

**HEALTH STATUS OF ELDERLY WORKERS IN RURAL UTTAR  
PRADESH: A CASE STUDY OF BULANDSHAHR DISTRICT**

*Thesis Submitted to Jawaharlal Nehru University  
for the Award of the Degree of*

**DOCTOR OF PHILOSOPHY**

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NEW DELHI, INDIA**

**2016**

*This Work is Dedicated to all the  
Elderly  
Known and Unknown*



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DECLARATION

I hereby declare that the thesis entitled "HEALTH STATUS OF ELDERLY WORKERS IN RURAL UTTAR PRADESH: A CASE STUDY OF BULANSHAHAR DISTRICT" submitted by me for the award of the degree of DOCTOR OF PHILOSOPHY is a bonafide work and that it has not been submitted so far in part or in full, for any degree or diploma of this university or any other university.

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<b>S. No.</b>	<b>Contents Title</b>	<b>Page No</b>
1.	Acknowledgement	i-iii
2.	List of Contents	iv-xii
3.	List of Tables	xiii-xvi
4.	List of Figures	xvii-xiii
5.	List of Maps	xviii
6.	List of Appendices	xix
7.	List of Abbreviations	xx

### **List of Contents**

<b>Chapter:1</b>		
<b>S. No.</b>	<b>Introduction Title</b>	<b>Page No. 1-21</b>
1.1	Introduction	1
1.2	Demographic Causes of Population Aging	2
1.3	Significance of the Problem	3
1.4	Specific Problem	5
1.5	Distribution of Population by Age-Structure in India: 1991-2011	8
1.6	Distribution of Population by Age-Structure in Uttar Pradesh and Bulandshahr District: 1991-2011	9
	Rationale for Selection of the Study Area	10
1.7	1.7.1: Reasons for Selecting Bulandshahr District	14
	1.7.2: Tehsil Wise Criteria	16
	1.7.3: Household Criteria	17
1.8	Sample Distribution of Households	17
	Endnotes	20

<b>Chapter:2</b>		
<b>S. No.</b>	<b>Title</b>	<b>Page No.</b>
	<b>Research Amplification, Methodological Aspects and Data Base Surveillances</b>	<b>22-67</b>
2.1	Introduction	22
2.2	Definitions of Ageing, Elderly and Aged	23
2.3	Theoretical Background	24
	2.3.1: Disengagement Theory	25
	2.3.2: Exchange Theory	25
	2.3.3: Modernisation Theory	26

	2.3.4: Development Theory	26
	2.3.5: Age Stratification Theory	26
	2.3.6: Continuity Theory	27
2.4.	Review of Earlier Studies	27
	2.4.1: Worldwide Trends and Prospects of Elderly Population	27
	2.4.2: Indian Trends and Prospects of Elderly Population	28
	2.4.3: State level Perspective of the Aged in India	29
	2.4.4: Socio-Economic Traits of Elderly Population	30
	2.4.5: Workforce Participation among Elderly in India	31
	2.4.6: Utilisation of Health Care Services and Emerging Challenges among the Elderly Population	32
	2.4.6.1: Utilisation of Health Care Services	33
	2.4.6.2: Financing for Healthcare of Elderly Population	33
	2.4.7: Inter-linkages between Workforce Participation and Health Care Utilisation of Elderly	34
	2.4.8: Living Arrangement of the Elderly Population	36
	2.4.9: Activities of Daily Living (ADL) of Elderly Population	37
	2.4.9.1: Instrumental Activity of Daily Living (IADLs)	37
	2.4.10: Impact of Migration on Left behind Elderly Population	38
	2.4.11: Social Security Measures and Initiatives for the Elderly Population	39
	2.4.11.1: Global Perspective of Social Security	39
	2.4.11.2: Commencing of Social Security in India	40
	2.4.12.: The Pension System in India	41
	2.4.12.1: Initiation of Old Age Pension System in India: A State Level Outlook	41
	2.4.12.2: Evolution of Various Policies and Programmes for Elderly Population in India	42
	2.4.13: Role of Media	45
2.5	Research Gaps and Need for the Present Study	46
2.6	Conceptual Framework	48
2.7	Objectives of the Present Study	49
2.8	Research Questions	49
2.9	Research Design	50
	2.9.1: Data Collection	50
	2.9.1.A: Primary Data	50
	2.9.1.B: Secondary Data	50
	2.9.2.: Methodological Aspects for the Present Research Work	52
	2.9.3: Questionnaire Design	57
	2.9.4: Qualitative Methods	58
	2.9.5: Methods of Sampling	58



2.10	Outline of the Study	59
2.11	Limitations of the Present Study	61
	Endnotes	63

<b>Chapter:3</b>		
<b>S. No.</b>	<b>Title</b>	<b>Page No.</b>
	<b>Demographic and Background Attributes of Elderly Population in India, Uttar Pradesh and Bulandshahr District</b>	<b>68-96</b>
3.1	Introduction	68
3.2	Progression of Demographic Transition Theory	69
3.3	Magnitude and Speed of Population Ageing	70
	3.3.1: The Global Process of Population Ageing	71
	3.3.2: Dynamics of Population Ageing in the Contemporary World (65 Years and above)	72
	3.3.3: Dynamics of Population Ageing in the Contemporary World (60 Years and above)	73
	3.3.4: Trends of Elderly Population in Developing Countries	74
3.4	Determinants of Population Ageing in India	75
	3.4.1: Fertility: The Prime Driver	75
	3.4.2: Growing Significance of Mortality	76
	3.4.3: Changing Trends in Life Expectancy	76
3.5	Life expectancy at Birth by Sex	77
3.6	Percentage Share of Elderly Population in Total Population in India and Uttar Pradesh 1961-2011	78
	3.6.1: Regional Variations of Elderly Population in India, 2001-2011: A State Level Analysis	80
	3.6.2: Distribution of Elderly Population by Sex and Place of Residence in Uttar Pradesh: A District Level Analysis: 2011	82
3.7	Distribution of Population of each Sex by Broad Age Groups, 1991-2011	87
3.8	Distribution of Elderly Population in Five Year Age-Group by Residence and Sex: 2011	88
3.9	Measures of Population Ageing in India	90
	3.9.1: Index of Ageing	90
	3.9.2: Potential Support Ratio	91
	3.9.3: Old Age Dependency Ratio	92
	Conclusion	93
	Endnotes	95

<b>Chapter:4</b>		
<b>S. No.</b>	<b>Profile of Elderly Working Population in India, Uttar Pradesh and Bulandshahr District</b>	<b>Page No.</b>
		<b>97-113</b>
4.1	Introduction	97
4.2	Age Group Wise Main workers, Marginal Workers and Non-Workers of Elderly Population in India and Uttar Pradesh-2011	98
4.3	Decadal Review of Work Participation Rate (WPRs) of Elderly Population in Uttar Pradesh: 1961-2011	100
4.4	Level and Status of Elderly Employment in India: A Chronological Review	101
4.5	Main Workers by Educational Level, Age and Sex in Uttar Pradesh and Bulandshahr district: 2011	102
4.6	Reasons for Out-Migration by Age-Group and Present Place of Residence in Uttar Pradesh: 2007-08	105
4.7	Reasons for Out-Migration by Sex and Present Place of Residence in India and Uttar Pradesh: 2007-08	107
4.8	Region Wise Distribution of Elderly by State of Economic Independence in Uttar Pradesh: 2014-15	109
4.9	Distribution of Elderly by Type of Living Arrangement for Each Sex in Uttar Pradesh: 2014-15	111
4.10	Workforce Participation Rate (WPRs) of Elderly Population by Sex and Place of Residence: 2001-2011	112
	Conclusion	113

<b>Chapter:5</b>		
<b>Title</b>		
<b>S. No.</b>	<b>Aged Fraternity in Rural Society: An Introduction to the Elderly in Bulandshahr District</b>	<b>Page No.</b>
		<b>114-166</b>
5.1	Introduction	114
5.2	Methodological Elaborations for the Chapter	115
	5.2.1: Objective and Data Sources	115
	5.2.2: Methodology	116
5.3	Socio-Economic Status of Elderly Population in India, Uttar Pradesh and Bulandshahr District: Secondary Data Analysis: Section-I	116
	5.3.1: Marital Status of Elderly Population in India, Uttar Pradesh and Bulandshahr District: 2001-2011	117
	5.3.2: Literacy Rate among Elderly Population in India, Uttar Pradesh and Bulandshahr District: 2001-2011	119
	5.3.3: Educational Level by Age and Sex for Population aged 60 and above in India: 2011	121
	5.3.4: Educational Level by Age and Sex for Population aged 60 and above	122

	in Uttar Pradesh: 2011	
	5.3.5: Educational Level by Age and Sex for Population aged 60 and above in Bulandshahr District: 2011	123
	5.3.6: Distribution of Scheduled Tribe Elderly Population in India, Uttar Pradesh and Bulandshahr District: 2001-2011	125
	5.3.7: Distribution of Scheduled Caste Elderly Population in India, Uttar Pradesh and Bulandshahr District: 2001-2011	126
	5.3.8: Distribution of Elderly Population according to their Religious Profile in India: 2011	127
	5.3.9: Distribution of Elderly Population according to their Religious Profile in Uttar Pradesh: 2011	128
	5.3.10: Distribution of Elderly Population according to their Religious Profile in Bulandshahr district: 2011	129
5.4	Elderly Population in Bulandshahr District: A Micro Level Analysis, (A Field Experiences)	130
	5.4.1: Study Area (Micro Level)-Bulandshahr District	130
	5.4.2: Housing Characteristics in the Study Region	131
	5.4.3: Distribution of Households by Housing Attributes	131
	5.4.4: Distribution of Households by Toilet Facility	132
	5.4.5: Distribution of Households by Types of Cooking Fuel	133
	5.4.6: Distribution of Households by Sources of Drinking Water	134
	5.4.7: Households by Sources of Income	135
	5.4.8: Distribution of Households by Household Size	136
	5.4.9: Block Wise Distribution of Elderly Households by Monthly Expenditure, Bulandshahr, 2014	137
5.5	Socio-Economic Traits of Elderly Population in Bulandshahr District: A Micro Level Analysis	139
	5.5.1: Distribution of Elderly (Block Wise) by Selected Background Characteristics in Bulandshahr District: 2014	139
	5.5.2: Distribution of Elderly by Marital Status according to Selected Background Characteristics in Bulandshahr District: 2014	143
	5.5.3: Distribution of Elderly by Levels of Education according to Selected Background Characteristics in Bulandshahr District: 2014	147
	5.5.4: Distribution of Elderly by Caste Structure in Bulandshahr District: 2014	151
	5.5.5: Distribution of Elderly by Living Arrangement according to Selected Background Characteristics in Bulandshahr District: 2014	152
	5.5.6: Distribution of Elderly by Reasons to Live Alone in Bulandshahr District: 2014	155
	5.5.7: Distribution of Elderly by Depends on Anyone for Financial	157

Requirements in Bulandshahr District: 2014	
5.5.8: Distribution of Elderly Population according by Main Source of Economic Support in Bulandshahr District: 2014	158
5.5.9: Distribution of Elderly by State of Economic Dependency according to Selected Background Characteristics: 2014	159
5.5.10: Probable Support System for Elderly in Bulandshahr District: 2014	161
5.5.11: Support System of Elderly for Life Style Habits in Bulandshahr District: 2014	162
Conclusion	163
Endnotes	165

<b>Chapter: 6</b>		
<b>S. No.</b>	<b>Title</b>	<b>Page No.</b>
	<b>Nature of Work and Problems Faced by the Elderly Workers in Bulandshahr District</b>	<b>167-202</b>
6.1	Introduction	167
6.2	Work Situation in Indian Context	168
6.3	Why do the Elderly Work	168
	6.3.1: Type of Work Undertaken by the Elderly	169
6.4	Methodological Aspects of the Chapter	169
	6.4.1: Objective of the Present Chapter	170
	6.4.2: Sources of Data and Methodology	170
6.5	Block Wise Distribution among Elderly Workers and Non-Workers by their Occupational Structure in Bulandshahr District: 2014	170
6.6	Distribution of Elderly Workers and Non-Workers in Bulandshahr District: 2014	172
6.7	Sex Wise Distribution of Elderly Workers and Non-Workers in Bulandshahr District: 2014	173
6.8	Block Wise Distribution of Elderly Workers and Non-Workers in Bulandshahr District: 2014	174
6.9	Distribution of Elderly Workers by Selected Background and Socio-Economic Characteristics in Bulandshahr District: 2014	175
6.10	Distribution of Elderly Workers by Reasons of Work in Bulandshahr District: 2014	178
6.11	Block Wise Distribution of Elderly Workers by Sex and Reasons for Work in Bulandshahr District: 2014	180
6.12	Reasons for Not Working among Elderly Non-Workers in Bulandshahr District: 2014	181
6.13	Effect of Work Environment on Health by Sex in Bulandshahr District: 2014	182

6.14	Distribution of Elderly Workers by Reason for Work and its Health Impact in Bulandshahr District: 2014	183
6.15	Distribution of Elderly Workers by Reason for Work and Financial Dependency in Bulandshahr District: 2014	184
6.16	Distribution of Elderly Workers in Labour Market by Possession of Property in Bulandshahr District: 2014	185
6.17	Distribution of Elderly Workers in Agricultural and Rural Non-Farm Employment (RNFE) and its Health Impact in Bulandshahr District: 2014	186
6.18	Distribution of Working Elderly by the Need to Work according to Background Characteristics in Bulandshahr District: 2014	187
6.19	Role of Remittance in Shaping Economic Security among Elderly in Bulandshahr District: 2014	189
6.20	Block Wise Distribution of Elderly Workers and Non-Workers by Work Status in Bulandshahr District: 2014	190
6.21	Distribution of Elderly Workers by Participation in Rural Non-Farm Sector in Bulandshahr District: 2014	191
6.22	Block Wise Distribution of Elderly Workers by Agricultural Occupations in Bulandshahr District: 2014	192
6.23	Distribution of Elderly Agricultural Workers by Nature of Work Environment in Bulandshahr District: 2014	194
6.24	Wage Differentials among Elderly Workers in Bulandshahr District: 2014	195
6.25	Multinomial Logistic Regression Estimates of Elderly Workers and Non-Workers with their Background Characteristics: 2014	197
	Conclusion	200
	Endnotes	201

<b>Chapter:7</b>		
<b>Title</b>		
<b>S. No.</b>	<b>Utilisation of Health Care Services, Emerging Issues and Health Challenges of Elderly Population in Bulandshahr District</b>	<b>Page No.</b>
<b>203-250</b>		
7.1	Introduction	203
7.2	Change in the Rank Order of Disease Burden for 15 Leading Causes of Death in the World, 2000-2011	205
7.3	International Classification of Diseases (ICD)	207
7.4	Distribution of Death by Age and Sex in India: 2010-2013	208
7.5	Causes of Death among age 70 Years and above in India 2010-2013	209
7.6	Major Objectives of the Chapter	210
	7.6.1: Data Source	210
	7.6.2: Statistical Methods used in Chapter	210

7.7	Disability of Elderly Population in India, Uttar Pradesh and Bulandshar District: 2011	212
7.8	Distribution of Elderly Population by Nature of Ailment in Uttar Pradesh: 2004	216
7.9	Nature of Ailment among Elderly Population in Bulandshahr District: 2014	218
7.10	Disease Profile among Elderly Workers and Non-Workers according to Sex in Bulandshahr District: 2014	221
7.11	Self Rated Health Status among Elderly Workers and Non-Workers by State of Economic Dependency in Bulandshahr District: 2014	222
7.12	Determinants of Health Service Utilisation	225
	7.12.1: Availability and Accessibility of Health Facilities	225
7.13	Sex Wise Distribution of Elderly Workers and Non-Workers by using different Source of Treatment for Common illness in Bulandshahr District: 2014	225
7.14	Sex Wise Distribution among Elderly Workers and Non-Workers by Sources of Treatment for Chronic illness in Bulandshahr District: 2014	227
7.15	Block Wise Distribution of Elderly by Reasons for not Receiving Treatment in Bulandshahr District: 2014	228
7.16	Sex Wise Distribution of Elderly Workers and Non-Workers by Reasons for Not Receiving any Treatment in Bulandshahr District: 2014	229
7.17	Block-wise Distribution of Care Givers during ill Health for Elderly Workers and Non-Workers in Bulandshahr District: 2014	231
7.18	Distribution of Elderly Workers and Non-Workers by Treatment Behaviour in Bulandshahr District: 2014	232
7.19	Risky Lifestyle among Elderly by Sex in Bulandshahr District: 2014	233
7.20	Block Wise Distribution of Elderly by Risk Factors of Sickness among Elderly Workers and Non Workers in Bulandshahr District: 2014	235
7.21	Self Rated Health (SRH) Status of Elderly Workers and Non-Workers by Sex in Bulandshahr District: 2014	237
7.22	Elderly Workers and Non-Workers for Activities of Daily Living (ADL) by Sex in Bulandshahr District: 2014	239
7.23	Disease Profile of Elderly Workers by Nature of Workforce in Bulandshahr District: 2014	240
7.24	Region Wise Distribution of Elderly Population by Own Perception about Change in State of Health in Uttar Pradesh: 2014-15	241
7.25	Logistic Regression Estimates: Adjusted Value of Elderly Workers and Non-Workers by Background Characteristics in Bulandshahr District: 2014	243
7.26	Logistic Regression Estimates: Adjusted Value of Elderly Workers by	245

Background Characteristics in Bulandshahr District: 2014	
Conclusion	247
Endnotes	249

<b>Chapter:8</b>		
<b>S. No.</b>	<b>Summary and Conclusions Title</b>	<b>Page No. 251-262</b>
8.1	Summary of Findings	251
8.2.	Conclusions and Policy Imperatives	259

**List of Tables**

<b>Table No.</b>	<b>Title of Table</b>	<b>Page No.</b>
1.1	Distribution of Population by Age-Structure in India: 1991-2011	8
1.2	Distribution of Population by Age-Structure in Uttar Pradesh and Bulandshahr District: 1991-2011	9
1.3	Result of Composite Index Ranking Method	15
1.4	Distribution of Tehsil, Vikas Khand and Villages	16
3.1	Global Scenario of the Aged, 2005-2050	71
3.2	Dynamics of Population Ageing (65+) in the Contemporary World	72
3.3	Global Trends of Population Ageing $\geq 60$ Years	73
3.4	Percentage Share of Elderly Population in Total Population in India and Uttar Pradesh 1961-2011	79
3.5	Distribution of Population of each Sex by Broad Age Groups, 1991-2011	87
3.6	Distribution of Elderly Population in Five Year Age-Group by Residence and Sex: 2011	89
3.7	Index of Ageing: India, Uttar Pradesh and Bulandshahr District, 2001-2011	90
3.8	Potential Support Ratio: India, Uttar Pradesh and Bulandshahr District, 2001-2011	91
3.9	Old Age Dependency Ratio: India, Uttar Pradesh and Bulandshahr, 2001-2011	92
4.1	Main Workers, Marginal Workers, Non-Workers and those Marginal Workers, Non-Workers of Elderly Population in India-2011	98
4.2	Main workers, Marginal workers, Non-Workers and those Marginal Workers, Non-Workers of Elderly Population in Uttar Pradesh-2011	99
4.3	Main Workers by Educational Level, Age and Sex: Uttar Pradesh – 2011	103
4.4	Main Workers by Educational Level, Age and Sex: Bulandshahr district – 2011	104
4.5	Reasons for Out-Migration by Age-Group and Present Place of Residence in Uttar Pradesh: 2007-08	106
4.6	Reasons of for Out-Migration by Gender and Present Place of Residence in India and Uttar Pradesh: 2007-08	108
4.7	Region Wise Distribution of Elderly by State of Economic Independence in Uttar Pradesh: 2014-15	110
4.8	Distribution of Elderly by Type of Living Arrangement in Uttar Pradesh (by Region):2014-15	111
4.9	Workforce Participation Rate (WPRs) of Elderly Population by Sex and Place of Residence: 2001-2011	112



5.1(A)	Marital Status of Elderly Population in India, Uttar Pradesh and Bulandshahr District: 2001	117
5.1 (B)	Marital Status of Elderly Population in India, Uttar Pradesh and Bulandshahr District-2011	118
5.2	Literacy Rates of Elderly Population: India, Uttar Pradesh and Bulandshahr District, 2001-2011	119
5.3	Educational Level by Age and Sex for Population aged 60 and above in India: 2011	121
5.4	Educational Level by Age and Sex for Population aged 60 and above in Uttar Pradesh: 2011	122
5.5	Educational Level by Age and Sex for Population aged 60 and above in Bulandshahr District:2011	123
5.6	Distribution of Scheduled Tribe Elderly Population in India, Uttar Pradesh and Bulandshahr District: 2001-2011	125
5.7	Distribution of Scheduled Caste Elderly Population in India, Uttar Pradesh and Bulandshahr District: 2001-2011	126
5.8	Block Wise Distribution of Elderly Households by Monthly Expenditure, Bulandshahr, 2014	137
5.9	Distribution of Elderly (Block Wise) by Selected Background Characteristics in Bulandshahr District: 2014	140
5.10	Distribution of Elderly by Marital Status according to Selected Background Characteristics in Bulandshahr District: 2014	144
5.11	Distribution of Elderly by Levels of Education according to Selected Background Characteristics in Bulandshahr District: 2014	148
5.12	Distribution of Elderly by Caste Structure in Bulandshahr District: 2014	151
5.13	Distribution of Elderly by Living Arrangement according to Selected Background Characteristics in Bulandshahr District: 2014	153
5.14	Distribution of Elderly Population according by Main Source of Economic Support in Bulandshahr District: 2014	158
5.15	Distribution of Elderly by State of Economic Dependency according to Selected Background Characteristics: 2014	159
5.16	Probable Support System for Elderly in Bulandshahr District: 2014	161
5.17	Support System of Elderly for Life Style Habits in Bulandshahr District: 2014	162
6.1	Block Wise Distribution among Elderly Workers and Non-workers by their Occupational Structure in Bulandshahr District: 2014	171
6.2	Sex Wise Distribution of Elderly Workers and Non-Workers in Bulandshahr District: 2014	173
6.3	Block Wise Distribution of Elderly Workers and Non-Workers in Bulandshahr District: 2014	174

