775	65.40	0.35144
5-9	0.00995	90717	451330	0.99153	5696076	62.79	0.34900
10-14	0.00698	89815	447508	0.99202	5244746	58.40	0.34959
15-19	0.00946	89188	443938	0.98874	4797238	53.79	0.35026
20-24	0.01292	88345	438939	0.98706	4353300	49.28	0.35137
25-29	0.01292	87204	433258	0.98525	3914361	44.89	0.35300
30-34	0.01686	86077	426869	0.98203	3481103	40.44	0.35510
35-39	0.01932	84626	419198	0.97698	3054233	36.09	0.35822
40-44	0.02764	82991	409549	0.96659	2635035	31.75	0.36279
45-49	0.04023	80697	395865	0.94966	2225487	27.58	0.36998
50-54	0.06116	77451	375937	0.93221	1829622	23.62	0.38209
55-59	0.07615	72714	350452	0.89926	1453685	19.99	0.40282
60-64	0.12948	67177	315149	0.85338	1103233	16.42	0.43286
65-69	0.16694	58479	268943	0.68360	788085	13.48	0.49481
70+	...	48717	519142	...	519142	10.66	0.59283
Female							
< 1	0.06495	100000	95095	0.92291	6336226	63.36	0.47278
1-4	0.03174	93505	366359	0.97539	6241131	66.75	0.47942
5-9	0.01143	90537	450099	0.99054	5874772	64.89	0.48229
10-14	0.00747	89502	445839	0.98974	5424673	60.61	0.48498
15-19	0.01391	88833	441266	0.98472	4978834	56.05	0.48699
20-24	0.01587	87598	434524	0.98451	4537567	51.80	0.49101
25-29	0.01489	86207	427795	0.98546	4103043	47.59	0.49599
30-34	0.01440	84924	421573	0.98497	3675248	43.28	0.50107
35-39	0.01587	83702	415237	0.98337	3253675	38.87	0.50618
40-44	0.01785	82373	408332	0.97876	2838438	34.46	0.51235
45-49	0.02618	80903	399659	0.96209	2430106	30.04	0.51964
50-54	0.05027	78785	384509	0.94924	2030447	25.77	0.53151
55-59	0.05171	74824	364993	0.92335	1645939	22.00	0.55585
60-64	0.10687	70955	337015	0.88147	1280946	18.05	0.58442
65-69	0.13266	63372	297069	0.71849	943931	14.89	0.65220
70+	...	54965	646862	...	646862	11.77	0.75076

The Trend in Life Expectancy by Residence

Tables 4.2 and 4.3 present the abridged life tables for the urban and rural areas of the country by sex. The current life tables of both males and females for the urban and rural areas match well and are consistent with that of the combined population, although the life expectancy of both males and females at all ages, as expected, are relatively higher for urban population than for rural population. The combined current life tables of both sexes for the period 1992-98 shows a life expectation at birth of 66.6 years for urban residents against 61.4 years for rural residents. The sex differential in the average expectation of life at different ages is relatively much higher in urban areas than in the rural areas. A life expectation at birth of 64.7 years is noted for males as against 68.9 years for females in urban areas, while it is only 60.8 years for males as against 62.3 years for females in rural areas. The changes in the average expectation of life by age for males and females in rural and urban areas show a similar pattern as that observed at the all-India level, although the increase in life expectancy from birth to age 1 is much higher in the rural than in the urban areas. This further supports that the level of infant mortality is much higher in rural areas than that in urban areas. The rural urban differential in e_x^o is clearly evident even after consideration of SE of the life table estimates.

The Trend in Life Expectancy by Region

The average expectation of life at selected ages by region is presented in Table 4.4, while the detailed life table including standard error of e_x^o, for each region is presented in Appendix Table 4.1. The results clearly reveal that there is a wide variation in the level of mortality across the country. It appears that the level of mortality is still very high in the east, northeast and central regions, while it is relatively much lower in the northern as well as in the southern and western

Table 4.2: Abridged Life Table, Based on Combined Estimates of ASDRs, Derived from NFHS-1 and NFHS-2 Data, Urban India, 1992-98