6.4	Distribution of Elderly Workers by Selected Background and Socio-Economic Characteristics in Bulandshahr District: 2014	175
6.5	Block Wise Distribution of Elderly Workers by Sex and Reasons for Work in Bulandshahr District: 2014	180
6.6	Effect of Work Environment on Health By Sex: Bulandshahr District: 2014	182
6.7	Distribution of Elderly Workers by Reason for Work and its Health Impact in Bulandshahr District: 2014	183
6.8	Distribution of Elderly Workers by Reason for Work and Financial Dependency in Bulandshahr District: 2014	184
6.9	Distribution of Elderly Workers in Labour Market by Possession of Property in Bulandshahr District: 2014	185
6.10	Distribution of Elderly Workers in Agricultural and Rural Non-Farm Employment (RNFE) and its Health Impact in Bulandshahr District: 2014	186
6.11	Distribution of Working Elderly by the Need to Work according to Background Characteristics in Bulandshahr District: 2014	187
6.12	Role of Remittance in Shaping Economic Security among Elderly in Bulandshahr District: 2014	189
6.13	Block Wise Distribution of Elderly Workers and Non-Workers by Work Status in Bulandshahr District: 2014	190
6.14	Distribution of Elderly Workers by Participation in Rural Non-Farm Sector in Bulandshahr District: 2014	191
6.15	Block Wise Distribution of Elderly Workers by Agricultural Occupations in Bulandshahr District: 2014	193
6.16	Distribution of Elderly Agricultural Workers by Nature of Work Environment in Bulandshahr District: 2014	194
6.17	Wage Differentials among Elderly Workers in Bulandshahr District: 2014	195
6.18	Multinomial Regression Analysis: Adjusted Value of Elderly Workers and Non-workers by background Characteristics in Bulandshahr District: 2014	197
7.1	Disability of Elderly Population in India, Uttar Pradesh and Bulandshahr District: 2011	214
7.2	Disease Profile among Elderly Workers and Non-Workers according to Sex in Bulandshahr District: 2014	221
7.3	Self Reported Health Status among Elderly Workers and Non-Workers by State of Economic Dependency in Bulandshahr District: 2014	224
7.4	Sex Wise Distribution of Elderly Workers and Non-Workers by using different Source of Treatment for Common illness in Bulandshahr District: 2014	226
7.5	Sex Wise Distribution among Elderly Workers and Non-Workers by Sources of Treatment for Chronic illness in Bulandshahr District: 2014	227
7.6	Block Wise Distribution of Elderly by Reasons for not Receiving Treatment in	228

	Bulandshahr District: 2014	
7.7	Sex Wise Distribution of Elderly Workers and Non-Workers by Reasons for not Receiving any Treatment in Bulandshahr District: 2014	230
7.8	Block-wise Distribution of Care Givers during ill Health for Elderly Workers and Non-Workers in Bulandshahr District: 2014	231
7.9	Distribution of Elderly Workers and Non-Workers by Treatment Behaviour in Bulandshahr District: 2014	233
7.10	Block Wise Distribution of Elderly by Risk Factors of Sickness among Elderly Workers in Bulandshahr District: 2014	235
7.11	Block Wise Distribution of Elderly by Risk Factors of Sickness among Non workers in Bulandshahr District: 2014	236
7.12	Self Rated Health (SRH) Status of Elderly Workers by Sex in Bulandshshar District: 2014	237
7.13	Self Rated Health (SRH) Status of Elderly Non-Workers by Sex in Bulandshshar District: 2014	238
7.14	Elderly Workers and Non-Workers for Activities of Daily Living (ADL) by Sex in Bulandshahr District: 2014	239
7.15	Disease Profile of Elderly Workers by Nature of Workforce in Bulandshahr District: 2014	240
7.16	Region Wise Distribution of Elderly Population by Own Perception about Change in State of Health in Uttar Pradesh: 2014-15	241
7.17	Logistic Regression Estimates: Adjusted Value of Elderly Workers and Non-Workers by Background Characteristics in Bulandshahr District: 2014	243
7.18	Logistic Regression Estimates: Adjusted Value of Elderly Workers by Background Characteristics in Bulandshahr District: 2014	245

## List of Figures

Figure No.	Title of Figure	Page No.
1.1	Sample Distribution of Households	18
1.2	Framework Design of Study Area	19
2.1	Conceptual Framework for the Research Study	48
3.1	Life Expectancy at Birth (Male and Female) in India: 1971-2021.	77
3.2	Regional Variations of Elderly Population in India (2001-2011): A State Level Analysis	81
4.1	Work Participation Rates (WPRs) of Elderly Population by Sex and Place of Residence in Uttar Pradesh:1961-2011	100
4.2	Labour Force Participation Elderly (age 60 and above) in India, 1983- 84- 2011-12	102
5.1	Distribution of Elderly Population according to Religion in India: 2011	127
5.2	Distribution of Elderly Population according to Religion in Uttar Pradesh: 2011	128
5.3	Distribution of Elderly Population according to Religion in Bulandshahr District: 2011	129
5.4	Distribution of Household by Housing Facility in Bulandshahr District: 2014	131
5.5	Distribution of Household by Toilet Facility in Bulandshahr District: 2014	132
5.6	Distribution of Households by Types of Cooking Fuel in Bulandshahr District: 2014	133
5.7	Distribution of Households by Sources of Drinking Water in Bulandshahr District: 2014	134
5.8	Distribution of Households by Sources of Income, Bulandshahr, 2014	135
5.9	Distribution of Households by Family Size in Bulandshahr District: 2014	136
5.10	Distribution of Elderly by Reasons to Live Alone in Bulandshahr in Bulandshahr District: 2014	156
5.11	Distribution of Elderly by Depends on Anyone for Financial Requirements in Bulandshahr District: 2014	157
6.1	Distribution of Elderly Workers and Non-Workers in Bulandshahr District: 2014	172
6.2	Distribution of Elderly Workers by Reasons of Work in Bulandshahr District:2014	178
6.3	Reasons for Not Working among Elderly Non-Workers in Bulandshahr District: 2014	181
7.1	Change in 20 Leading Causes of DALYs at Global Level, 2000 to 2011	206
7.2	International Classification of Diseases (ICD)	207
7.3	Distribution of Deaths by Age and Sex in India :2010-2013	208
7.4	Top 10 Causes of Death in age 70 ears and over adults in India : 2010-2013	209

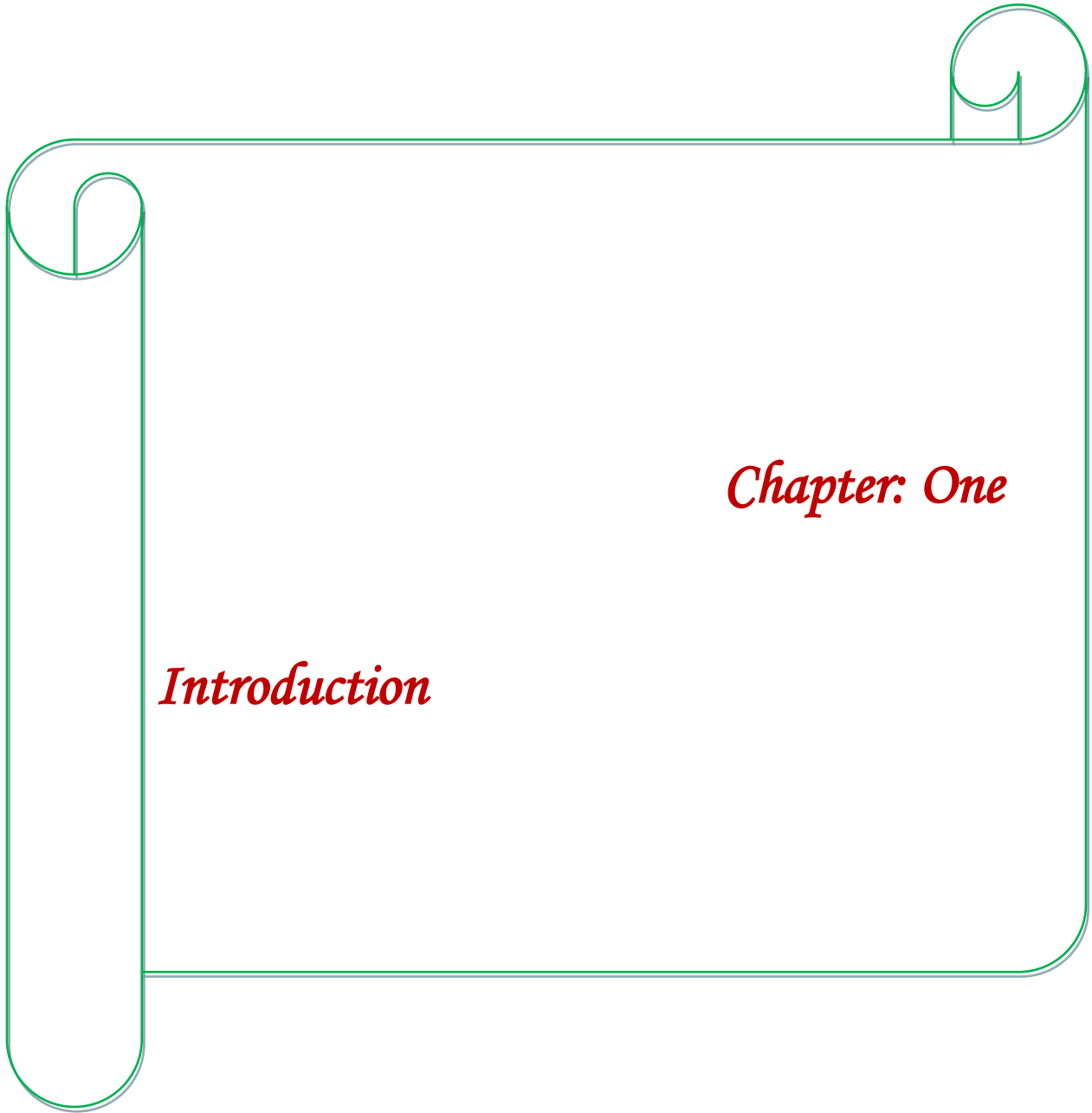
7.5	Distribution of Elderly Population by Nature of Ailment in Uttar Pradesh: 2004	216
7.6	Nature of Ailment of Elderly Population In Bulandshahr District	218
7.7	Risky Lifestyle among Elderly by Sex in Bulandshahr District: 2014	234

<b>List of Maps</b>		
<b>Map No.</b>	<b>Title of Map</b>	<b>Page No.</b>
1.1	Position of Uttar Pradesh in India	11
1.2	Position of Bulandshahr District in Uttar Pradesh	12
1.3	Position of Study Villages in Bulandshahr District	13
3.1	Distribution of Elderly Population in Uttar Pradesh: 2011	83
3.2	Distribution of Elderly Population in Rural Uttar Pradesh: 2011	84
3.3	Distribution of Elderly Population in Urban Uttar Pradesh: 2011	85

<b>S. No.</b>	<b>List of Appendices Title</b>	<b>Page No.</b>
A	Bibliography	263
	A.1: Books	263
	A.2: Journals	265
	A.3: Working and Discussion Papers	269
	A.4: International and National Reports	270
	A.5: Online Website Links	271
B	Concepts and Definitions	273
C	Additional Tables	280
	C.1: State Wise Distribution of Elderly Population by Sex and Place of Residence in India: 2011.	280
	C.2: District Wise Distribution of Elderly Population by Sex and Place of Residence in Uttar Pradesh: 2011.	281
	C.3: District Wise Distribution of Scheduled Caste Elderly Population by Sex and Place of Residence in Uttar Pradesh: 2011.	283
	C.4: Index of Ageing among Elderly Population by Sex and Place of Residence in Uttar Pradesh: 2011.	285
	C.5: Old Age Dependency Ratio (OADR) among Elderly Population by Sex and Place of Residence in Uttar Pradesh: 2011.	287
	C.6: Distribution of Elderly Population (Marital Status) by Sex and Place of Residence in India: 2011.	289
	C.7: Distribution of Elderly Population (Marital Status) by Sex and Place of Residence in Uttar Pradesh: 2011	293
	C.8: Distribution of Population according to Various Indicators for Sub-districts in Bulandshahr District: 2011.	300

### List of Abbreviations

S. No.	Abbreviation	Meaning of Abbreviation
1.	ADL	Activities of Daily Living
2.	ASBR	Age Specific Birth Rate
3.	ASDR	Age Specific Death Rate
4.	BKPAI	Building Knowledge Base on Population Ageing in India.
5.	GOI	Government of India
6.	IADL	Instrumental Activities of Daily Living
7.	IGNOAPS	Indira Gandhi National Old Age Pension Scheme
8.	IPOP	Integrated Programme for Older Persons
9.	MPCE	Monthly Per Capita Consumer Expenditure
10.	MSJE	Ministry of Social Justice and Empowerment
11.	MWPSCA	Maintenance and Welfare of Parents and Senior Citizens Act
12.	NOAPS	National Old Age Pension Scheme
13.	NPOP	National Policy on Older Persons
14.	NSSO	National Sample Survey Organisation
15.	OADR	Old Age Dependency Ratio
16.	OAPS	Old Age Pension Scheme
17.	OBC	Other Backward Caste (Class)
18.	POR	Place of Residence
19.	PSR	Potential Support Ratio
20.	RNFE	Rural Non-Farm Employment (RNFE)
21.	₹	Rupees
22.	SC	Scheduled Caste
23.	ST	Scheduled Tribe
24.	UNFPA	United Nations Population Fund
25.	UN	United Nations
26.	UNDP	United Nations Development Programme
27.	UP	Uttar Pradesh
28.	WHO	World Health Organisation
29.	WPR	Work Participation Rate



*Chapter: One*

*Introduction*



# Chapter: 1

## Introduction

---

*Respect your father and your mother, so that you may live a long time in the land that I am giving you.*

**Exodus 20 (12)**

### 1.1: Introduction

One of the most striking demographic facts of this world is the rapid and progressive increase in the number of older people. It is an unprecedented phenomenon that is affecting nearly all countries of the world<sup>1</sup>. One of the major features of demographic transition in the world has been a considerable increase in both the absolute and relative numbers of elderly people. This has been especially true in the case of developing countries like India, where aging is occurring more rapidly due to the decline in fertility rates combined by increase in life expectancy of people achieved through medical advancements. About 60 percent of the elderly live in the developing world, and this will rise to 70 percent by 2010. Further, the older population itself is aging, with the oldest old being more than 10 percent of the world's elderly<sup>2</sup>. The 'aged' essentially comprises that group of the population which as per the United Nations cut-off is 60 years and above.

The ageing trend is the consequence of *demographic transition*, in which, population progresses from pre-modern regimes, where both mortality and fertility are high, to post-modern regimes, where both mortality and fertility are low. The cause of this transition can be attributed to the control of epidemics and contagious diseases, which eventually contribute to lower mortality, as well as the processes of modernization, which leads to lower levels of fertility. The timing of the demographic transition has varied in different regions of the world, but a global trend towards higher life expectancy, lower fertility, and the resulting ageing of population distribution is evident everywhere<sup>3</sup>. The population aged 60 or over is growing at a faster rate than the total population in almost all world regions. In 1950, there were 205 million persons aged 60 or over in the world. By 2012, the number of older persons had increased to almost 810 million. It is projected to be more than double by 2050 reaching 2 billion<sup>4</sup>.

Elderly population has emerged as the grand challenge of this century for policymakers, care providers and society as a whole. A review of India's population Census is insightful: in 1961 the population of the elderly was placed at 24 million it increased exponentially to 43 million in 1981; 57 million in 1999 and about 77 million in 2001. The proportion of the elderly in the total population also rose from 5.63 per cent in 1961 to 6.58 per cent in 1991 and 7.5 per cent in 2001. India has thus joined the rank of greying nations with over seven per cent of its population in the age 60+ year segment. A United Nations report has predicted that India will have 198 million elderly persons in 2030 and 326 million in 2050.

In developing countries like India, old age heralds a period of deprivation for those who lack access to social and economic resources including access to education, nutrition and health care. Asia has the largest number of elderly people in the world with China, India and Japan accounting for a large share (**Chakraborti, 2004**). The rise in the proportion of the ageing population represents one of the most significant demographic shifts in history. The number of elderly trebled over the last 50 years and an encore is expected in the next 50 years. As a proportion of the total world population, the number of elderly will double in the next 50 years. This demographic change is fast turning the hair of policymakers prematurely grey throughout the world especially in developing countries where the growth of the aged population is happening at a more rapid pace<sup>5</sup>. During demographic transition, population growth depends on declining mortality and constant fertility. Population ageing is dependent on the intensity and speed of fertility decline. In India, the sequence of high birth rates was coupled with high death rates until 1951. This kept the proportion of person aged 60 or more years of age at a low level. Since 1961, a sharp decline in death rates accompanied by an increasing expectation of life at age 60 set in motion the process of ageing in the country.

### **1.2: Demographic Causes of Population Aging**

One of the biggest social transformations of the late 20th and early 21st century is population ageing. The world experienced only a modest increase in the share of people aged 60 and above in the past six decades, from 8 per cent to 10 per cent. But in the next four decades, this group is expected to be raised to 22 per cent of the total population a jump from 800 million to 2 billion people<sup>6</sup>.

It is evident from demographic literature that the stable population theory is a useful analytic tool for demonstrating effects of fertility and mortality rates upon the age structure of a population. As argued by **Lotka (1922) and Dublin & Lotka (1925)**, any population closed to migration and experiencing unchanging age-specific fertility and mortality rates over time eventually achieves a fixed age distribution and a constant rate of growth. A population with unchanging vital rates and a fixed age distribution is called a stable population. By comparing several stable populations with differing fertility and mortality schedules one can see how the age structure of a population changes as it moves from one equilibrium state to another (**Coale, 1972**).

### **1.3: Significance of the Problem**

Globally, rapidly growing population of the elderly is putting unprecedented stress on societies because new systems of financial support, social support and health care are required to be developed and implemented. In India, increasing life expectancy and declining fertility rate are two major driving forces of population ageing. The core theme of the study is to present the findings concerning the substantial increase in the labour force engagement of men and women 60 years or above as well as the reasons for its occurrence. In addition to this, health status of elderly workers has also been scrutinized. In India, the elderly account for 7 per cent of the total population of which two-thirds live in villages and nearly half of them in poor conditions. Millions of people in India continue to work even in old age. They have no choice but to work until ill health or frailty forces them to stop working. This is because limited financial security is one of the major problems of the Indian elderly. If work participation among the elderly is considered as an index of poverty (if you work when you are old, you only do so because you need to), then in India approximately 60 per cent continue to work beyond 60 years whereas in some developed nations only 2 per cent over 65 are part of the labour force. In India, even in the above-80 group, about 20 per cent are forced to work<sup>7</sup>. It was argued that, the elderly workforce constituted about 7 per cent of the total workforce in India in 2004-05; and among the elderly population 38 per cent were working. Over 70 per cent of the elderly workforce were males; and are largely in rural areas (84 per cent). Among the rural male elderly workforce, 77 per cent were self-employed and this percentage increased with age<sup>8</sup>. In developing countries, a large proportion of people continue

working in old age, due to the lack of social security systems. With the global financial crisis this is also becoming more common in developed countries. According to the ILO, globally 47 and 23.8 per cent respectively, of elderly men and women are participating in the workforce (**UNFPA & Help Age International, 2012**) particularly in the informal sector work which tends to be characterised by long working hours and very low wages. Today, two-thirds of the world's older people live in low and middle-income countries, and this proportion is set to rise to 80 per cent by 2050<sup>9</sup>. In the agricultural sector and in the rural and urban informal sectors of these countries, there is no set age at which people retire and stop working. Both men and women continue to work as long as they are physically able although the type of work they do may change and they may work with diminished capacity (**Dandekar, 1996**). In this process, elderly people in rural areas, where poverty levels tend to be higher are more likely to be in poor health after a lifetime of hard physical labour doing agricultural work.

Elderly in rural areas are more likely to have lower incomes than elderly workers in urban areas. In light of the above discussion, Government effort is also noticeable e.g. Ministry of Social Justice and Empowerment (MSJE, GOI) 1999, in its revised document on the National Policy for Older Persons (NPOP) has relied on the figure of 33 percent of the general population below poverty line and has concluded that one-third of the population in 60 plus age group is also below that level. Consequently, insufficient income and social security are major concerns among elderly in India. In this regard, due to economic compulsions a large percentage of the aged have to engage themselves in economically gainful work that is beyond their physical capacity (**Raju, 2002**). Moreover, old age is generally associated with multi-dimensional difficulties. The problem which is associated with age and the care of elderly are not exclusively the problem of social and economic ramifications rather they include health care utilisation and health care financing. Demographically speaking, one of the major challenges in India is that the large percentage of the elderly is below poverty line. The situation of those who have been engaged in the unorganized sector, such as craftsmen, small traders, marginal farmers, landless labourers and daily-wage-workers is very precarious as they have little to fall back upon<sup>10</sup>. Therefore, the effect of living alone on the health and well-being of the elderly people is of grave societal concern<sup>11</sup>. Existence of mass poverty,

growing trends towards nuclear family, greater life expectancy and deterioration of cultural values and norms are engendering stumbling block on the part of the aged to cope with the environment. As a result, the aged population India is accompanied by a series of problems in their life. The speed of population ageing and the absolute size of the elderly population among countries with low levels of economic development hence pose great challenges. Another observation made by the experts is, rapid urbanisation and industrialisation, which increase the flow of young population to urban areas has the undesirable consequence of the separation of the elderly in the rural areas without sufficient support. Every fifth elderly men in India continue to work in old age because of poverty and insufficient income security (**Rajan, 2008**). In the light of above facts, lack of socio-economic resources is a major problem for elderly in India.

#### **1.4: Specific Problem**

The population dynamics fueling India's changing age structure are rooted in the combined impact of increasing life expectancy and declining fertility. Furthermore, life expectancy at birth in India climbed from 37 years in 1950 to 65 years in 2011 reflecting decline in infant mortality and survival at older ages in response to public health improvements (**Today's Research on Aging, 2012**). However, the share of India's population aged 60 and older is projected to climb from 8 percent in 2010 to 19 per cent in 2050 (**United Nations, 2011**).

Elderly population is a growing concern in almost all the developing countries and India is no exception to this. The rate of growth of the elderly population in developing countries is much higher than that of developed countries. Moreover, due to inadequate support system and poverty, ageing transition in the developing countries is characterised by deprived health and socio-economic condition. Therefore, health status is an important factor that has a significant impact on the quality of life of an elderly population<sup>12</sup>. Some studies have highlighted that, lack of medical facilities especially in the rural areas and poor economic conditions might be responsible for the low health status of the rural elderly population in these countries<sup>13</sup>. Demographic statistics indicates that, India has one of the fastest growing populations of elderly persons in the world (**Rajan et al., 1999; Sengupta & Agree 2003**). In the early phase of pre-industrial agrarian Indian society

most of the elderly people remained financially independent throughout their life. The traditional social and cultural values did not permit the grown up children leave their parents financially dependent on others and be physically insecure.

There are a host of factors affecting work force participation among the elderly. In this regard, **Ogawa *et al.*, 1994, Zabala *et al.*, 1980 & Boskin, 1977**, shows that the health status of the aged plays an important role in determining whether or not they can participate in the work force. The size of elderly workers in agriculture has been on the increase over time almost 80 per cent of the elderly workers in India worked in the agricultural sector. While about 62 per cent of the elderly males worked as cultivators, around 70 per cent of the female elderly worked as agricultural labourers<sup>14</sup>. However, **Help Age International (2012)** report indicates that elderly workers are likely to be more insecure and they face age discrimination when seeking work. Due to deteriorated health, they are more likely to be offered lower rates of pay. With weak bargaining powers they have greater difficulty in obtaining credit. Majority of elderly population in India are participating in the labour force due to economic compulsion, chiefly driven by poverty and lack of social security. **Census of India (2001)** stated that about one-third of the elderly males continue to work even beyond 80 years of age.

Poverty, income insecurity, inadequate asset holdings, illiteracy, poor health status and social backwardness among the elderly are all closely inter-related. To illustrate, it has been observed that financial insecurity is the most commonly reported reason for not seeking treatment in rural areas. **Mahadevan *et al.* (1992)** have reported that the aged in India are the neglected population in the changing context of the nuclearisation of families. The predominantly rural character of the population coupled with insufficient opportunities for employment, compels people to prolong their working lives as long as is physically possible. Moreover, in the agricultural sector as well as the rural and urban informal sectors, there is no set age at which people retire and stop working **Rajan & Mishra (1999)** have stated that about 40 per cent of elderly men are cultivators, while 65 per cent of older women are agricultural labourers, with widows predominating. Further, only 16.5 per cent of rural elders get any kind of pension or retirement benefit, compared to 48.2 per cent in urban areas. Therefore, the Human Development Report (2010) pointed out that more than 72 per cent of rural elderly men (60–69) are in the labour force

as about 40 per cent of rural elderly women (60–69). In rural areas, salaried work among elderly men and women is almost negligible<sup>15</sup>. Another fact to highlight is that the relationship between compulsion to work and educational level, wealth index, and caste composition clearly indicates that the poor, illiterate and socially backward sections of the population work more due to economic and other compulsions than by choice<sup>16</sup>. It has already been pointed out in the earlier debate; improvement in the health status among elderly may also help to increase the labour supply of elderly people before and after the legal retirement age. But the elderly are working primarily in the unorganised sector, where both productivity and pay are low. The significant level of workforce participation by elderly in India is an indication of economic compulsion. This is coupled with a significant level of poor health among the elderly as exhibited by various indicators of physical and mental well-being. The study of aging population in relation to the working-age population thus has significant implications for the society as a whole. Economic and social impact of this phenomenon is both an opportunity and a challenge to the society. If on one hand, elderly population constitutes a valuable and important component of a society's human resources on the other hand, the provision of assistance to the elderly people with long run support is becoming a great challenge to the society.

From the previous discussion, it can be clearly pointed out that the majority of elderly in India located particularly in rural areas, experience enormous poverty. Since large proportions of the population are active in the informal or unorganized sector, neither the concept nor the implementation of retirement has much currency. In rural areas, large number of casual workers is working without any security in old-age. Outside the organized sector, there are no retirement or old age benefits available to any group of workers. For self-employed workers with small establishments or shops or contractors, there is no retirement age and they continue to work as long as their physical conditions permit. Thus in the light of the above discussion, this study executes the expensive and pragmatic distinctive characteristics of elderly workers population in Bulandshahr district. First it focuses on the factors which prompt them to participate in the labour markets including the rural non-farm sector which is acquiring importance nowadays in the rural economy; particularly in Uttar Pradesh, where it is recognised that the agricultural sector alone cannot absorb the expanding rural labour force. Second, it

investigates whether their participation in the labour market or the nature of activity they pursue has a relationship with their health and which particular kind of health distraction they are more prone to.

### 1.5: Distribution of Population by Age-Structure in India: 1991-2011

India is the second most populous country in the world after China with a population of 121.6 million as on March 2011.

<b>(Table:1.1)</b>			
<b>Distribution of Population by Age-Structure in India: 1991-2011</b>			
<b>Age Group (Years)</b>	<b>1991*</b>	<b>2001**</b>	<b>2011**</b>
<b>0-4</b>	12.2	10.7	9.3
<b>5-9</b>	13.3	12.5	10.5
<b>10-14</b>	11.8	12.1	11.0
<b>15-59</b>	55.4	56.9	60.3
<b>60+</b>	6.8	7.4	8.6
*Excluding Jammu & Kashmir			
** Excluding Mao Maram, Pao Mata and Purul Sub Divisions of Senapati district of Manipur			
<b>Source:</b> Calculations based on Census of India, 1991-2011			

Table 1.1 depicts the trend in the age structure of the population of India for the periods 1991-2011. In this context, for the age group 0-4, there was about 12.2 per cent of the population which decreased to 10.7 per cent in 2001 and further declined to 9.3 percent in 2011. In case of 5-9 age groups, there was about 13.3 per cent of the population in 1991 which dipped to 12.1 per cent in 2001 and further to 10.5 per cent in 2011. The table indicates that, in 1991, about 11.8 per cent population was recorded in the 10-14 age groups which slightly increased during 2001 Census but again decreased during 2011 Census. In case of the age group of 15-59, around 55.4 per cent of the total population was recorded in 1991, followed by 56.9 per cent in 2001 and, 60.3 per cent during 2011 Census enumeration. This age group is also known as economically productive age group. A large and young population in the working age group means a great demographic advantage for India and may be termed as a '*demographic dividend*.' There had been very slight differences in the percentage of sixty plus population till 1991 and elderly proportion largely hovered around six percent. Since 1991, there had been a continuous rise in the proportion of the elderly population. In 1991, about 6.8 per cent India's population was found 60 years and above. Table 1.1 highlights the fact that, this



proportion continued to increase in next two successive rounds of the Census of India. The major inference that can be drawn from the above table is that the change in India's age structure has been rather gradual till recently. The spatial pattern of the change in the age-sex structure is also at variance.

### **1.6: Distribution of Population by Age-Structure in Uttar Pradesh and Bulandshahr District: 1991-2011**

This section focuses on the age-structure of the population in Uttar Pradesh as a whole and, Bulandshahr district in particular.

<b>(Table:1.2)</b>			
<b>Distribution of Population by Age-Structure in Uttar Pradesh and Bulandshahr District: 1991-2011</b>			
<b>Age Group (Years)</b>	<b>1991</b>	<b>2001</b>	<b>2011</b>
0-4	13.7	12.5	10.2
5-9	14.4	15.0	12.5
10-14	12.2	13.4	12.9
15-59	52.1	51.7	55.8
60+	6.8	7.0	7.7
<b>Percentage of Population in Selected Age Groups Bulandshahr District: 1991-2011</b>			
0-4	14.2	12.5	10.6
5-9	14.3	14.2	11.9
10-14	12.9	14.2	12.7
15-59	50.6	51.2	56.5
60+	7.0	7.2	7.4
<b>Source:</b> Calculations based on Census of India, 1991-2011			

The data reveals that Uttar Pradesh population in the 0-14 age group has remained in the range of 13.7 to 10.2 per cent in the period 1991-2011. This proportion was slightly higher in Bulandshahr district ranging from 14.2 per cent to about 10.6 per cent in the same period. The figures in the 15-59 age group, shows that in Uttar Pradesh around 52.1 per cent was economically active in 1991, with a slight decrease in 2001 which increased again to 55.8 per cent in 2011. Quite similar was the district-level scenario of Bulandshahr where about 50.6 per cent population was counted in the 15-59 age group in 1991 with a gradual increase to 56.5 per cent in 2011. In Uttar Pradesh proportion of persons aged 60 years and above, increased from 6.8 percent in 1991 to 7.7 percent in 2011 while the district level data indicates that the proportion of older persons increased from 7.0 percent in 1991 to 7.4 percent in 2011 for Bulandshahr. Moreover, another

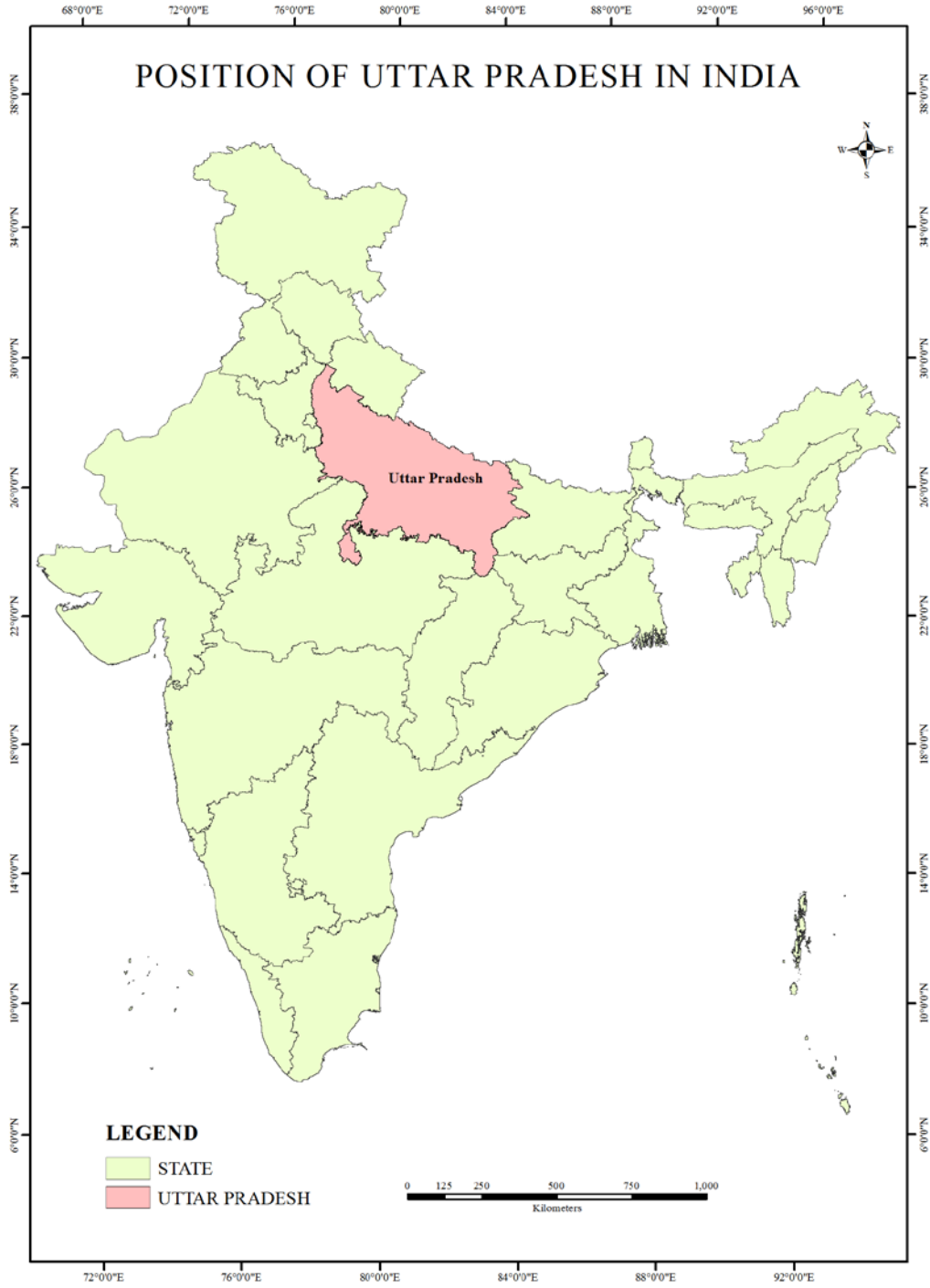
noteworthy point that has been observed from the above table is that, India's elderly population is increasing and it will increase at steady rate. The projection statistics point that, both demographers and policy makers will be constrained by this steady increase as to how to combat with the problem.

### **1.7: Rationale for Selection of the Study Area**

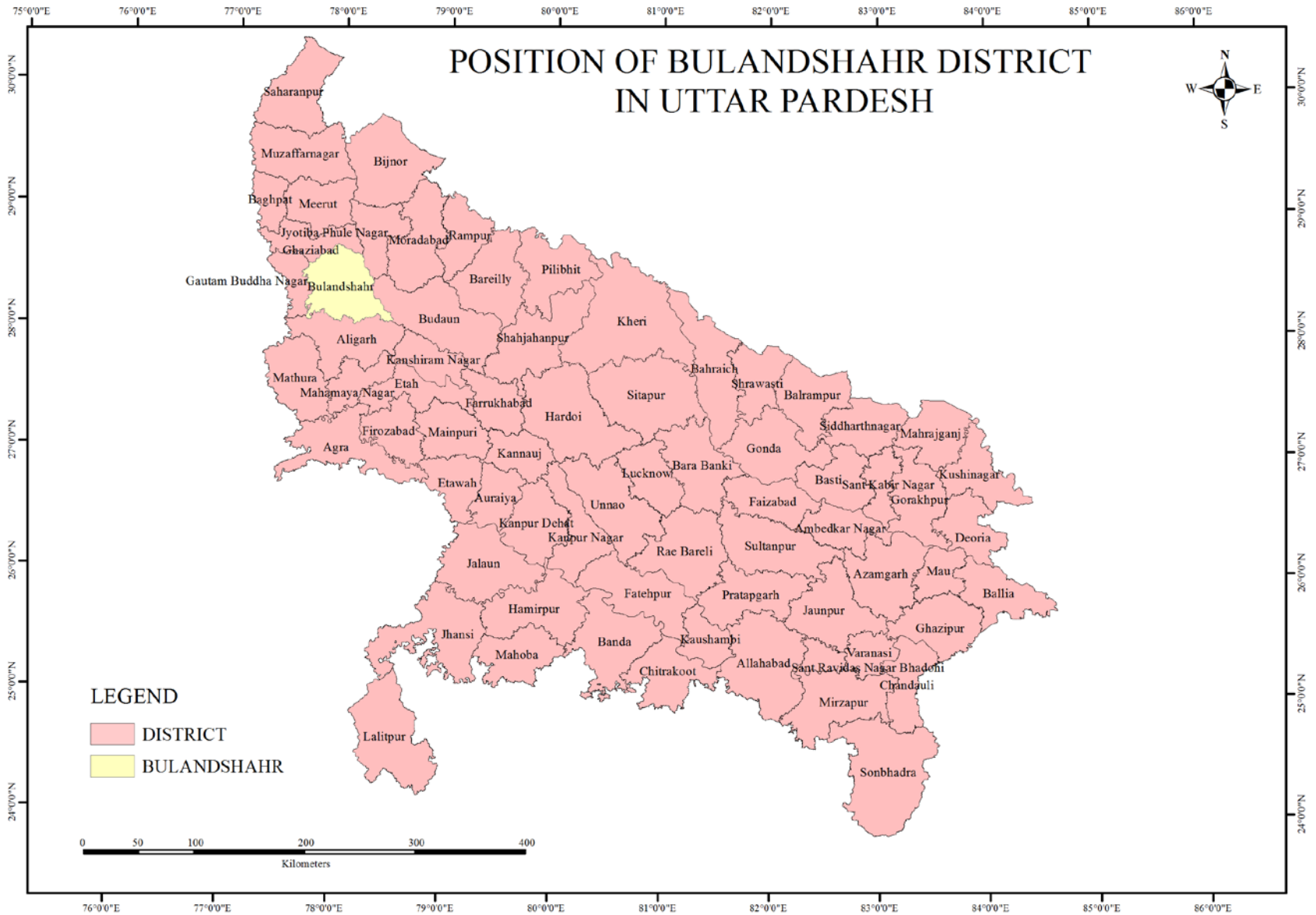
Uttar Pradesh may be described as one of the populous states of the country located in fertile land of Ganga covering 2.41 lakh square km. The state has a total 71 districts according to Census of India, 2011 and divided into four socio-cultural regions viz. Western, Central, Southern and Eastern regions. The population of Uttar Pradesh is 199,581,477 (**Census of India, 2011**) spread over an area of 243,238 km sq. Although the proportion of Uttar Pradesh's elderly is small compared with that of other states of India, but the figure is very large in terms of absolute numbers. In absolute numbers of elderly population, Uttar Pradesh will continue to be among the leading states in India. The state like Kerala where the elderly population is highest in proportion has remained the focal point of study of the elderly population in India. The state of Kerala having 12.6 percent of the elderly population in 2011 is expected to have 18.3 percent with an absolute number of 6.8 million elderly by the year 2026. On the other hand a state like Uttar Pradesh that is presently having only 7.7 percent will have around 10.26 percent elderly population in 2026. Though the proportion of the elderly population in Uttar Pradesh is smaller than Kerala's, the absolute number of elderly in Uttar Pradesh is expected to be thrice the size of Kerala. In the last couple of decades of Uttar Pradesh has witnessed very high rural out migration. This has not only caused physical separation of senior and younger generations and change in the household structure, but also increase in the likelihood of the elderly living alone without familial care and forcing them to work in old age for basic sustenance. This justifies the selection of the state for the study. The selection of the study areas below the state level has been done on the basis of several indicators which include: demographic, socio-economic and health related indicators. As noted above, the ongoing demographic transition is driving the growth of the population aged 60 and older, contributing to the rising burden of non-communicable diseases and the challenges of health care delivery. There are plenty of studies that have

attempted to explain the situation of older persons. Therefore, this study examines the health status of elderly workers in rural settings.