Age Interval	$_nq_x$	l_x	$_nL_x$	$_nS_x$	T_x	e^o_x	SE(e^o_x)
Person							
< 1	0.04831	100000	96045	0.94630	6663306	66.63	0.63336
1-4	0.01506	95169	377104	0.98685	6567260	69.01	0.63650
5-9	0.00747	93736	466929	0.99352	6190157	66.04	0.63807
10-14	0.00548	93036	463902	0.99337	5723228	61.52	0.64032
15-19	0.00797	92525	460828	0.99230	5259326	56.84	0.64235
20-24	0.00747	91788	457281	0.99048	4798498	52.28	0.64559
25-29	0.01193	91102	452928	0.98688	4341217	47.65	0.64893
30-34	0.01390	90015	446988	0.98592	3888289	43.20	0.65464
35-39	0.01440	88763	440696	0.98379	3441301	38.77	0.66155
40-44	0.01883	87485	433550	0.97619	3000605	34.30	0.66938
45-49	0.03008	85838	423228	0.96062	2567055	29.91	0.68012
50-54	0.04932	83256	406563	0.94498	2143827	25.75	0.69864
55-59	0.06213	79150	384194	0.91516	1737264	21.95	0.73112
60-64	0.11178	74232	351598	0.87121	1353070	18.23	0.77670
65-69	0.14913	65935	306317	0.69413	1001472	15.19	0.87108
70+	...	56102	695155	...	695155	12.39	1.02123
Male							
< 1	0.05193	100000	95803	0.94385	6468203	64.68	0.77160
1-4	0.01309	94807	376123	0.98811	6372399	67.21	0.76696
5-9	0.00648	93566	466316	0.99303	5996277	64.09	0.76651
10-14	0.00747	92960	463064	0.99254	5529961	59.49	0.76826
15-19	0.00747	92265	459611	0.99244	5066897	54.92	0.77098
20-24	0.00797	91576	456137	0.98975	4607287	50.31	0.77413
25-29	0.01292	90846	451460	0.98543	4151150	45.69	0.77795
30-34	0.01588	89672	444882	0.98351	3699690	41.26	0.78475
35-39	0.01735	88249	437547	0.97942	3254808	36.88	0.79357
40-44	0.02471	86717	428542	0.97006	2817262	32.49	0.80453
45-49	0.03637	84575	415712	0.95258	2388720	28.24	0.82121
50-54	0.05977	81498	395998	0.93156	1973007	24.21	0.84813
55-59	0.07895	76628	368896	0.89425	1577010	20.58	0.89629
60-64	0.13648	70578	329886	0.84711	1208113	17.12	0.96797
65-69	0.17241	60945	279450	0.68180	878227	14.41	1.11509
70+	...	50438	598777	...	598777	11.87	1.34330
Female							
< 1	0.04443	100000	96372	0.94872	6892934	68.93	1.06492
1-4	0.01740	95557	377991	0.98550	6796562	71.13	1.07940
5-9	0.00846	93894	467484	0.99426	6418571	68.36	1.08596
10-14	0.00300	93099	464800	0.99433	5951088	63.92	1.09134
15-19	0.00896	92821	462167	0.99178	5486288	59.11	1.09353
20-24	0.00698	91989	458370	0.99100	5024121	54.62	1.10054
25-29	0.01144	91347	454244	0.98782	4565752	49.98	1.10639
30-34	0.01242	90302	448710	0.98776	4111508	45.53	1.11643
35-39	0.01193	89180	443219	0.98867	3662798	41.07	1.12760
40-44	0.01144	88117	438195	0.98370	3219579	36.54	1.13897
45-49	0.02276	87109	431051	0.97043	2781384	31.93	1.15024
50-54	0.03636	85126	418304	0.95949	2350333	27.61	1.17408
55-59	0.04599	82030	401358	0.93514	1932029	23.55	1.21404
60-64	0.08777	78258	375328	0.89588	1530670	19.56	1.26962
65-69	0.12388	71389	336249	0.70896	1155343	16.18	1.38800
70+	...	62546	819094	...	819094	13.10	1.58120

Table 4.3: Abridged Life Table, Based on Combined Estimates of ASDRs, Derived from NFHS-1 and NFHS-2 Data, Rural India, 1992-98