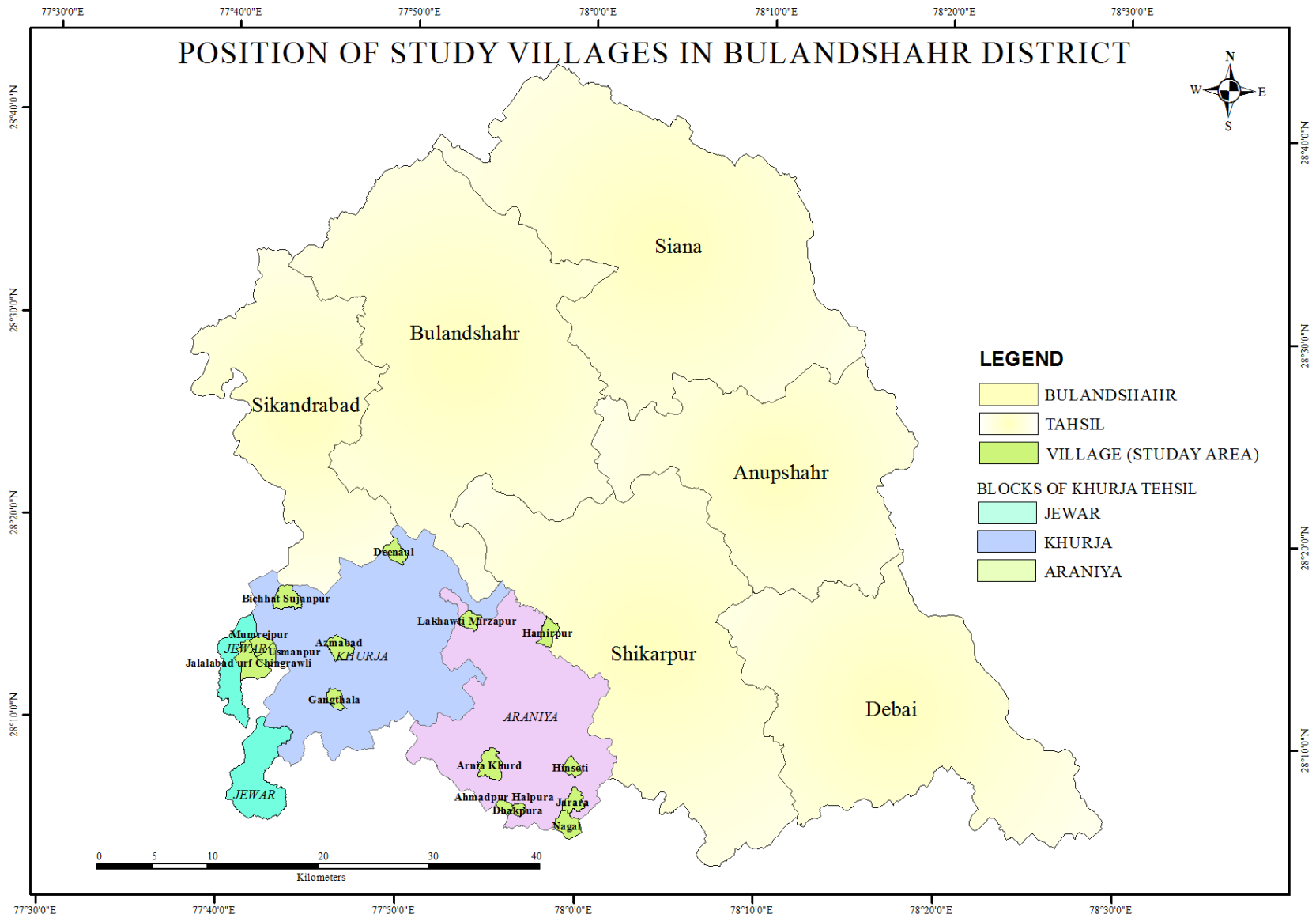
(Map: 1.1)



(Map: 1.2)



(Map: 1.3)



### **1.7.1: Reasons for Selecting Bulandshahr District**

The sample area chosen for the study is Bulandshahr district of Uttar Pradesh. Three blocks namely Araniya-Khurd, Jewar and Khurja have been selected from the Bulandshahr District on the basis of their levels of socio-economic development.

#### **Rationale Specification in Universal**

1. District Bulandshahr ranks 22nd in terms of population in the state.
2. The percentage share of urban population in the district is 24.8 percent as against 22.3 percent of the population in urban areas of the state.
3. The district has population density of 776 persons per sq. km. which is less than the state average 829 persons per sq. km.
4. Bulandshahr district ranks 36th in terms of sex ratio (896) which is lower than the state average of 912 females per thousand males.
5. Bulandshahr district ranks 36th in literacy with 68.9 percent, which is higher than the state average of 67.7 percent.
6. There are only 68 uninhabited villages out of total 1,242 villages in the district
7. Decadal growth rate of the district is 16.3 percent which is lower than the state average of 20.2 percent.
8. Bulandshahr tehsil has the highest number of inhabited villages (239) while Anupshahr tehsil has the lowest number (125) of inhabited villages.
9. The district has 21 towns out of which 17 are statutory and 4 are Census towns. Neither any statutory town has been merged nor declassified after 2001 census. One town Kakod NP has been transferred from tehsil Jewar of Gautam Buddha Nagar to tahsil Sikandrabad of District Bulandshahr after 2001 Census.
10. There are 587,529 households in the district accounting for 1.8 percent of the total households in the state. The average size of households in the district is 5.9 persons.

#### **Rationale Specification in Subject**

Bulandshahr district was chosen as the study area because:

- The proportion of elderly population in Bulandshahr was higher compared to the state average in 2001.

- Work participation rate of elderly population in Bulandshahr district is the highest in the western part of the state.
- The proportion of SC/ST elderly population is also high compared to state figure.
- Dependency ratio among elderly is recorded to be highest in Bulandshahr district among other districts of western Uttar Pradesh.
- Higher proportion of out-migration of productive age groups are found in Kanpur (C) (18.99) followed by Etawah (17.86), Farrukhabad (14.44), Baghpat (12.50) and Bulandshahr (12.15), (in descending order )
- There is a dearth of literature on health status and work force participation of the elderly in the state and that too particularly for rural areas.

<b>(Table: 1.3)</b>			
<b>Result of Composite Index Ranking Method</b>			
<b>S. No</b>	<b>District Name</b>	<b>Composite Index Value</b>	<b>Rank</b>
<b>1.</b>	<b>Bulandshahr</b>	<b>11.55</b>	<b>1</b>
<b>2.</b>	Jaunpur	11.53	2
<b>3.</b>	Deoria	11.30	3
<b>4.</b>	Pratapgarh	11.19	4
<b>5.</b>	Azamgarh	11.17	5
<b>6.</b>	Ghazipur	11.13	6
<b>7.</b>	Maharajganj	11.09	7
<b>8.</b>	Ballia	11.09	8
<b>9.</b>	Sultanpur	11.03	9
<b>10.</b>	Mau	11.02	10

**Indicators:** Old Age Dependency Ratio, Proportion of Scheduled Caste Elderly, Proportion of Scheduled Tribe Elderly, Work Participation Rate of Elderly, Sex Ratio of Aged, Percentage of Married Aged, Percentage of Literacy Aged

**Source:** Calculations based on Census of India, 2001

For administrative convenience, the district has been divided into seven tehsils which are further divided into 19 blocks (Table 1.4)

<b>(Table:1.4)</b>			
<b>Distribution of Tehsil, Vikas Khand and Villages</b>			
<b>S. No.</b>	<b>Tehsil</b>	<b>Vikas Khand</b>	<b>No. of Villages</b>
<b>1.</b>	Sikandrabad	Sikandrabad	140
<b>2.</b>	Bulandshahr	Bhawan Bahadur Nagar (09), Agauta (58), Gulaothi (41), Lakhaothi (61), Bulandshahr (77)	246
<b>3.</b>	Siana	Bhawan Bahadur Nagar, part (32), Siana (34), Unchagaon (72), Jahangirabad (45),	183
<b>4.</b>	Anupshahr	Jahangirabad Part (33), Anupshahr (103)	136
<b>5.</b>	Debai	Danpur (76), Debai (85)	161
<b>6.</b>	Shikarpur	Shikarpur (91), Pahasu (91)	182
<b>7.</b>	Khurja	Jewar (18), Khurja (86), Araniya (87)	191
<b>Total</b>	<b>7</b>	<b>19</b>	<b>1239</b>
*Tehsil Headquarters is also the Vikas Khand Headquarters			
<b>Source:</b> Uttar Pradesh Atlas, Census of India, 2011			

### **1.7.2: Tehsil Wise Criteria**

1. Khurja is an administrative unit of Bulandshahr District.
2. In Bulandshahr District, Khurja is considered as a major industrial unit which offers the elderly the possibility to engage in rural non-farm sectors.
3. Khurja has one of the famous sites for pottery industries in Western Uttar Pradesh.
4. Khurja Tehsil has largest shares of schedule caste population.
5. In Khurja Tehsil, female literacy rate has been recorded second highest among the rural areas of Bulandshahr district.
6. In Khurja Tehsil, the distribution of main workers male is observed highest in urban areas of district.
7. Another Census result demonstrate that, lowest proportion of marginal workers has been found in Khurja among all tehsils
8. It has also been displayed that, highest proportion of other workers has been recorded in urban areas of khurja tehsil.

Subsequent to the selection of districts, it was necessary to choose villages for the present analysis. However, due to unavailability of village level data for the Census year, 2011,



the analysis could not be done for the same year. Therefore, village level data for the Census year 2001 was taken to carry out village level analyses. The village level data is an affluent source of information on necessary socio-economic development of the region. 13 indicators were selected and with the help of PCA technique, factor scores were obtained. A method of rescaling was applied on basis of which development index was created. The villages were further divided into high, medium and low categories. Furthermore, various variables that affect the socio-economic status and development of village were chosen. For further proceedings, the selections of CD blocks have been chosen on the basis of Census Atlas 2011.

### **1.7.3: Household Criteria**

As mentioned earlier, household has been taken here as the unit of investigation. Moreover, within the households elderly respondents were the target group of this study. After house-listing, 60 households having elderly members were selected from each village and thereafter, every second household was chosen for interview. Survey households were only those which had at least one member above 60 years of age.

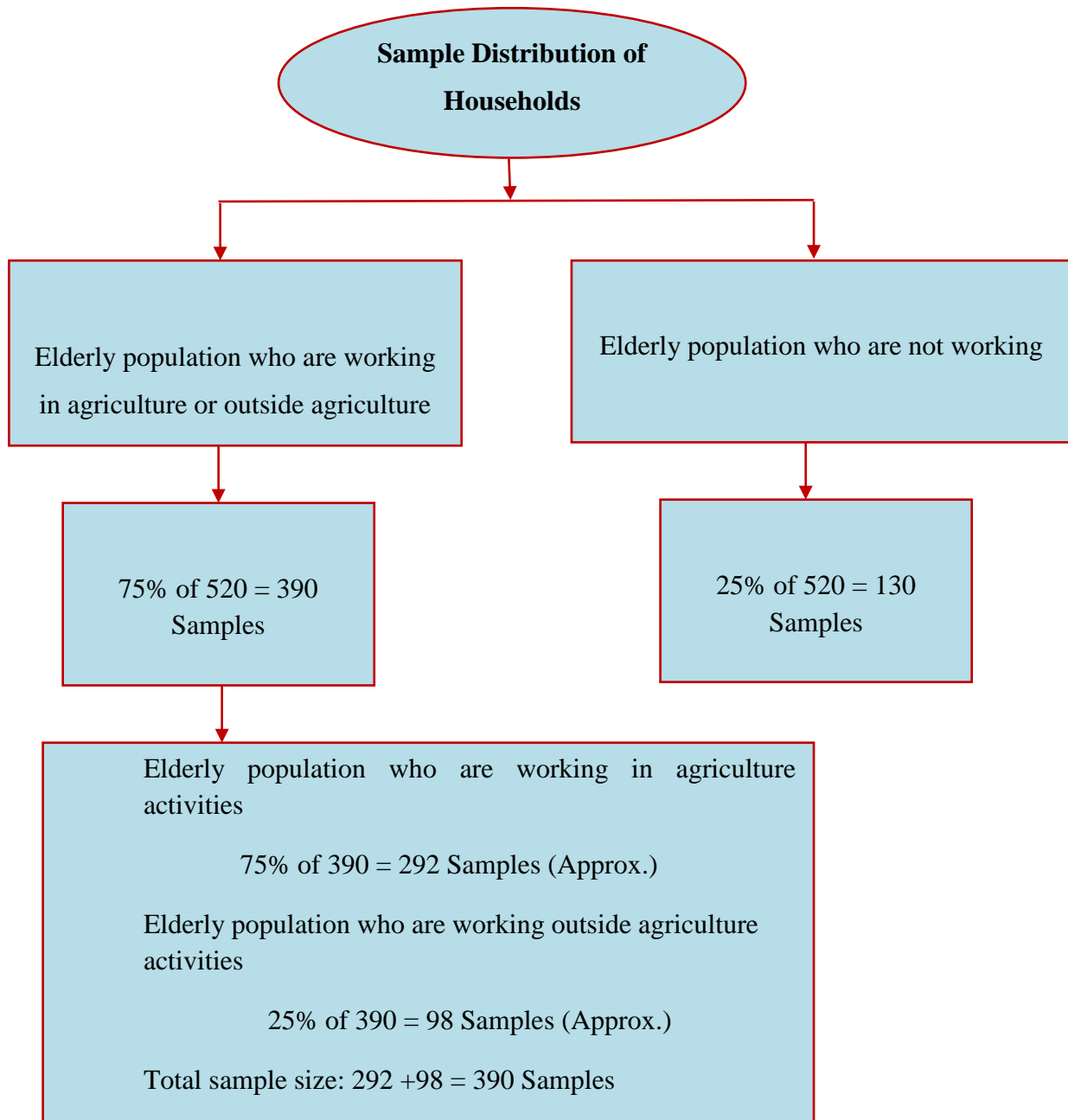
Total number of villages =15

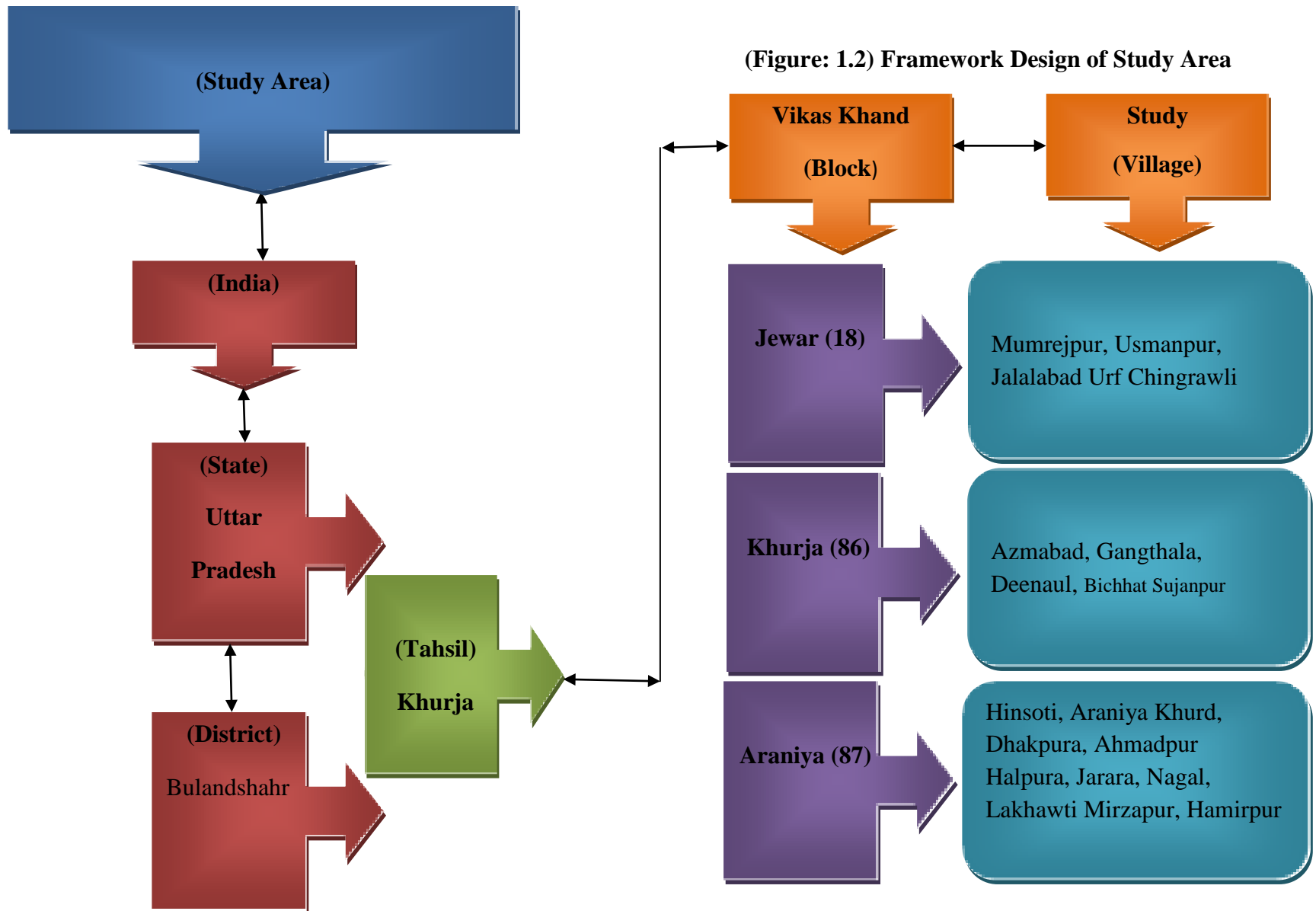
Total sample size including all household villages =15\*35=525

Finally, 520 eligible elderly were selected for survey work.

### **1.8: Sample Distribution of Households**

(Figure: 1.1) Sample Distribution of Households





## Endnotes

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<sup>1</sup> Ageing in the Twenty-First Century (2012). A Celebration and A Challenge: United Nations Population Fund (UNFPA) and Help Age International.

<sup>2</sup> Gupta, I., & Sankar, D. (2003). Health of the Elderly in India: A Multivariate Analysis. *The Journal of Health and Population in Developing Countries*, ISSN 1095-8940.

<sup>3</sup> Chawla, M., Betcherman, G., & Banerji, A. (2007). *From red to gray: the "third transition" of aging populations in Eastern Europe and the former Soviet Union*. World Bank Publications.

<sup>4</sup> Ageing in the Twenty-First Century 2012: A Celebration and A Challenge: United Nations Population Fund (UNFPA) and Help Age International.

<sup>5</sup> Kumar, A.K. (2004). The Old and its Ignored. *Frontline*. Volume 21-Issues 19, September, 11-24

<sup>6</sup> Tripathi, T. (2014). Unhealthy, Insecure, and Dependent Elders. *Economic and Political Weekly*, XLIX, 29, 1-7.

<sup>7</sup> Krishnaswamy, et al., (2008). Ageing in India. *Springer Science and Business Media*, 32: 9, 258–268.

<sup>8</sup> Selvaraj, S., Karan, A., & Madheswaran, S. (2011). *Elderly Workforce Participation, Wage Differentials and Contribution to Household Income*. New Delhi: BKPAI Working Paper No. 4, United Nations Population Fund (UNFPA).

<sup>9</sup> Help Age International (2010). *Forgotten Workforce: Older People and their Right to Decent Work*. Help Age International, London

<sup>10</sup> Kaulagekar, A. (2007). Ageing and Social Support: A Study of Low-income Urban Elderly in Pune. *Indian Anthropologist*, 37, (2), 45-53.

<sup>11</sup> Agrawal, S. (2012). Effect of Living Arrangement on the Health Status of Elderly in India. *Asian Population Studies*, 8(1), 87-101.

<sup>12</sup> Joshi, k., & Avasthi, A. (2003). Morbidity Profile and its Relationship with Disability and Psychological Distress among Elderly People in Northern India. *International Journal of Epidemiology*, 32, 978–987.

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<sup>13</sup> Venkateswarlu, V., Iyer, R. S. R., & Rao, M. K. (2003). Health Status of the Rural Aged in Andhra Pradesh: a sociological perspective. *Research and Development Journal*, 9(2).

<sup>14</sup> Rajan, S.I., & Mishra, U.S. (1999). India's Elderly Burden or Challenge. New Delhi: Sage Publication, 30-32.

<sup>15</sup> Human Development (2010). Challenges for a Society Transition. New Delhi: Oxford University Press.

<sup>16</sup> Alam, et al., (2012). *Report on the Status of Elderly in Select States of India*. New Delhi: BKPAI, United Nations Population Fund (India).



*Chapter: Two*

*Research Amplification, Methodological  
Aspects and Data Base Surveillances*

## **Chapter: 2**

### **Research Amplification, Methodological Aspects and Data Base Surveillances**

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#### **Overview**

*This research work is concerned with the health issues of elderly workers in Bulandshahr district. Through this study an attempt has been made to trace the development of ageing as a field of research and the trends over time emphasising both theoretical and methodological aspects. First session of the literature survey is an introduction where definitions of various terminologies are presented in order to understand the concept and genesis of the present study. Second session of the chapter presents an in-depth literature review on the elderly population at global, national and state level with special emphasis on rural parts of the country. Third session presents the background characteristics of elderly population such as demographic, socio-economic, utilisation of health care services, emerging issue and health challenges of elderly workers and their social security initiatives that are presented in detail. In the last session, a detailed investigation on inter-linkages between work force participation and health care utilisation of elderly population has been presented. Core of the present chapter is to address the methodological and data base verification for both qualitative and quantitative aspects of this thesis.*

#### **2.1: Introduction**

Geographically, India is a vast country with amazing cultural diversity and remarkable demographic heterogeneity. It is the second most populous country in the world with over 1.21 billion people in 2011, more than 70 per cent of where live in rural areas<sup>1</sup>. Fertility, mortality and migration are the three components causing population change in a defined area or country<sup>2</sup>. Aging of population means that the proportion of persons in older age groups is increasing. The process of aging of population first started in the developed countries and has become now a worldwide phenomenon<sup>3</sup>. Population aging is a global

issue that is affecting almost every region around the world. The process of population ageing had stated primarily as a result of declining fertility especially in developing world where high mortality conditions are ubiquitous. The twenty-first century has witnessed a new paradigm of demography with changing age structure and population ageing being persistent. “It is proceeding at a faster pace in developing countries where social protection systems are weak and institutional development work is still in progress”<sup>4</sup>. Thus, the trend of population aged 60 or over is growing at a faster rate than the total population in almost all regions of around the globe.