Age Interval	${}_nq_x$	l_x	${}_nL_x$	${}_nS_x$	T_x	e^o_x	SE(e^o_x)
Person							
< 1	0.07507	100000	94432	0.91461	6139810	61.40	0.34669
1-4	0.02982	92493	362874	0.97527	6045378	65.36	0.34879
5-9	0.01193	89735	445998	0.99004	5682503	63.33	0.34910
10-14	0.00797	88664	441556	0.98997	5236505	59.06	0.35073
15-19	0.01292	87958	437127	0.98455	4794950	54.51	0.35199
20-24	0.01735	86821	430375	0.98374	4357822	50.19	0.35419
25-29	0.01489	85315	423377	0.98459	3927447	46.03	0.35724
30-34	0.01637	84045	416851	0.98232	3504070	41.69	0.36031
35-39	0.01932	82669	409480	0.97828	3087219	37.34	0.36390
40-44	0.02471	81072	400584	0.97086	2677739	33.03	0.36888
45-49	0.03492	79069	388912	0.95337	2277156	28.80	0.37567
50-54	0.05879	76308	370777	0.93957	1888244	24.74	0.38664
55-59	0.06306	71822	348371	0.91076	1517467	21.13	0.40692
60-64	0.12070	67293	317281	0.86542	1169096	17.37	0.43222
65-69	0.15128	59171	274581	0.69840	851815	14.40	0.48950
70+	...	50219	577234	...	577234	11.49	0.57556
Male							
< 1	0.07906	100000	94227	0.91396	6077694	60.78	0.41897
1-4	0.02363	92094	362751	0.97845	5983467	64.97	0.41072
5-9	0.01094	89918	447130	0.99128	5620716	62.51	0.40754
10-14	0.00648	88934	443230	0.99214	5173587	58.17	0.40828
15-19	0.00995	88358	439747	0.98714	4730356	53.54	0.40895
20-24	0.01538	87478	434093	0.98573	4290610	49.05	0.41015
25-29	0.01292	86133	427898	0.98538	3856517	44.77	0.41185
30-34	0.01686	85020	421643	0.98157	3428619	40.33	0.41394
35-39	0.02030	83587	413871	0.97574	3006976	35.97	0.41715
40-44	0.02910	81890	403831	0.96484	2593104	31.67	0.42239
45-49	0.04215	79507	389634	0.94835	2189274	27.54	0.43062
50-54	0.06162	76156	369508	0.93248	1799640	23.63	0.44475
55-59	0.07521	71464	344558	0.90067	1430132	20.01	0.46842
60-64	0.12772	66088	310332	0.85491	1085574	16.43	0.50246
65-69	0.16568	57647	265307	0.68254	775242	13.45	0.57324
70+	...	48096	509934	...	509934	10.60	0.68579
Female							
< 1	0.07089	100000	94773	0.91553	6229197.18	62.2920	0.59318
1-4	0.03594	92911	362990	0.97228	6134424.13	66.0248	0.60857
5-9	0.01242	89571	445076	0.98930	5771434.01	64.4338	0.61572
10-14	0.00896	88459	440312	0.98808	5326358.40	60.2129	0.62014
15-19	0.01588	87666	435066	0.98193	4886045.92	55.7347	0.62358
20-24	0.01931	86274	427202	0.98198	4450980.39	51.5912	0.62994
25-29	0.01636	84608	419503	0.98434	4023778.44	47.5579	0.63814
30-34	0.01538	83224	412933	0.98354	3604275.48	43.3084	0.64566
35-39	0.01784	81943	406136	0.98110	3191342.98	38.9457	0.65294
40-44	0.02030	80481	398459	0.97683	2785206.67	34.6068	0.66210
45-49	0.02764	78848	389228	0.95882	2386747.57	30.2704	0.67300
50-54	0.05549	76668	373201	0.94552	1997519.35	26.0541	0.68946
55-59	0.05360	72414	352870	0.91966	1624318.15	22.4311	0.72469
60-64	0.11270	68532	324522	0.87710	1271448.18	18.5526	0.76351
65-69	0.13528	60808	284637	0.72126	946926.15	15.5723	0.85748
70+	...	52582	662289	...	662289.39	12.5953	0.98954