## **2.2: Definitions of Ageing, Elderly and Aged**

The next century will be known as an era of population ageing. Ageing can be defined as the life-long process of progressive change in biological, psychological and social structures of a person<sup>5</sup>. Ageing is a continued process and ‘the aged’ is a category. The word ‘ageing’ has been defined by researchers in different contexts. **Tyagi (1996)**, states “Ageing means the effect of age, the deterioration in physiological capabilities”. In this respect, **Baker** has defined ageing in the broadest sense “as those changes occurring in an individual, as a result of the passage of time”. According to **Stieglitz (1954)**, “Ageing is a part of living. It begins with conception and terminates with death”. Obviously, ageing is a biological process experienced by mankind at all times. But, at what age people become old in their life cycle is not clear<sup>6</sup>. The **United Nations (UN)** has set a chronological age of 60, while the World Health Organization sets this at 50 years as the beginning of old age. Definitions of old age matter because they determine not only societal expectations but also the entitlements provided by governments and others to individuals in older age<sup>7</sup>. There exists no clear cut demarcation of age upon the attainment of which a person can be called ‘old’, ‘elderly’, or ‘aged’. Nor is there a biologically determined age limit that classifies a person as elderly. The definition of ageing, aged or elderly varies from society to society. Some societies of the present world treat 45 or 50 years as marking the transition into the old age. In this addition, in Thai society old age begins at 60 years. On the other hand, Indonesia uses 60 years as a cut-off point to classify people as old. In western industrialized nations, the typical onset of old age is reckoned at 60 years. In India, one of the leading data collecting agency (Census of India), illustrate 60 years as a cut-off point to classify people as old<sup>8</sup>. Most of the official documents, including the



**UN literature**, define the aged as those 60 years and above. The retirement age, that is generally considered as a demarcation point for the aged across and within the countries is not systematic. In Germany, it is 65 years. In United States of America (USA), the retirement age of male and female is 65 and 60 years respectively. In India, the retirement age varies from 35 years (for soldiers), 55 years (for few government employee, e.g., the state government employees of Kerala and Jammu & Kashmir), 58 years ( in central and state government), 60 years (government employees including IAS, IPS, scientists and academicians) and 65 years ( for judges and professors). But the senior citizens concessions and benefits given by the Indian government are for those 65 years or above<sup>9</sup>. In the light of above discussion, in developed countries, the aged are defined as persons aged 65 and above. 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 US have even removed the concept of a fixed retirement age and permit the workers to continue to work till they are physically and mentally fit<sup>10</sup>. Among few communities in South India, especially the Brahmans of Karnataka, and Tamil Nadu, a ceremony called Shashtya-badi Purthi is observed to celebrate the 60<sup>th</sup> birthday because it is customarily treated as the second birth of an individual. For our immediate purpose ‘sixty’ years has been considered as the cutoff point. In other words, persons of 60 years and above have been considered to constitute “old persons”. However, divergent views exist regarding a particularly age at which a person can become aged. **Bhat & Dhruvarajan (2001)** in their study on ageing in India: ‘drifting intergenerational relations, challenges and options’, explain how population of India is ageing in two ways:

- Ageing as a result of slower growth at the base of the population pyramid, due to reduced fertility, and
- Ageing at the top of the population pyramid, due to reduced mortality<sup>11</sup>.

Furthermore, in rural society, people generally do not know how old they are. They are relating their age with the activities and circumstances which were take place in that particular period.

### **2.3: Theoretical Background**

The aged in India are currently the second largest population segment in the world, after China. The rise in the proportion of the ageing population represents one of the most

significant changes in history of demographic events. Under such circumstances **Sati (1996)**, has stated that Gerontology is the scientific study of ageing. It is a multidisciplinary area of investigation with three core components: biological, psychological and social. These aspects include, ageing as an individual experience; in the social context which seeks to understand the position of elderly within the society and the social consequence of ageing.

### **2.3.1: Disengagement Theory**

Central point of this theory is the assumption that both the individual and the wider society benefit from the process. Withdrawal of the individual may mean a release from social pressures like stress, productivity, competition and continued achievement. The empirical evolution of disengagement as a theory of ageing must address three core aspects viz:

- Disengagement is a lifelong process for most individuals and it takes place over a period of time rather than suddenly throughout the life course, where an individual is continually acquiring and dropping particular social roles.
- There is an implicit statement that disengagement is inevitable because death and biological decline are inevitable.
- Disengagement is seen as adaptive process for both society and the individual.

### **2.3.2: Exchange Theory**

According to **Dowd (1980)**, this approach suggests that the lives of elderly people are shaped by the relative power resources of the social factors involved. Although exchange theories recognised that old people in modern society tend to be disadvantaged because they generally possess less power resources compared to young people. This theory also recognises that there are few exceptions. Thus, although the long term 'exchange' view recognises that possession of resources also leads to power in social relationships, the short-term view appreciates the creative ability of humans to use resources in unique ways. In old age the interests once again become dominant. Age status becomes a permanent identity. There is another age stratum to move to after one has reached old age. Their concern has been the social creation of dependent status and the structural determinants of the competitive relationship between elderly and younger adults in the labour or job market. Another view presented by **Simmons (1945)** in his observation that

the ability of elderly to maintain reciprocal relationship is the key to the status of the aged. It is however only recently that **Dowd (1980)** has proposed an explicit theory of old age as social exchange which seeks to explain the decreased social interaction of later life (**Victor, 1987**).

### **2.3.3: Modernisation Theory**

For the first time this theory was proposed by **Cowgil & Homes (1972)** in a cross-cultural study that analysed the status of the aged in fourteen different societies. The major hypothesis of this theory was that the role and status of the aged varies inversely according to the degree of modernisation in a society. According to **Rostow (1978)** there are four stages of modernization theory:

- The industrial stage in which mortality and population growth decline and life expectancy increase as a result of improved health care and living conditions.
- The take-off-stage consisting of growth in a market economy and an increase in achievement orientation among the population.
- The drive to technological maturity which includes a growing industrial economy, urbanisation and mass education and,
- The high mass consumption stage, in which a wide range of consumer goods and services appear.

### **2.3.4: Development Theory**

Development theory has resulted in the categorisation of the elderly. Such an analysis attributes minimal importance to the social context in which ageing takes place and disregards completely the external constraints which influence the old-age process.

### **2.3.5: Age Stratification Theory**

Age stratification theory suggests that age is one variable which determine the particular roles an individual will play in the society. Age stratification reflects and creates differences in capacities, roles, rights and privileges related to age. Thus, the elderly, the middle age and teenagers are such as distinctive status groups. Age stratification model suggests that the link between ages of a social individual and his action in society may be either formal or informal. Furthermore, **Cockerham (1991)** argues that age stratification theory is attractive because it is logical and can analyse the interplay between macro and micro-level social processes as they relate to ageing.

### **2.3.6: Continuity Theory**

The continuity theory comparatively a recent one is based on the premise that people retain a high degree of consistency in their personalities. The theory contributes to our understanding of the ageing process by showing that the personality of people in the old age tends to be much the same as it was in the middle age. This finding is of great use in predicting the behaviour of the old people. Continuity theory is not a complete formulation in the literature on ageing. It is concerned with only one particular and limited aspect of ageing. It presents a micro rather than a macro orientation. Micro views allow us to see how individuals not the wider society construct their own behaviour towards the elderly. However, the theory highlights some changing trends regarding the status ascribed to the elderly in various societies. The intention behind these theories has been the design of interventions either to help individuals age successfully. The review of literature for this study has been dealt with under following categories. The present review is an endeavour to highlight the demographic, socio-economic and health phenomenon of graying from global perspective including both developed and developing societies. The national level review of the aged population has also been presented in this section.

### **2.4: Review of Earlier Studies**

In India, increase in aged population is going to be inevitable in near future because of falling birth rate and increase in life expectancy which is an outcome of further decline in death rate. Such phenomenon causes an increase in the ageing process and thereby, a variety of consequences would emerge<sup>12</sup>. This section deals with the existing literature on the trend in ageing at global and national level. Demographic outlook with socio-economic profile, workforce participation, social security and utilisation of health care service have shaped the profile of older persons. This review gives a clear perspective of the overall situation in ageing around the globe.

#### **2.4.1: Worldwide Trends and Prospects of Elderly Population**

During the past several decades trends in demographic ageing have been increasing in all regions of the world. Today, issues of population ageing have a serious implication in the society. These issues are being faced by the developing and developed world. Old age

denotes the last active phase of the human life cycle. During this period ageing society faces many difficulties. Over the past fifty years the mortality rates have declined in developing countries raising the average life span from around 41 years in 1950 to almost 62 years in 1990. According the WHO, this average life span is expected to reach 70 years by 2020. One of the main features of the world population in the 20th century has been a phenomenal increase in the elderly population in both the developed and developing countries<sup>13</sup>. Japan is currently the only country in the world with more than 30 per cent of its population aged 60 or over. By 2050, there will be 64 countries where older people make up more than 30 per cent of their population (**UNFPA & Help Age International, 2012**). The elderly populations over age 60 amounts to about 540 million in the world and about 330 million of them are in the developing countries. The average life expectancy in developing countries is estimated to be around 72 years in 2020. By 2020 there will be over 1000 million elderly people in the world and 710 million in the developing countries. Europe will be the oldest region in the world with 19 percent of elderly out of total population and 24 percent in 2020. By, 2020 Japan will have the most elderly with 31 percent, followed by Greece, Italy and Germany with above 28 percent and Switzerland with 27.4 percent. Regional distribution of elderly in 2020 will be 23 percent in North America, 17 percent in East Asia, 12 percent in Latin America and 10 percent in South Asia. Further, the number of the oldest old is growing much faster than that of the young old. This means that the population aged eighty and over is growing rapidly.

According to (**UNFPA & United Nations, 2012**) “in 1950, there were 205 million persons aged 60 years or over in the world. By 2012, the number of older persons increased to almost 810 million”. It is projected to reach 1 billion in less than ten years and double by 2050, reaching to 2 billion. Statistics indicates that in the near future population ageing will be a major challenge for both developed and developing regions of the world.

#### **2.4.2: Indian Trends and Prospects of Elderly Population**

In India, researches in the field of ageing and the aged started in the sixties, through most of the researches identified have been conducted after seventies, which show the growing concern for the problems of the aged during this time. One of the reasons could be

attributed to the demographic factors. The elderly population has been increasing at an alarming rate<sup>14</sup>. Consequently, rapid fertility decline combined with the increase in life expectancy has created a dramatic change in the age structure of the population. An important aspect of demographic transition in the new millennium is the rapid increase in the population of the elderly. The contemporary demographic events suggest that, Asia has the largest number of elderly in the world. In this region, both China and India has biggest populous nations. Consequently, absolute number of elderly found highest in this region. **Audinarayana**, (2011) in his work 'Rural Elderly in India: Perspective and Issues, has discussed the process of population ageing in India, 'by and large, the number of elderly population aged 60 years and above is steadily increased. Such trends is more conspicuous after 1961 onwards mainly because of the significant reduction in death rate and consequent improvement in the life expectancy'. It is however interesting to note that the share of female elderly on the whole, it appears to be higher than their male counterparts. Again has been accompanied by increasing urbanisation and migration of young people coupled with decreased cohesiveness in family bonds. Therefore, the effect the living alone on the health and well-being of the elderly people is of grave societal concern. Demographically speaking, today, there are 100 million elderly over the age 60 of years in India, that is nearly 10 per cent of the total Indian population. And this figure will rise to 315 million by 2050. Another significant aspect of Indian scenario on population ageing is a vast majority of the 80 years and above elderly is living in grief conditions. The problems of elderly in this age group are different from those of young old. It has already been pointed out in the earlier discussion that, due to economic compulsion majority of 80 years and above elderly are forced to engage in labour market. Further, as India moves along the path of demographic transition, it is expected that decline in fertility will be faster in immediate future as compared to mortality (as mortality is already at a low level) thereby intensifying the aging process.

#### **2.4.3: State level Perspective of the Aged in India**

Old age is associated with multiple vulnerabilities and disorders. Interestingly, the rise in the number of elderly people has posed a serious concern around the globe. **Krishnaswamy, et al.** (2008) in their paper "Ageing in India" have presented a detailed analysis on the elderly in Indian society elderly have face multiple social, political,

economic and cultural challenges including suboptimal financial security, decline of traditional extended family systems due to rural-urban migration of young people, and increasing costs of health care. The population of India is currently moving toward an old age structure and it is certain that there will be rapid growth in the elderly population in the near future. According to Census of India 2001, India accounts for 7.4 per cent elderly population i.e., 76 million. The highest proportion of elderly among states and union territories is found in Kerala (10.5 per cent), and lowest proportion was found in Dadra and Nagar Haveli (4.0 per cent). The percentage is higher in the southern states (Kerala, Tamil Nadu, Karnataka and Andhra Pradesh) Himachal Pradesh, Punjab, Maharashtra and Haryana than the Indian average<sup>15</sup>. During the past several decades, it is going to be inevitable that old age population is likely to increase in future because of further falling birth rate and increase in life expectancy. In India such phenomena would be more visible in the state like Kerala, Punjab, Himachal Pradesh, Tamil Nadu and Maharashtra<sup>16</sup>.

#### **2.4.4: Socio-Economic Traits of Elderly Population**

Economic status is the measure of the consumption opportunities available to an individual or household. Income is the most widely used measure of economic status<sup>17</sup>. Perhaps, economic concerns among the aged has been one of the most widely documented dominating aspects. Despite grave poverty issues, socio-economic disparities among the aged in Indian rural society has been most documented issue in recent history. Therefore, elderly in rural areas have a limited access to resources. There are many determinants that decide the socio-economic status of elderly population. **Phang**, (2011) in his paper entitled issues and challenges facing population ageing in Korea: productivity, economic growth, and old-age income security, has tried to argue that “the rapid demographic transition to an aged society is expected to have serious economic and social repercussions”.

‘In rural areas, people do not have adequate work throughout the year. Indian rural sector, most employment is in agriculture and allied activities. The economic insecurity that is likely to occur in old age, the lack of employment opportunities for eligible younger adults and the consequent downturn in economic well-being are going to exercise tremendous pressure on all age groups in India’<sup>18</sup>.

The lack of economic power in the hands of the old led to many intra- familial conflicts. The aged feel lonely, dependent and marginalised. **Moli (2004)** has opined that the marital status of elderly persons is an aspect of family structure that deeply affects their living arrangements, support system, and individual security. In rural areas, economic vulnerabilities and lack of medical facilities are chief elements that determining the quality of health condition of elderly. **Stevenson et al. (2011)** have measured the Socio-economic status as an important construct for future investigations of health and wellbeing among older people<sup>19</sup>. However, besides socio-economic determinants there are also a host of factors that influence the health condition among elderly population. Finally, this increase in the proportion of the elderly population creates new demands for social and economic support and simultaneously brings to the forefront the concerns that changing household structure will translate into a decline in the support for the elderly (**Muthukrishnaveni, 2001, p.31**).

#### **2.4.5: Workforce Participation among Elderly in India**

A majority of India's elderly workers have involved in informal sector, this sector has exemplifies by low wage rates and long working hours. Consequently, "elderly are one of the poorest population groups, in particular where there are no public pension schemes. Older people who are poor have no choice but to work; they mostly work in the informal sector, in irregular, seasonal, low-paid jobs that are often strenuous" (**UNDP, 2005**). In addition to this, labour force participation among elderly population is a vital element for investigation that influences a host of other factors shaping the quality of life of the elderly. In India, the number of older persons has been increasing rapidly during the last several decades. **Rajan, et al. (2009)** has examined the worker population ratio (WPRs) of the entire elderly population and has stated that this has increased from 38.45 per cent in 1983 to 39.15 per cent in 1987-88 and 40.82 per cent in 1999-94, but has declined to 36.63 per cent in 1999-2000. This pattern broadly applies to male as well as female elderly. While male workforce participation rates increased from 58.79 per cent in 1983 to 60.46 per cent in 1987-88 and to 62.87 per cent in 1993-94, it declined to 56.79 per cent in 1999-2000. On the other hand, while female worker population ratio (WPRs) declined marginally from 17.96 per cent in 1983 to 16.80 per cent in 1982-88; it rose to 18.27 per cent in 1993-94, but subsequently fell to 16.32 per cent in 1999-2000. One



major conclusion arising from this analysis is that compared to the previous rounds of the NSSO, in 1999-2000 there has been a marked fall in the WPRs of the elderly population, male as well as female. It is also interesting to note distinguish that workforce participation rates (WFP) rate was higher in rural areas compared to the urban areas. Conspicuously by sex, elderly male are participated more in economic or gainful activities compare to female.

“One of the major challenges in India is that the large percentage of the elderly is below the poverty line. Similarly, those who have been engaged in the unorganized sector, such as craftsmen, small traders, marginal farmers, landless labourers and daily-wage-workers”<sup>20</sup>. Various study suggest that it is common that in rural areas and in most of the unorganised sectors of the urban economy, elderly continue to work till they are totally unable to do so; there is insufficient official documentation of the workforce in the 60+ age group. 39 per cent of those above 60 years were counted as workers. In view of this, majority of the working elderly population are found in the rural areas. A “vast majority of the elderly workers are found to be in agriculture and related activities mainly because of the absence of any age restriction for entry or withdrawal”<sup>21</sup>. **Alam & Mitra (2012)** in their paper ‘*Labour Market Vulnerabilities and Health Outcomes: Older Workers in India*’, have attempted to explain that elderly people do not have enough savings from their past income to meet their requirements in the old age. On the other hand, in most of the low income households the relatively young workers are not able to earn enough to support themselves and their old parents. This in turn often compels the elderly people to participate in the labour market at an age when they should have been actually seeking retirement and rest. But for the elderly people with low potential earnings labour market participation may result in increased vulnerability as health factors become important later on. Yet another important dimension of the work participation rate (WPRs) of the elderly consists in rural-urban differences. Rural workforce participation rates are much higher than then corresponding urban rates, the difference ranging from about 13 to 20 per cent point during different NSSO rounds<sup>22</sup>.

#### **2.4.6: Utilisation of Health Care Services and Emerging Challenges among the Elderly Population**

This section focuses mostly on the utilization of health care services, financing for health care, health insurance and emerging challenges for the elderly population. It is interesting to note that, unprecedented decline in birth and death with increasing life expectancy during the past five decades have huge dramatically effect on the population structure. In the wake of rapid demographic transition unmatched with the developmental transition, the developing countries will have “old” demographic profiles at much lower levels of per capita income. On the other hand, demand for health services will increase in the wake of increasing number of elderly as health problems are common among the old<sup>23</sup>.

#### **2.4.6.1: Utilisation of Health Care Services**

‘Generally, health status of the persons is closely associated with their age; especially this is true in the case of elderly persons among whom current age and disease and synonymous. Such situation mainly arises because of weakening in the functions of human organs with age and thereby, such elderly would fall prey to one or the other diseases’ (Audinarayana, 2012, p. 157). Moreover, “utilisation of healthcare services among the elderly is often considered an important process indicator of healthcare systems. However, there are limited studies on the inequality in healthcare utilisation at the macro level in the Indian context and few have looked into the dynamics of inequality”<sup>24</sup>. It has been further argued that the “majority of the poor households, especially the rural ones, reside in remote regions where neither government facilities nor private medical practitioners are available. They have to depend on poor quality services provided by local, often unqualified, practitioners and faith healers”<sup>25</sup>. An important purpose of the study is to find out whether elderly workers have benefited by quality of health care services. In view of this, old-age is period of multiple health vulnerabilities ‘particular health problems in elderly women are predominantly associated with hormonal changes, before and during the menopause. Osteoporosis, a result of increased bone loss after menopause, often leads to bone fragility and an increases the risk of bone fracture during old age. Cardio-vascular disease (CVD) is another common cause of death in older women. The risk of cardio-vascular disease increases after menopause due to hormonally influenced changes in blood lipid profiles’<sup>26</sup>.

#### **2.4.6.2: Financing for Healthcare of Elderly Population**

Demographic trends suggest that the, health is one the most vital component of well-being among elderly population. Normally, old-age is accompanied by multiple disorders. However, fragile health and poor economic are the relatively inaccessible aspects in old-age. Literature based evidence suggests that, strong association has been observed between financial dependency and deprived health condition in old-age. Another observation depicts that, “financing for healthcare was contextualised within the global architecture of finance capital which dominates the economics and politics of our world”<sup>27</sup>. Majority of elderly suffered from multiple health tribulations. Financial constraints are the biggest barrier to elderly who do not get proper medical facility. In addition to this, health accessibility in rural areas is more disadvantaged. Yet another study indicates, in particular, with a growing share of the elderly in developing countries such as China and India, the health of older populations constitutes an issue of growing policy importance.