Table 4.4: Life Expectancy at Selected Ages by Region, India, 1992-98

Age (x)	Region	Average expectation of life (e_x^o)		
		Total	Male	Female
0	North	67.2	65.9	68.2
	Central	60.2	59.6	60.7
	East	59.9	59.6	60.0
	Northeast	60.3	59.6	61.4
	West	64.7	62.9	66.1
	South	64.7	62.9	66.2
	India	**62.4**	**61.6**	**63.4**
1	North	70.2	69.0	71.1
	Central	65.2	64.7	65.7
	East	64.1	63.9	64.2
	Northeast	63.3	62.7	64.3
	West	67.4	65.7	68.8
	South	67.1	65.3	68.5
	India	**66.0**	**65.4**	**66.7**
5	North	67.3	65.8	68.6
	Central	63.6	62.4	64.8
	East	62.0	61.4	62.3
	Northeast	61.2	60.7	62.1
	West	64.6	62.6	66.3
	South	64.2	62.4	65.6
	India	**63.7**	**62.8**	**64.9**
50	North	27.9	27.6	28.8
	Central	24.7	23.6	26.3
	East	23.4	22.9	25.2
	Northeast	22.5	22.1	24.5
	West	24.6	23.3	26.7
	South	24.5	23.8	25.9
	India	**24.6**	**23.6**	**25.8**
70+	North	13.5	13.1	14.0
	Central	10.6	9.6	11.7
	East	11.2	10.2	12.8
	Northeast	9.9	9.2	12.5
	West	10.5	9.2	11.8
	South	10.9	10.7	11.0
	India	**11.2**	**10.7**	**11.8**

Note: Please see Appendix Table 4.1 for details.

Region and States

North – Haryana, Himachal Pradesh, Jammu, Punjab, New Delhi
Central – Madhya Pradesh, Rajasthan, Uttar Pradesh
East – Bihar, Orissa, West Bengal
Northeast – Assam, Maipur, Meghalaya, Mizoram, Nagaland, Sikkim, Arunachal Pradesh, Tripura
West – Goa, Gujarat, Maharashtra
South – Andhra Pradesh, Karnataka, Kerala, Tamil Nadu

regions. For example, the average expectation of life at birth (e_o^o) is found to be highest in the northern region (67.2 years) followed by western and southern regions (64.7 years each) while it is least in the east, northeast and central regions (about 60 years each). The average life expectancy at age 1, as expected, increases for each region, although it decreases at age 5 as well as at higher ages. As a result, regional differentials in the average expectation of life increase at age 1, although such a differential reduces at ages 5 and above, particularly at older ages. A similar regional pattern in the life expectancy at different ages is noted by sex. However, the average expectation of life for females is relatively much higher than that for males, particularly at birth, for all the regions. The sex differentials in the average expectation of life at different ages are particularly noted in those regions that are relatively more developed and have higher level of e_o^o. For example, the e_o^o for females is about 2-3 years higher than that for males in the northern, southern and western regions of the country where e_o^o is about 65-67 years, while male-female differential in e_o^o is very small (1 year or less) in the backward regions like eastern, northeastern and central, where e_o^o is relatively much less (about 60 years).

As can further be seen from Table 4.4 and Appendix Table 4.1, the level of infant mortality is still very high in the country and varies considerably across the regions. This is reflected from the fact that the average expectation of life for both sexes (combined), after crossing the crucial period of infancy, increases by more than two years in the western and southern regions (e_1^o = 67 years), and by three years in the north (e_1^o = 70 years) as well as in the northeast (63 years), by four years in the east (64 years) and increases by almost five years in the central (65 years) region of the country. In other words, the results

seem to suggest that infant mortality is highest in the eastern and central regions while it is lowest in the southern and western regions. The average expectation of life for males and females, after crossing the crucial year of infancy, reduces with age. However, the life expectancy at all ages is relatively higher for females than for males.

A comparison of the average expectation of life at different ages (e_x^o), along with its standard error, and the associated 95 percent Confidence Interval (CI) by region, (which is presented in Appendix Table 4.1), reveals once again that the level of mortality, particularly infant mortality is still very high and varies widely across the regions in the country. The lower level of mortality, resulting in higher expectation of life is noted in the north, south and west, which happen to be relatively better developed regions of the country, while the level of mortality is still very high in the less developed regions, particularly in the eastern and central parts of the country. Therefore, the role of socio-economic development in the large differentials noted in the level of mortality as well as in the life expectancy of the people cannot be ruled out, although these aspects can further be understood from the data presented in the subsequent chapters.