#### **2.4.7: Inter-linkages between Workforce Participation and Health Care Utilisation of Elderly**

Due to unsatisfactory support system, ageing in the developing countries is characterised by very poor and miserable health and economic condition. A Study done by **Verma (2008)** shows that total quality of life in urban area is significantly better than rural. But as per our assumption, in rural areas, the elderly work till their body permits since they experience power, prestige in family and social life and economic independence while in urban areas, the elderly work for certain age limit as per their jobs, after which they suffer from economic insecurity, loss of power leading to low quality of life. A study conducted in rural China highlighted the strong correlation between health status and work and that more than one-third of the seriously ill continue to work in the formal sector (**Rozelle, et al., 2004**). In relation to this, **Strauss & Thomas (1998)** have argues that the “labour market consequences of poor health are likely to be more serious for the poor, who are more likely to suffer from severe health problems and to be working in jobs for which physical strength has a high payoff”. The impact of social security programmes on the timing of retirement has been well-established. Throughout the world, social security coverage is uneven. Less than half of the world’s workers do not have any coverage at all, and the International Social Security Association estimated that less than 25 per cent

have coverage that can be considered highly inadequate. Coverage ranges from lows in Sub-Saharan Africa and South Asia, where only 5–10 per cent of the working population has access to social security, to nearly universal coverage in wealthy industrialized nations (**Barusch & Hurtado, 2009**). It has further suggested that the low labour force participation rate of the elderly is much influenced by their health status. In economic literature, health status is one of the most important determinants of labour supply among elderly workers (**Lindeboom, 2006**). Vulnerability among elderly workers is determined by various factors. In view of this, three main sources of economic and health support for their old age are employment, support from children, and social security. Decline in health status is becoming an obstacle to increasing the retirement age in Europe (**Barnay, 2006**). “Retirement decisions in European countries are linked with the pension reforms and the work participation ends with retirement”<sup>28</sup>. In developing countries like India, however, the scenario is different. In this regard, **Batra (2004)** has been examined that working elderly are economically independent and have respect in their family. Some empirical studies have revealed that the ‘economic condition of aged workers is very poor and the health status is also not very satisfactory. Biological ageing process decreases activity and physical strength and poor economic conditions aggravate the diseases and ailments.

According to the author 38.2 per cent elderly workers had hypertension, 21 per cent of them suffered from ‘pain in joints and 7.3 per cent of these elderly are diagnosed with diabetes. Other minor ailments suffered by these respondents were: mental problems, loss of vision, asthma and ulcer digestion problems’<sup>29</sup>. In India, rural aged suffers from nutritional, psychological and other problems, when compared to the urban aged. The aged employed privately and those self-employed have more health problems than those not gainfully employed<sup>30</sup>. In addition to this, **Dak & Sharma (1987)** have examined that “almost 90 per cent of workers are found in the agricultural sector where there is no retirement age. Elderly have continued to work but they reduce the number of hours worked, especially with increasing age”. Another investigation argues that, ‘majority of Indian elderly are also more vulnerable because of greater longevity, lower literacy rates, especially in rural areas and the higher incidence of dependency. In all countries in South Asia, one out of two elderly continue to work and earn their livelihood after reaching 60

years' (**Rajan, 2008**). Elderly people are evaluated harshly by other family members according to their usefulness or economic contribution, particularly in circumstances of extreme poverty. Relationship between health status and work force participation has been widely examined for developed countries<sup>31</sup>. **Brijesh & Purohit (2003)**, in their study on "Policy Making for Diversity among the Aged in India" have attempted the "impact of lack of adequate health facilities is much more noticeable in middle-income states in both rural and urban areas where 46.5 percent and 23.6 percent respectively left their employment owing to bad health".

#### **2.4.8: Living Arrangement of the Elderly Population**

'Living arrangement is very important in terms of providing support and cares for the elderly and can, in general, guarantee their well-being. In India, where the family has an obligation to care for the elderly, the consequences of rapid declines in fertility and mortality on elderly living arrangements are an interesting issue in the field of population and development' (**Muthukrishanaveni, 2010, pp. 29-30**). The term "living arrangements" or "co-residential arrangements" is used interchangeably to refer to the household structure of the elderly. Therefore, the concept of living arrangement refers to the familial system of support and care of the elderly. During the past several decades, there has been a surge of attention in the living arrangements of elderly people in India. 'Institution of joint family has stated disintegrating rapidly due to recent changes in social values, social structure and economy resulting from industrialisation and urbanisation and consequent mobility. Furthermore, poverty, unemployment and under-employment and inflation have rendered the family members unable to discharge their duties to the aged' (**Joshi, A.K., 2006, p.72**). A point that can be noted here is that the "traditional rural societies families are often more extended than in modern urbanised societies where the independent nuclear family is predominant"<sup>32</sup>. In addition, elderly living alone is important in a developing country like India where public institutions are weak and social security for the elderly, absent<sup>33</sup>. Furthermore, in India living with children, spouse and other family members during old age is a common cultural practice. Elderly people living alone in India will increase more in the coming years, with increasing urbanisation and migration of young people coupled with decreased cohesiveness in family bonds<sup>34</sup>.

Therefore, the effect of living alone on the health and well-being of the elderly people is of grave societal concern.

**2.4.9: Activities of Daily Living (ADL) of Elderly Population**

*"Decline of functional ability with age leads to stress, isolation, and other harmful effects. Activities of daily living represent basic responsibilities and duties that comprise the individual's daily functioning, such as bathing, dressing, eating, toileting, and transferring"*<sup>35</sup>. In Ageing research 'Activities of Daily Living (ADL) measures were used as an index of functional competence in this study. Rural women had more problems with ADL, indicating the need for help in self-care. Also, rural people had less access to health facilities; most of them were illiterate and led marginal existences. These factors are likely to increase their dependence on others in old age'<sup>36</sup>. **Zouba & Thonnat (2008)** have made an effort to describe "medical professionals believe that one of the best ways to detect emerging physical and mental health problems, before it becomes critical - particularly for the elderly - is analyzing the human behaviour and looking for changes in the activities of daily living (ADLs)". **Mohanty & Kumar (2012)** have presented more detailed analyses on various aspects of the 'ADLs include sleeping, meal preparation, eating, housekeeping, bathing or showering, dressing, using the toilet, doing laundry, and managing medications. Within the elderly population, ADL prevalence rates rise steeply with advancing age and are especially high for persons aged 80 and over. Functional abilities and ADL decline with age'.

**2.4.9.1: Instrumental Activity of Daily Living (IADLs)**

"The basic Activities of Daily Living (ADL) Scales assess the basic mobility and self-care while the extended ADL Scales assess the Instrumental ADL (IADL) activities such household, community, social and cognitive activities"<sup>37</sup>. In this context, Instrumental Activities of Daily Living Scale (Lawton & Brody 1969) was developed to assess the complex ADLs for older adults living in the community. "It assesses a person's ability to perform tasks such as using a telephone, doing laundry, and handling finances. Each item relies on either cognitive or physical function, though all require some degree of both"<sup>38</sup>.

<b>The domains and component items of IADL included for developing the IADL scale</b>	
<b>ADL Domains</b>	<b>Components</b>
Cognitive activities	Managing finances, telephone use, taking responsibility for

	one's medications, prayer activity
Social/recreational activities	Social activity/interaction, entertainment and information, looking after grandchildren, taking care of farm/pet animals, pursuing hobbies (e.g. gardening/knitting)
Community activities	Shopping, travel
Household activities	Housekeeping, laundry, meal preparation
Self-care items	Shaving, personal care

#### **2.4.10: Impact of Migration on Left behind Elderly Population**

Population ageing is a success story of socio-economic development and health sector. At present, most of the aged still live in joint families. Social changes are expected to reflect a decline in the high status given to the elderly in the society. Rapid urbanisation has led to the migration of a large number of productive workforce leaving the elderly to fend for themselves in rural areas. At the same time, the process of ageing is accompanied by increased vulnerability to illness and death<sup>39</sup>. In view of this, many elderly return to rural communities when they retire from employment and can no longer afford the high cost of living in towns and cities. “The out-migration was the highest for the state of Uttar Pradesh about 5.13 million followed by Bihar about 3.45 million and Maharashtra about 2.16 million”<sup>40</sup>. Furthermore, ‘this state has witnessed significant outflow of migrants to other states. In 2001 Census around 1.1 million persons migrated into Uttar Pradesh from other states and 3.8 million migrated out of the state, resulting in 2.6 million deficits in net migration. The ratio of the both sexes among the out-migrants from the state is skewed in favour of males’ (**Census of India Report, 2001**). Out-migration is one the dynamic process that is influenced by a variety of factors. In the case of rural male out migration, young men seek employment in the cities, leaving behind their family members (spouse, children and old parents) to manage on their own. As a result, elderly often have to assume major responsibilities in farming and household chores. Global perspective on ‘migration is now a significant component of the economic and social life of every country and region. The impact of this level of migration on families and communities cannot be underestimated. For instance, in a study in Kyrgyzstan, 92 per cent of elderly had children who were either migrants or had migrated at some point in their lives (both internal and external migration). In Bolivia, for instance, it is estimated that 40 per cent of elderly people receive no support from relatives working outside the

country' (**Help Age International, 2010**). Literature based evidence emphasised that the out-migration of adult children is often seen as having negative consequences for ageing rural parents, being accompanied by increased loneliness, isolation and loss of physical and economic support (**United Nations, 2002**).

#### **2.4.11: Social Security Measures and Initiatives for the Elderly Population**

*“The concept of social security is that the State should make itself responsible for ensuring a minimum standard of material welfare to all its citizens. The basic social security system aims to help individuals in times of dependency, such as, childhood, old age, sickness, accident and unemployment”*<sup>41</sup>. The **International Labour Organization (ILO)** defines ‘social security services as one which provide the citizens with benefits designed to prevent or cure disease or to support them during their inability to earn and to restore them to gainful activity. Some of the contingencies covered in the Social Security System are: sickness, maternity, occupational risks, invalidity, unemployment, old age, retirement and medical care’<sup>42</sup>.

##### **2.4.11.1: Global Perspective of Social Security**

Social security as a system evolved first in the Western countries during the industrial revolution. The two models under which social security system can be classified are the:

- German Model (Bismarckian model or social security/ social market economy model, and the
- British Model (Beveridgean model or the basic-income model)

The Bismarckian model focused on maintenance of living standards and the benefits were earnings related; on the other hand the Beveridgean model guaranteed only a subsistence income to all the elderly people at a flat universal rate<sup>43</sup>.

The first modern country to introduce the kind of welfare programmes to which we have been accustomed was the German Empire under the leadership of the "iron chancellor" Otto von Bismarck. Welfare programmes and old-age pensions were created in 1881 and 1889, respectively. Since then, social security programmes have mushroomed all over the globe. Great Britain's Old Age Pensions Act was enacted in 1908, and the National Insurance Act in 1911. Sweden enacted compulsory old-age pensions in 1915 and Switzerland did so in 1925. In the United States, the Social Security Act was enacted in



1935. By 1940, thirty-three countries had some kind of old-age social security programmes. By 1958 the number of countries was eighty, and by 1979, it was 123. This number in 1989 was 130<sup>44</sup>. Another view reflects that the history of social security systems suggests that these programmes are introduced for aged persons. These programmes provide the elderly income security to strengthen and for their welfare. One more recent study indicates that, worldwide scenario of social security among the elderly shows, 'that in Bangladesh alone; 1.6 million older people living below the poverty line do not receive any form of social security as they are excluded from the old-age allowance. In Peru, 60 per cent of older people receive no pension whatsoever and in Uganda, an alarming 90 per cent of older workers receive no pension' (**Help Age International, 2009**).

#### **2.4.11.2: Commencing of Social Security in India**

Social security is one of the important dimensions of the development process. It assumes a place of special significance in the developing countries where poverty, destitution and income inequalities abound in large measure. The most vulnerable group consists of those who have neither physical endowments nor financial resources or gainful employment. The pressure of modernization has led to a weakening of traditional social support systems everywhere<sup>45</sup>. Majority of social security schemes are developed to protect salaried workers, in the public and private sectors. "The 1950s, the Constitution endorsed the provision of social security that mark the beginnings of social security in India"<sup>46</sup>. After independence India has been among the enlightened nations that recognised the need for social security during old age quite early. The Provident Fund Act was introduced way back in 1925 for select public enterprises. The Employees Provident Fund and Miscellaneous Provisions Act (EPFMP) of 1952 cover 177 industries today. From 1995, workers covered under the EPFMP Act, 1952 have been also covered by the Employees Pension Scheme<sup>47</sup>. In India, the Government's concern for the old and the aging population as a priority began with India's participation in the world assembly conference on population ageing in Vienna in 1982, where India adopted the *United Nations International Plan of Action on Aging*. This plan focused on the Government's role in adopting programmes aimed at providing care and protection to the old while synchronizing these with the changing socio-economic conditions of the society<sup>48</sup>.

#### **2.4.12.: The Pension System in India**

In the Constitution of India, 'entry 24 in list III of Schedule VII deals with the welfare of labour including conditions of work, provident funds, liability for workmen's compensation, invalidity and old age pension and maternity benefits. Item No.9 of the State List and Item 20, 23 and 24 of the Concurrent List relates to old age pension, social security and social insurance and economic and social planning. Further, Article 41 of the directive principles of state policy has particular relevance to old age social security'<sup>49</sup>. The British Government introduced a pension scheme for its employees in 1871. This was the only programme available to the aged as a group. "It was administered by the Royal Commission on Civil Establishment. Amendments were enacted by the British Government in 1919 and 1935"<sup>50</sup>.

##### **2.4.12.1: Initiation of Old Age Pension System in India: A State Level Outlook**

Among the states and union territories, Uttar Pradesh was the first in India to introduce an old-age pension scheme for the elderly as early as 1957. The finance minister of India announced a special scheme for landless agriculture labourers, the **Khethihar Mazdoor Bima Yojana** apart from providing benefits of insurance cover also provides for a pension of Rs. 100 per month to the beneficiary on attaining the age of 60. The beneficiaries are required to make a small contribution towards the premium. In recent past, the insurance and the mutual fund industry in India has also started offering pension plans for the elderly and their family. But these services are mostly effective in metropolitan regions. Elderly in rural areas still have no such pension or other mutual schemes to secure their future. **Rajan & Mathew (2008)** in their study on social security for elderly population, have discussed the role of *National Commission on Rural Labour* (1991) recommended 'old-age pension at Rs. 100 per month to all males and females above the age of 60, subject to prescribed income limits. The Second National Commission on Labour (2002) proposed a pension based on a saving- linked schemes as part of old-age benefits. The national advisory Council drafted an Unorganised Sector Workers Social Security Bill, which among other things, recommends an old-age benefit scheme including pension but with contribution from the workers'. Therefore, social security has become major elements of social development in the twentieth century, with

particular effect on the well-being of the older groups of society (**Muthukrishnaveni, 2001, p.30**).

#### **2.4.12.2: Evolution of Various Policies and Programmes for Elderly Population in India**

The first decades of independent India, had setup various milestones and landmarks for strengthening the nation. In this regards, the Government of India had initiated various plans and policies for the wellbeing of the elderly population. Brief details of policies and programmes which have been initiated for the elderly by the Government of India are given below:

- ❖ **Hindu Adoptions and Maintenance Act 1956 (HAMA, 1956)** The Hindu Adoption and Maintenance Act, 1956 in section 20(3) provides for maintenance of aged or infirm parents. This is re-inforced by the maintenance and social welfare for parents and senior citizens act of 2007 which is more inclusive.

In the year 1995, the Government adopted the **National Social Assistance Programme (NSAP)**, which compounded three programmes running for older people in the country.

- The National Old Age Pension Scheme (NOAPS)
- The National Family Benefit Scheme (NFBS)
- The National Maternity Benefit Scheme (NMBS)

The NOAPS is a centrally-sponsored programme. Under this scheme, criteria for the beneficiaries are:

- The age of the beneficiary (male or female) should be 65 years or more.
- An amount of Rs. 75 per month would be given as old age pension.

The NOAPS is implemented in the States and Union Territories through Panchayats and Municipalities. The National Old Age Pension Scheme has been renamed as Indira Gandhi National Old Age Pension Scheme (IGNOPS) in 2007. Pension under the **Indira Gandhi National Old Age Pension Scheme (IGNOAPS)** has been raised from Rs. 75 to Rs. 200/- per month per beneficiary and the state governments may contribute over and above this amount. It covers all persons over 65 years and living below the poverty line. Under NFBS an amount of Rs. 10000/- are provided as Central Assistance to the households below the poverty line.

### ❖ **National Old- Age Pension Schemes (NOAPS, 1995)**

On August 1995 the Government of India has announced the National Old-Age Pension Scheme for the poor. The scheme covers those aged 65+ who are landless, destitute or have no regular means of subsistence. The assistance was initially Rs.75 month and later on revised to Rs.150. A few of the states have just revised the amount of pension by Rs.275 in Gujarat, Rs.300 in Delhi, Rs.400 in West Bengal and Rs.500 in Goa. In Rajasthan, the amount of pension is Rs.100 for females aged 55+ and males aged 58+, 200 for those aged 65+ and Rs.300 for destitute couples. The said scheme is being implemented in States and Union Territories through panchayats and municipalities (Help-Age India, 2002).

### ❖ **National Policy on Older Persons (NPOP, 1999)**

Because of urge of necessary, interventions in old age welfare, Ministry of Social Justice and Empowerment declared 'National Policy on Older Persons' on January 1999. The policy provides broad guideline to the State Government for taking action for on the welfare of older persons in a protective manner. A number of areas have been targeted for interventions such as financial security, health care and nutrition, shelter, education, welfare, protection of life and property, etc for the well being of elderly person in the country. In addition, the role of the non-government organisations that provide user-friendly and affordable services to complement the endeavours, has been also encouraged in the policy. Broadly the objectives framed in the policy are:

1. Protection against abuse and exploitation of elderly.
2. Services to improve quality of care for elderly.
3. To provide care and protection to the vulnerable elderly people.
4. To encourage families to take care of their older family members.
5. To provide adequate health care facility to the elderly.

This Policy also appreciates the special needs of elderly and therefore, lays emphasis on empowerment of the community as well as individuals to meet the challenges involved in the process of ageing adequately.

### ❖ **National Council for Older Persons (NCOP, 1999)**

The National Council for Older Persons was established by the Government of India in May 1999 under section 95 is an extension of the NPOP. The major objectives of the NCOP are (Nayar, 2003).

- Provide feedback to government on implementation of NPOP as well as on specific programme initiatives for the senior citizens.
- Advocate the best interests of the older persons.
- Lobby for the concession of older persons.

#### ❖ **Annapurna Scheme (1999)**

On March 19, 1999, the Government of India announced another social assistance scheme namely Annapurna for the elderly destitute who have no one to take care of them. Under this scheme, an elderly destitute is provided 10 kilogram of rice or wheat per month free of cost through the existing public distribution system. This scheme aims at covering destitutes who are otherwise eligible for old-age pension under the National Old Age Pension Scheme. It is implemented by the Ministry of Rural Development with the assistance of the Ministry of Food and Civil Supplies.

#### ❖ **Maintenance and Welfare of Parents and Senior Citizens Act (MWPSA, 2007)**

The Maintenance and Welfare of Parents and Senior Citizens Act, 2007 was enacted in December 2007 to ensure need based maintenance for parents and senior citizens of the country. Making old age homes for aged and providing adequate medical facilities and economic security for the elderly are the main objectives. The act notified only 22 states of the country. The principle is to promote basic right to of the elderly based on self-fulfillment and dignity.

#### ❖ **Old-Age Homes and Day Care Centres**

Most of the institutional care in the form of **Old Age Homes (OAH)** is provided by voluntary organisations. Voluntary organisations are also running Day Care Centres (DCC) to fulfill the psychological need for the aged (Joshi, 2006).

#### ❖ **Integrated Programmes for Older Persons (IPOP)** was launched by the Government of India in **2008** with the objectives of improving the quality of life

of older persons by providing basic amenities such as shelter, food, medical care and entertainment opportunities and by encouraging productive and active ageing through providing support for capacity building of Government/Non-Governmental Organizations/Panchayati Raj Institutions/local bodies and the Community at large (Pandey & Jha, 2012).

#### ❖ **National Council for Senior Citizens**

The National Council for Senior Citizens headed by the Minister for Social Justice and Empowerment will be constituted by the Ministry. With tenure of five years, the Council will monitor the implementation of the policy and advise the Government on concerns of the elderly population.

#### ❖ **Responsibility for Implementation of Policy and Programmes**

Government of India has taken the possible initiatives for the implementation of policies and other programmes that are always cautious about the senior citizens. Some ministries like Ministries of Home Affairs, Ministry of Health and Family Welfare, Ministry of Rural Development, Ministry of Urban Development, Ministry of Labour, Panchayati Raj (Village Council) and Ministry of Women and Child Development will take the responsibilities for the implementation of policies and programmes for older persons. The annual report of these Ministries and Departments will indicate the progress achieved.

#### **2.4.13: Role of Media**

Since Indian independence media has been one of the dynamic determinants of communication and information for the society. Last 60 years, have witnesses of energetic growth of media components. Over the period of time media have competent sources to capture and highlight the chief causes and consequences which need to be addressed at national and global level. At the present time both print, electronic and social media have become efficient modes of diffusion of any action or events.

A brief discussion on media's role to determining the conditions of older persons –

Media can play a contributory role in addressing the issues of the elderly by:

- ❖ Contributing to orientation programmes on ageing
- ❖ Adequately campaigning for highlighting the issues related to the elderly.

In this regard media can play the role of a catalyst of social change that shapes individual behaviour. The behavioral transition of an individual also makes it possible to protect the

rights of elderly persons. Consequently, this means both electronic and print media constitute the main sources of elderly concerns and challenges in India. Despite media effort, both professional and non-government alliances also take initiatives to promote elderly issues at the international level.

### **2.5: Research Gaps and Need for the Present Study**

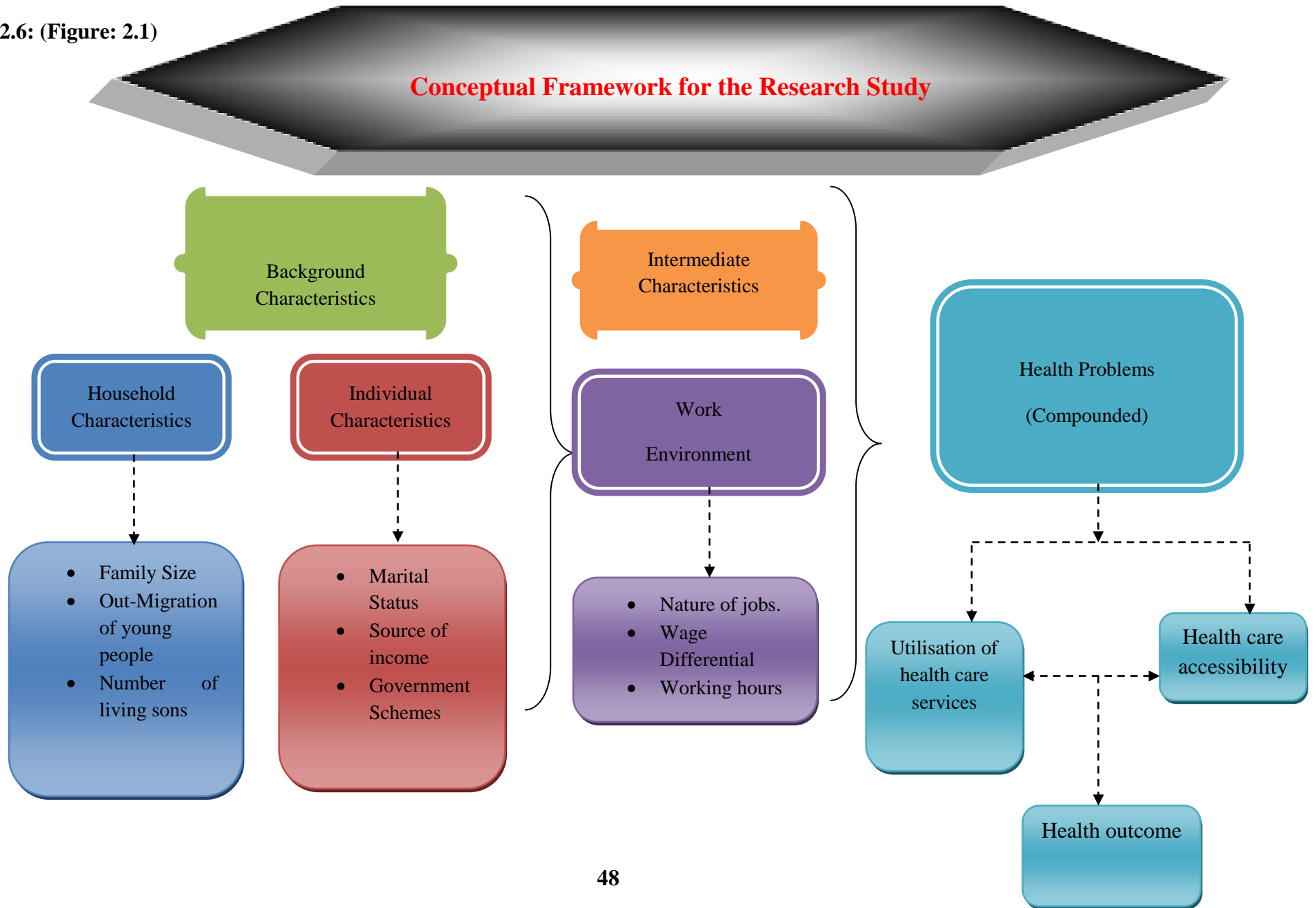
The major research gaps existing in the study have been structured as follows:

- Demographic trends have made population ageing inevitable in almost every part of the globe. It is true that India is experiencing demographic dividend at present but very soon may face the consequences of population ageing.
- With increasing proportion of elderly the issues of economic dependency, social security and negligence is becoming serious areas of concern. The greater need for work participation spurred by the poorer economic status of the aged is reflected in the higher old age work participation rate in Uttar Pradesh.
- The elderly living in urban areas have a significantly lower likelihood of working than those in rural areas. At the same time, the elderly from lower economic strata have a higher probability of being in the work force. In India, mostly the rapidly ageing southern states have always been the focus point of research whereas there may be other states where absolute number of elderly population or whose share to the total elderly population of India may be much more than the southern states. Uttar Pradesh is one such state.
- Increased dependency, living arrangements and health problems are more in the rural areas as no care givers, institutional support and health facilities are generally available here. Though almost all the State Governments' civil societies and NGOs are working to protect and promote the welfare of senior citizens yet, elderly people in the rural areas are worst sufferers compared to the urban people.
- Few studies have shown that the health status of the aged plays an important role in influencing the condition of aged irrespective of their participation in the work force. This study therefore focuses on the health of the elderly workers who work under very miserable circumstances where, they have no sufficient and regular source of income but work as long as their bodies can tolerate.

- This study also focusses on the rural aged. In the rural sector majority of elderly are engaged in agrarian activities. The agrarian sector in rural areas has no retirement scheme neither provides any hope of regular income.
- Elderly in India who continue to be active in the labour force participation depict a socio-economic pattern suggestive of the facts that economic compulsions and poverty as the major drivers of labour force participation. In India with a significant percentage of elderly population living below the poverty line the rise in life expectancy poses new challenges for the economy.
- An attempt has been made through the literature survey to capture some of these aspects centered on the problems faced by elderly workers in Bulandshahr district. Finally, this research work is an attempt to fill this gap in the investigation of the health status of elderly workers in the Bulandshahr district. Due to certain factors elderly people are forced to be involved in the labour supply. In addition to this, growing age has set alarm for an individual in the old-age. Consequently, health condition could not be constant whether they work or not. By any means, if they are involved in any physical and mental labour work, their health problems may get aggravated as they are already in a fragile state.



2.6: (Figure: 2.1)



## **2.7: Objectives of the Present Study**

The present study has been undertaken with the following objectives:

1. To examine the trend and pattern of the elderly population in rural Uttar Pradesh and Bulandshahr district in particular.
2. To trace the socio-economic characteristics and existing support systems of the elderly population in the study area.
3. To identify the reasons why elderly people work, the type of work they do, and the challenges they face while doing so.
4. To assess the availability, adequacy and utilisation of health care services for the elderly.
5. To analyse the relationships between work force participation, health utilisation and health status of the elderly population.
6. To find out whether elderly people are benefited by social security measures in the study area.

## **2.8: Research Questions**

The following are the major research questions that emerge from the objective of the present study. The research questions may be summed up as follows.

1. What are the processes leading to population ageing in Uttar Pradesh?
2. How does background factors and support systems in agrarian societies influence socio-economic status of elderly population in the study area?
3. In what manner does out migration of productive age groups affect the elderly?
4. What are the multitude of factors and their inter-linkages that affect the health status of elderly workers?
5. What is the extent of accessibility and hence utilisation of health cares by the elderly in the study area?
6. What are the inter-linkages between work participation, health care utilisation and health outcome of elderly?

## **2.9: Research Design**

One of the most important challenges that are going to be faced by most of the countries around the world is ageing of their population. Descriptive as well as analytical research designs have been used for the purpose of this research work.

### **2.9.1: Data Collection**

The present research work entails the collection of both secondary and primary level data to analyse the health status of elderly workers in rural Uttar Pradesh. Secondary data collection consisted of two successive sources. Both the Census and the NSS data provide very useful information of various aspects but with certain limitations. However, the limitations of the secondary data on elderly that is not available from the large data set have therefore been captured from the field through primary investigation conducted with the help of structured questionnaires. A detailed description of data sources has been presented below;

#### **2.9.1. A: Primary Data Sources**

Secondary sources do not provide data on many attributes of elderly population. For further investigation a primary survey was conducted in the study areas during 2014. The interview schedule was pre-tested and based on the pre-results, some of the questions were modified and some were removed. Data from all eligible elderly persons were collected in about 4 months (January- April 2014) in Bulandshahr district of Uttar Pradesh.

- For the purpose of primary survey subsequent procedure were involved.

##### **1. Structured Questionnaires**

- a) Elderly population who are working
- b) Elderly population who are not working

##### **2. Questionnaires for Support Systems**

- a) Care givers in the family
- b) Community
- c) Health centres such as PHC, SCs, and Hospitals.

#### **2.9.1. B: Secondary Data**

The present work also involves in-depth analysis of secondary data to examine the trends, and pattern (geographical and social) and correlates of elderly health indicators. The main sources of secondary data for this research work are as follows:

#### ❖ **Census of India**

The decennial **Census of India** is the primary source of the information about the demographic and socio-economic characteristics of the population of the country. It provides information up to village level. For the present study, total population figures has been utilized form the 1961-2011 Census of India published by **Registrar General of India**. Details of the data taken from Census of India are given below.

- **Series A:** Demographic Status of Elderly Population and Decadal Growth of Elderly Population.
- **Series B:** Economic Profile of Elderly People, Work Participation Rate, Age Dependency Ratio and other Economic activities of elderly
- **Series C:** Social condition of elderly viz; Literacy, Marital Status, Religion Caste, Index of Ageing,
- Statistical Abstract of Uttar Pradesh.
- District Census Handbook of Bulandshahr district

#### ❖ **The Sample Registration System (SRS)**

Sample Registration System tracks vital events like birth and deaths on the basis of dual recording system. The Sample Registration System (SRS) gives annual series of data on demographic indicators like, fertility and mortality.

#### ❖ **National Sample Survey Organsiation (NSSO)**

The national sample survey organsiation (NSSO) in India was set up in 1950 to collect data on various socio-economic subjects through nationwide sample survey. Since, than NSSO has conducted a large number of surveys covering a variety of subjects. For most of its survey, household and enterprises is the basic unit from which data are collected where the interviewer records the information after interviewing the respondent. The NSSO organises its surveys in the form of 'rounds' each round is having duration of one or half year. The scope of data covered by the NSS is much wider compared to Census. It covers many aspects not collected by the Census. For example the NSSO data provide information on health aspect of elderly like; nature of ailment, own perception on health,

sources of treatment, support system during common and chronic ailment and many more. Details of the specific rounds required for the present study is to access health condition of elderly and related aspects are given below.

- **The 60th round (January - June 2004)** of NSSO was earmarked for survey on 'Household Consumer Expenditure', 'Employment and Unemployment' and 'Morbidity and Health care'. Survey on household consumer expenditure was conducted as a part of annual series of data on the subject. The period of survey was of six months duration starting on 1st January 2004 and ending on 30th June 2004.
- **The 64th round (July 2007-June 2008)** of NSSO was earmarked for survey on 'Employment- Unemployment and Migration Particulars', 'Participation and Expenditure in Education' and 'Household Consumer Expenditure'. The period of survey was of one year duration starting on 1st July 2007 and ending on 30th June 2008.
- **The 71st round (January 2014 – June 2014)** of NSSO was devoted to the subject of Social Consumption and earmarked for surveys on 'Health' and 'Education'. The period of survey was of six month duration starting on 1st January 2014 and ending on 30th June 2014.

### **2.9.2.: Methodological Aspects for the Present Research Work**

A convergent parallel mixed method approach was used to address the aims of this study. The methodological aspects undertaken for the execution of the research work are presented in this section. Details about the sample frame, selection of samples and analysis of data are provided here in a crisp manner. Both quantitative and qualitative approaches have been adopted for the study. A detailed account of the various methods and techniques employed in this very study on health status of elderly workers has been given below:

#### **Statistical Equations**

The statistical analysis has been divided into various divisions. The detailed specification of each technique has been elaborate below:

- ❖ **Univariate Method:** an analysis has been carried out in order to examine the frequency distribution of response and predictor indicators.
- ❖ **Bivariate Method:** bivariate analysis has been observed between response variable and background and socio-economic status of the respondents. In this process, associations between two categorical and nominal variables have been studied with the help of cross-tabulation.

❖ **Binary Logistic Regression**

Logistic regression technique is generally used where the dependent variable is categorized (**Retherford & choe, 1993**). In binary logistic regression, the dependent variable should have two categories.

The basic form of the logistic function is

$$\text{Logit}(p) = \ln \left[ \frac{p}{1-p} \right] = Z \dots \dots \dots (1)$$

Where  $p$  = probability of occurrence of an event and

$Z = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_KX_K$  is a vector of parameters and predictor variables

$b_0, b_1, b_2, b_3, \dots, b_K$  and predictor variables

$X_1, X_2, X_3, \dots, X_K$

If  $y$  is the response, then  $y=1$ : occurrence of the event,  $P$  = probability ( $y=1$ ).

Thus equation 1 postulates that the probability of the occurrence of the event is influenced by a set of predictor variables in the manner specified with  $b_0, b_1, b_2, b_3, \dots, b_K$  as the logistic regression co-efficient.

$$p = \frac{\exp(Z)}{1 + \exp(Z)} \dots \dots \dots (2)$$

the quantity  $p/(1-p)$  is called the odds, hence the quantifying  $\ln [p/(1-p)]$  is called the log odds or the logit of  $p$ . Logistic regression can also be used if one or more of the explanatory variables are categorized. In this case, the category needs to be designated as 'reference category'. The logit regression coefficient for a category of variable is intercepted in relation of the reference category;  $\exp$ . (coefficient of a category) gives the "odds ratio" ratio for the odds for the specified is used to determine the predictors for

health status with dichotomous dependent variable. In such cases, the ratio term  $\exp(\beta x)$  for a particular category  $k$  is the odds ratio, that is, the ratio of odds for the category  $k$  to the odds for the reference category. Logistic regression models have been employed to see the net effect of various factors on selected indicators of elderly workers.

❖ **Multinomial Logistic Regression:**

In order to see the net effect of the explanatory variables on the dependent variable, which has three or more categories, the multinomial logistic regression model (also called the polytomous logit model) is adopted. Multinomial logistic regression is appropriate when the dependent variable is of more than two categories. Here, the purpose of this regression technique is to understand the factors influencing the health condition of both elderly workers and non-workers.

The detailed specification of this regression will be examined in chapter six.

❖ **The Principle Component Analysis (PCA):** a branch of factor analysis is a technique designed primarily to synthesize a large number of variable into a smaller number of general components, which retain the maximum amount of descriptive ability. It permits a more economical description of the given set of structural variables and suggest more underlying dimensions (components), accounting for the statistical relationship among them. Morrison (1967) has described it as a method to discover those hidden factors which might have generated the dependence or covariance among the variables. Moreover, principle component analysis is essentially an orthogonal transformation of a set of inter-related structural into a new set of independent variables<sup>51</sup>.

**The steps required in any principle component analysis are:**

1. Preparation of inter-correlation matrix  $R$  from the  $p$  variable.
2. Working out of eigen values ( $\lambda$ ) of  $R$ , normalized to unity and arranging them in descending order i.e.  $\lambda_1 > \lambda_2 > \lambda_3 > \lambda_4 \dots \dots \dots \lambda_p$
3. taking first few value of  $\lambda_r$ , the proportion

$$\frac{\lambda_1 + \lambda_2 \dots + \lambda_r}{p}$$

is the percentage value the data is represented by Eigen value further, Eigen vectors have been calculated.

4. Using the first Eigen vector as weight, the original variables have been standardised into scores for each observation. The values so obtained are first principle component.
5. By multiplying Eigen vectors with square of their corresponding Eigen values factor loading have been carried out.

❖ **Z-Score:**

Composite index has been calculated to show the nature and degree of interaction with socio-economic status of elderly population in the study area. The variables mentioned in each of the composite score have been standardized using the following formula to get the respective scores.

$$Z\text{-Score} = (X - X^-) / SD \text{ of } X$$

Where,

X denotes individual observation

X<sup>-</sup> denotes mean of X

SD denotes standard deviation of X

Each standardized variables was then added to get the individual composite scores. A higher positive score would indicate higher intensity of interaction. Selection of Bulandshahr district has been finalized through Z-score.

❖ **Chi Square Test**

This test is one of the simplest and most widely used non parametric statistical tests. This method is executed to test the correspondence between certain observed and estimated frequencies. It is expressed with the help of following formula;

$$\chi^2 = \sum \frac{(A - B)^2}{B}$$

Where 'A' refers to the observed frequencies

While 'B' refers to the expected frequencies

Chi Square test has been used to examine the effect of socio-economic and health characteristics on health of elderly workers. In this addition, highly significant association would be measures between observed and estimated frequencies. In order to



accomplish the measures of population ageing which have addresses the various aspects of elderly. Hence, the detailed specifications of all these measures are listed below:

❖ **Measures of Old Age**

Population ageing has now been a global phenomenon. Currently, Asia has the largest number of world's elderly. This pressure of increasing number of elderly is expecting to intensify in the next couple of decades. Moreover, measures of population ageing has vital feature for analytical component of population ageing. **Bickel** gives the idea to explain methodologies population aged. It can be given two points (Rosset, 1964).<sup>52</sup> The increasing proportion of the aged is the effect of the progressive process of population ageing, independently of the trend in the birth rate and consequently of the proportion of children. Furthermore, **Bickel** has introduces two measures of old age. One is the absolute number of old persons which is reflecting absolute population ageing. The second is the proportion of old persons thus; in both the cases, the number of aged persons is the decisive factor. In view of this, to accomplish the study of health status of elderly workers various measures of population have been used as given below:

➤ **Index of Aging**

Index of ageing, that is, the ratio of number of elderly persons to number of children in a population, is a useful measure of the ageing process and is expressed as the number of persons above 60 years for every 100 children below the age of 15 years.

➤ **Potential Support Ratio (PSR)**

The potential support ratio is the number of persons aged 15 to 64 per every person aged 65 or older.

➤ **Work Participation Rate (WPR)**

Work force participation of the elderly population can be explained with the help of the following formula:

$$\text{Work Participation Rate (WPRs)} = \frac{\text{Total Number of Elderly Workers X 100}}{\text{Total Elderly Population}}$$

➤ **Old Age Dependency Ratio (OLDR)**

The old age dependency ratio is defined as the number of persons of older than 60 or above divided by the number of persons age 15-59. The mathematical explanation of this ratio is given below.

$$\text{Old Age Dependency Ratio (OADR)} = \frac{\text{Population 60 Years and above} \times 100}{\text{Working Population 15 – 59}}$$

### **Referencing Systems**

There are a number of systems for the citation of references. In order to accomplish of this research work publication manual of the American Psychological Association, APA (6th ed., 2015) has been adopted.

### **2.9.3: Questionnaire Design**

In most of the primary investigations in India, elderly in general, and their rural counterparts in particular, are stated to be having some kind of health problems. Especially, elderly workers have been focus of recent attention. Moreover, health issues of the elderly workers have to be addressed adequately.

**Structured Questionnaires:** The chief aspects of the study have been collected through three separate set of questionnaires. Three types of questionnaires were used in the survey: household questionnaire, Village questionnaire and the individual questionnaire. The first part of the questionnaire had same question for the household characteristics and second part dealt with same basic information of village characteristics. The individual questionnaire was administered to all the eligible elderly workers in the household. This questionnaire also includes the questions related to pattern of healthcare utilization among the elderly workers.

The individual questionnaire had the following sections:

- Demographic and background profile of the elderly population in the study area.
- Socio-economic profile of the elderly population.
- Support system and activity of daily living of elderly workers.
- Health status, health care financing and health care utilisation of elderly
- Health Insurance and other Welfare Schemes for elderly workers.

- Activities of daily living questions (ADLQ), neglected and elder abuse in the region.

**Village Questionnaire:** the village interview schedule has been used to collect information on the availability of various characteristics in the village. The village survey questionnaire was administered to the village head or school teachers. The respondents of village interview schedule were also asked about welfare programmes for elderly people operating in the village.

**Household Questionnaires:** The household questionnaires had basic information of elderly household. Questions were based on housing characteristics, like, safe drinking water, electrification, sources of cooking fuel, type of toilet facilities, housing condition and many more.

#### **2.9.4: Qualitative Methods**

In this research work considerable quantitative techniques have been used. Besides, some qualitative measures have also been incorporated wherever required. These measures have occupied a variety of techniques involving scrutinizing the situation of elderly population in the study area. Detailed investigations of these qualitative measures have been given below.

##### **❖ Case Studies**

‘A case study is expected to capture the complexity of a single case. The case study offers a rich method for investigating and researching a single case. The effectiveness of the approach being researched can be verified by replication of outcomes across similar cases. Due of the level of detail kept in the case record, outcomes of different but similar cases can be compared, and the specific variables which might have impacted upon the difference in outcome can then be investigated separately’<sup>53</sup>. In Demographic research case study is a crucial methodology which can explain the critical elements of the subject to be studied. In this study, some case studies were conducted where the elderly respondents reported their issues and problems. In addition to this, elderly people narrated their health problems medical expenditure, socio-economic issues and their personal experiences. During case studies, it became apparent that the elderly had quite different set of problems.

#### **2.9.5: Methods of Sampling**

Sampling can be defined as the process or technique of selecting a suitable sample that is representative of the population from which it is taken, for the purpose of determining the characteristics of the whole population. In other words, sample design gives us both the theory and procedure for drawing the sample. There are two types of samples, the 'probability' and 'non-probability' samples.

In the case of *probability sampling*, the probability or chance of every unit in the population being included in the sample is known due to randomization that is involved in the process. Thus, the probability sampling method is also defined as a method of sampling that utilizes some form of random selection<sup>54</sup>. There are four types of probability samples v.i.z:

1. Simple random sampling
2. Systematic random sampling
3. Stratified sampling, and
4. Cluster sampling

The *non-probability* samples are purposive and selective, where people are chosen deliberately from certain characteristics considered to be relevant to the study. Non-probability sampling refers to processes of case selection other than random selection. In contrast to random sampling, non-probability sampling sample have two basic weaknesses:

- They do not control for the bias introduced by the investigator in the selection of the unit and
  - Their pattern of variability cannot be predicted from probability sampling theory, thereby making it impossible to calculate sampling error or to estimate sample precision. There are three types of non-probability samples
1. Convenience sampling
  2. Purposive sampling
  3. Quota sampling

## **2.10: Outline of the Study**

The purpose of the present study is to find out the health status of the elderly workers belonging to the rural sector. The details of the chapters are given below.

This work has been divided into eight chapters. An attempt has been made to introduce the research problem in the **first chapter**. Subsequently, an attempt has been made first to justify the rationale behind the choice of the present research work. Added to this, sampling framework has also been established in this section. Finally, this chapter also gives an idea of mapping of the study area.

**Second chapter deals** with the brief review of the existing literature concerning factors affecting health status of elderly workers. This session has been divided into various core themes in which literature is available. The next section of the chapter presents the critical appraisal of Government initiatives for the elderly population.

This session basically provides in-depth information about welfare programmes that have been introduced by the Government of India. It also provides the methodology adopted in the selection of respondents for primary data collection. Focal points of the chapterisation scheme have also been discussed pertaining to this study. Conceptual framework, chief objectives, key research questions and sources of data are the major components of the chapter. Finally, the chapter ends with the description of the research design and methodological framework adopted as well as the brief description of organisation of the present research work.

**Chapter three** provides the demographic and background profile of elderly population in India and Uttar Pradesh. Firstly, this chapter delves into the main drivers of population ageing. In relation to this, both national and international scenario also examine. Subsequently, trends and pattern of elderly population in India, Uttar Pradesh and Bulandshahr district have also been discussed. Lastly, various measures of population of ageing have been also introduced in this chapter.

The profile of elderly working population is the subject matter of **chapter four**. In view of this, initially the chapter has been concerned with the working profile of elderly workers. Besides, the working profile, the factors that influence the working condition of the elderly population has been also taken up for a detailed discussion.

The study are has been introduced in **chapter five**. An outline of the major differences in socio-economic indicators at the state level, followed by a profile of the district covered for primary investigation has been provides. This chapter has been divided into two different sections. The first section of chapter has been based on the secondary level data.

Furthermore, the second part of chapter is based on primary data collected through a detailed field investigation in Bulandshahr district. Finally, this section also consists of the household characteristics, demographic and socio-economic profile of elderly in Bulandshahr District.

**In Chapter six** an attempt has been made to analyse the nature of work and problems faced by the elderly workers in Bulandshahr district. The primarily objective of this chapter is to identify the reasons why elderly people have to work, the type of work they do, and the challenges they face. Further elements of this chapter are the support system of the elderly and then problems viz; physical and mental strain due to work and state of economic dependency among elderly workers in Bulandshahr district.

**Chapter seven** presents an analytical insight into the factors that might influence the health status of elderly workers in Bulandshahr district. Moreover, it also provides the ailment profile, utilisation of health care services, emerging issues and health challenges faced by elderly. Lastly, this chapter provides the nature of inter-linkages between workforce participation and health status of elderly workers in Bulandshahr district. The summary of findings, conclusion and policy initiatives have been provided in **chapter eight**. Based on the findings, recommendation are made and policy implications are suggested for comprehensive measures to care and support elderly workers, particularly in rural areas.

### **2.11: Limitations of the Present Study**

There are several limitations that need to be acknowledged and addressed regarding the present study. The first limitation is concerned with the data that was self-reported i.e by the respondents, which has its own limitations for a topic of this kind. Secondary sources do not provide data on many characteristics of elderly workers and their health care utilisation in the rural areas of Bulandshahr district. Thus, primary investigation is needed to study these aspects explaining to the study area. Hence, a primary sample survey has been conducted to obtain primary data so as to investigate the distinctive characteristics of elderly workers. Primary investigation also has its own limitations. In this regard, during field investigation respondents do not answer all the questions asked. Also data had not been collected from those particular cases where the elderly had been in fragile health condition or were bedridden. In spite of care taken in sampling and interviewing

the respondents, there could be few errors in data, which were validated to a large extent. Last but not least, the all possible remedies were taken during field visits, although few respondents have asked many questions about the research, institution and personal profile of the interviewer, respondents were found more adhered to their work instead on answering the quarries of the interviewer. Apart from these limitations, this study was possible only because of the efforts made by the respondents or the elderly workers and non-workers who shared their experiences and patiently answered all the quarries raised in the questionnaire.

## Endnotes

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<sup>1</sup> Sarkar, A., & Chakrabarti, S. (2011). Pattern and Trend of Population Ageing in India. E Traverse (Geographical Institute) *The Indian Journal of Spatial Science*, 2 (2), 2249-4316.

<sup>2</sup> Mai, Y., Peng, X., & Chen, W. (2013). How fast is the Population Ageing in China? *Asian Population Studies*, 9(2), 216-239.

<sup>3</sup> Chanana, H. B., & Talwar, P. P. (1986). Implication of Demographic Goals in 2000 AD for Aging Population in India. *Health and Population: Perspectives and Issues*, 9(2), 67-79.

<sup>4</sup> Guzman, J. M., Pawliczko, A., Beales, S., Till, C., & Voelcker, I. (2012). Ageing in the Twenty First Century: A Celebration and a Challenge. *New York: United Nations Population Fund*.

<sup>5</sup> Stein, C. E., & Kalache, A. (1999). *Community Eye Health: An international Journal to Promote Eye Health Worldwide*, Volume 12 Issue No. 29.

<sup>6</sup> Srivastava, V. (2010). *Women Ageing: Social Work Intervention*. New Delhi, Rawat Publications, 54-55.

<sup>7</sup> *Aging and Financial Inclusion: An Opportunity: A Joint Publication of Help-Age International and the Center for Financial Inclusion at Accion*. 2015, Help-Age International, London.

<sup>8</sup> Vankayalapati, V. (2008). *Problems of Rural Aged: A Sociological Perspective*. New Delhi, Kalpaz Publication.

<sup>9</sup> Srivastava, V. (2010). *Women Ageing (Social Work Intervention)*, New Delhi, Rawat Publications.

<sup>10</sup> Visaria, P. (2001). Demographics of Ageing in India. *Economic and Political Weekly*, 36(22), 1967-1975.

<sup>11</sup> Bhat, A. K., & Dhruvarajan, R. (2001). Ageing in India: Drifting Intergenerational Relations, Challenges and Options. *Ageing and Society*, 21(05), 621-640.

<sup>12</sup> Audinarayana, N. (2012). *Urban Elderly in India: Care and Support*. New Delhi: B.R. Publishing Corporation, 13-14.

<sup>13</sup> Joshi, A.K. (2006). *Older Persons in India*. New Delhi: Serials Publication, 3-4.



- 
- <sup>14</sup> Muthukrishnaveni, S. (2010). Living Arrangements and Health Conditions of Elderly in Rural India. New Delhi, Serials Publications, 66-67.
- <sup>15</sup> Muthukrishnaveni, S. (2001). Living Arrangement and Health Conditions of Elderly in Rural India. New Delhi, Serials Publications, 28-29.
- <sup>16</sup> Audinarayana, N. (2012). Urban Elderly in India: Care and Support. New Delhi, B.R. Publishing Corporation, 10-11.
- <sup>17</sup> Hurd, M. D. (1989). The economic status of the elderly. *Science*, 244(4905), 659-664.
- <sup>18</sup> Hanspal, S., & Chadha, N. K. (2006). Economic Aspects of Aging in India: The Multi-Generational issues. *Journal of Intergenerational Relationships*, 4(1), 81-92.
- <sup>19</sup> Stephens, C., Alpass, F., Towers, A., Noone, J., & Stevenson, B. (2011). The Effects of Socioeconomic Inequalities of Working Life on Health: Implications for an Ageing Population. *Kotuitui: New Zealand Journal of Social Sciences Online*, 6(1-2), 73-85.
- <sup>20</sup> Kaulagekar, A. (2007). Ageing and Social Support: A Study of Low-income Urban Elderly in Pune. *Indian Anthropologist*, 37(2), 45-53.
- <sup>21</sup> Devi, R. (1992). Work Participation of the Aged in India. In: Krishnan, P., and Mahadevan, K., ed. 1992. The Elderly Population in Developed and Developing Countries: Policies, Problems and Perspectives. New Delhi, B.R. Publishing Corporation. Ch. 21.
- <sup>22</sup> Mathew, E.T., and Rajan, S.I. (2008). India. In: ed. 2008 Rajan, S. I., Social security for the elderly: Experiences from South Asia (ch.2, 52-53). New Delhi: Routledge Taylor & Francis Group.
- <sup>23</sup> Rajan, S. I., Mishra, U. S., & Sarma, P. S. (2001). Health concerns among India's elderly. *The International Journal of Aging and Human Development*, 53(3), 181-194.
- <sup>24</sup> Mukherjee, S., & Levesque, J. F. (2010). Changing Inequalities in Utilisation of Inpatient Care in Rural India: Evidence from the NSSO. *Economic and Political Weekly*, 84-91.
- <sup>25</sup> Acharya, A., & Ranson, M. K. (2005). Health Care Financing for the Poor: Community-Based Health Insurance Schemes in Gujarat. *Economic and Political Weekly*, 4141-4150.

- 
- <sup>26</sup> Senanayake, P. (2000). Women and Reproductive Health in a Graying World. *International Journal of Gynecology & Obstetrics*, 70(1), 59-67.
- <sup>27</sup> Duggal, R. (2012). Challenges in Financing Healthcare. *Economic and Political Weekly*, Vol XLVII No. 35.
- <sup>28</sup> Kalwij, A. and Vermeulen, F. (2005). Labour Force Participation of the Elderly in Europe: The Importance of Being Healthy. Discussion Paper No. 1887, Bonn, Germany.
- <sup>29</sup> Rajendra, K., & Rao, A.C. (2012). Economic and Health Status of Elderly Workers of Unorganized Sector. *Indian Journal of Gerontology*, Vol. 26, No. 2, pp. 275-284.
- <sup>30</sup> Vasantha & Premakumar (1998). Nutrition and Health Problems of Aged, Paper presented at National Seminar on Psycho-social Characteristics, Problems and Strategies for the Welfare of the Aged in Rural India, Department of Applied Research, Gandhigram Rural Institute, March 11-13, 1998.
- <sup>31</sup> Dilip, T. R. (2001). The burden of ill health among elderly in Kerala. *Help Age India--Research and Development Journal*, 7(2), 7-15.
- <sup>32</sup> Panigrahi, A. K. (2009). Determinants of Living Arrangements of Elderly in Orissa: An Analysis. Working paper 228, Institute for Social and Economic Change, Bangalore.
- <sup>33</sup> Sen, M. & Noon, J. (2007). Living arrangement: how does it relate to the Health of the Elderly in India?' Paper Presented at the Annual Meeting of the Population Association of America, New York, 29-31 March.
- <sup>34</sup> Agrawal, S. (2012). Effect of Living Arrangement on the Health Status of Elderly in India, *Asian Population Studies*, 8(1), 87-101.
- <sup>35</sup> Mohanty, S., & Kumar, S. (2012). Instrumental Activities of Daily Living and Subjective Wellbeing in Elderly Persons Living in Community. *Indian Journal of Gerontology*, 26(2), 193-206.
- <sup>36</sup> Prakash, I. J. (2003). Aging, Disability, and Disabled Older People in India, *Journal of Aging and Social Policy*, 15(2-3), 85-108.
- <sup>37</sup> Mathuranath, et al, (2005). Instrumental Activities of Daily Living Scale for Dementia Screening in Elderly People. *International Psychogeriatric Association*, 17(3), 461-474.

- 
- <sup>38</sup> Mohanty, S., & Kumar, S. (2012). Instrumental Activities of Daily Living and Subjective Wellbeing in Elderly Persons Living in Community. *Indian Journal of Gerontology*, 26(2), 193-206.
- <sup>39</sup> Kalia, M., Virk, A., & Gupta, B.P. (2013). Morbidity Pattern among the Rural Elderly: A Health Perspective. In ed. S. Siva Raju, Ulimiri V. Somayajulu and C.P. Prakasam: Ageing Health and development (ch.2, 60-68). New Delhi, B.R. Publishing Corporation.
- <sup>40</sup> NSS 55th Round July 1999 – June 2000, (Report No. 470 (55/10/8) Migration in India, 1999-2000 National Sample Survey Organisation. Ministry of Statistics and Programme Implementation, Government of India, September 2001.
- <sup>41</sup> Rajan, S. I. (1999). Financial and Social Security in Old Age in India. *Social Change*, 29 (1-2), 90-125.
- <sup>42</sup> Rajan, S. I. (1999). Financial and Social Security in Old Age in India. *Social Change*, 29 (1-2), 90-125.
- <sup>43</sup> Rajan, S.I., & Prasad, S. (2008). Pension and Social Security in India. In ed. Rajan, S.I., Risseuw. C & Perera, M. “Institutional Provisions and Care for the Aged”: perspectives from Asia and Europe (ch.3, 115-116) New Delhi, Anthem Press.
- <sup>44</sup> Martin, X, S. (1996). A Positive Theory of Social Security. *Journal of Economic Growth*, 1(2), 277-304.
- <sup>45</sup> Sukumar, P.C. (2003). Population Ageing in Kerala: Trends, Prospects and Social Security Implications. Unpublished M.Phil Dissertation, Jawaharlal Nehru University, New Delhi.
- <sup>46</sup> Gopal, M. (2006). Gender, ageing and Social Security. *Economic and Political weekly*, 4477-4486.
- <sup>47</sup> Krishnaswamy, et al (2008). Ageing in India. *Springer science and business media*, 32(9), 258–268.
- <sup>48</sup> Singh, C., & Bharati, K. (2013). Ageing in India: Need for a Comprehensive Policy. Working Paper NO - 421, Indian Institute of Management, Bangalore.
- <sup>49</sup> Krishnaswamy, et al (2008). Ageing in India. *Springer science and business media*, 32(9), 258–268.

- 
- <sup>50</sup> Gokhale, S.D. (2003). Towards a Policy for Aging in India, *Journal of Aging & Social Policy*, 15(2-3), 213-234.
- <sup>51</sup> Mahmood, A. (2008). Statistical Methods in Geographical Studies. New Delhi, Rajesh Publications, 159-160.
- <sup>52</sup> Rosset, E. (1964). Aging Process of Population. A Pergamon Press Book, New York, 12-13.
- <sup>53</sup> Widdowson, M. (2011). Case Study Research Methodology. *International Journal of Transactional Analysis Research*, 2(1), 1-10
- <sup>54</sup> Singh, K. (2007). Quantitative Social Research Methods. New Delhi, Sage Publication, 103-110.



*Chapter: Three*

*Demographic and Background  
Attributes of Elderly Population in  
India, Uttar Pradesh and Bulandshahr  
District*

## Chapter: 3

# Demographic and Background Attributes of Elderly Population in India, Uttar Pradesh and Bulandshahr District

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### Overview

*Chapter one portrays an introductory feature of the subject to being studied. Second chapter presents the gigantic literature which has dealt under various themes. Consequently, previous two chapters illustrate how population ageing is a matter of serious concern around the globe. The current chapter explores the demographic and background profile of elderly population in India, Uttar Pradesh and Bulandshahr district particular. The chief objective of this chapter is to analyse the trends and pattern of elderly people in the study area. Ageing of populations is the result of speedy demographic transition around the sphere. This chapter portrays the overall demographic differentials and background characteristics of elderly population. Results from secondary data have confirmed that the growth of elderly population is much faster than the growth of the general population. The analysis of the elderly indicates that the elderly who lived in the villages are more vulnerable than their urban counterparts.*

### 3.1: Introduction

“Elderly population is one of the most prominent features of the 21<sup>st</sup> century. The combination of high fertility and falling mortality during the 20th century has ensured large and rapid increase in elderly populations as successively larger cohorts enter the span of old age” (Rajan *et al.*, 2003). Population ageing is a paradoxical situation on one hand; it represents a success story for mankind in the form of massive survival to old ages while on the other hand it creates profound challenges for public institutions that must adapt to the changing age-structure. “Population ageing has been occurring much faster in developing countries, due to rapid fertility decline and increasing life span through

medical interventions. This rapid growth of ageing population has become a serious challenge to public health globally”<sup>1</sup>. A direct consequence of the ongoing global fertility transition and of mortality decline resulting in population ageing is expected to be among the most prominent global demographic trends of the 21<sup>st</sup> century. Until recently it was thought that population ageing was a problem in the developed countries but the recent trends show that it is more rapid in developing countries including India. “By 2025, 75 per cent of the world’s elderly is expected to be living in the developing nations of the world” (**United Nations, 2002**).

Although, the proportion of the elderly who are 60 years of age and above seem relatively less in the most populous regions of the world such as India and China, in terms of absolute numbers these countries have more elderly persons than many other nations because of their large population bases. A **United Nations** report has predicted that India will have 198 million ‘old’ (60+) people in 2030 and 326 million in 2050. Currently, there could be around 100 million ‘senior citizens’ in India. Elderly population also has grown because of world-wide improvements in health services, educational status, and economic development<sup>2</sup>. The growth in ageing population in India has been faster than in other developing countries. In India, throughout the last century, percentage of elderly population increased from 5.6 percent in 1961 to 8.6 percent in 2011. Presently, “India has around 104 million elderly persons (8.6 per cent of the country’s total population as given by Census 2011). The number is expected to increase to 296.6 million constituting 20 per cent of the total population by 2050” (**United Nations, 2013**). Currently, Asia has the fastest increase of ageing population in the world.

### **3.2: Progression of Demographic Transition Theory**

“Population with high fertility tend to have low proportion of elderly and vice versa. The term ‘demographic transition’ is used to describe a gradual process of change from high rates of fertility and mortality to low rates of fertility and mortality”<sup>3</sup>. “The demographic transition is the process of modernisation of the reproductive behaviour in human population”<sup>4</sup>. The demographic situation of any place can be well-explained by the process of demographic transition. Based on the actual experiences of the changes in fertility and mortality rates, any society is believed to pass through a particular stage of demographic transition.

**James (2008)** has explained the three phases of the demographic transition process creating three unique age structures for any country.

- ❖ In the first phase, with fertility being very high and with mortality declining, there will be a large number of people in the young age group, particularly below 15 years, creating a high dependency ratio.
- ❖ In the second phase of transition, the fertility starts declining at a fast pace leading to a reduction in the child population. However, as a consequence of higher fertility in the past, there will continue to be a higher growth rate in the working age group population during this period. This period is marked by considerable reduction in the dependency ratio.
- ❖ In the third phase, the dependency ratio again will be higher as a result of higher old age population.

Thus, population ageing is the most significant result of the process known as demographic transition. Demographically speaking, a significant aspect of ageing in India is its rate of increase, which is higher than the rate of increase of the general population.

One of the major challenges in India is that the large percentage of the elderly is below poverty line. The situation of those who have been engaged in the unorganized sector, such as craftsmen, small traders, marginal farmers, landless labourers and daily-wage-workers is very precarious as they have little to fall back upon<sup>5</sup>. In the light of above discussion, the aged population in India is currently the second largest in the world. In modern times, for all practical purpose the individuals who are above sixty years or old are considered to be aged or elderly. Here, a brief attempt has been made to understand the socio-economic, demographic profile and utilisation of health care services. In addition to this, increasing burden of communicable and non-communicable diseases of elderly are grave concerns for both the developed and developing world. Thus, there is a need to develop appropriate policy and social security system for the welfare of the elderly population.

### **3.3: Magnitude and Speed of Population Ageing**

‘Population ageing is taking place in nearly all the countries of the world. Ageing results from decreasing mortality, and, most importantly, declining fertility. This process leads to a relative reduction in the proportion of children and to an increase in the share of



people in the main working ages and of elderly persons in the population. The global share of elderly people (aged 60 years or over) increased from 9.2 per cent in 1990 to 11.7 per cent in 2013 and will continue to grow as a proportion of the world population, reaching 21.1 per cent by 2050<sup>6</sup>.

### 3.3.1: The Global Process of Population Ageing

“At the global level the phenomena of population ageing was first highlighted in 1982 when the United Nations organized the *First World Conference on Ageing in Vienna*”<sup>7</sup>.

<b>(Table:3.1)</b>				
<b>Global Scenario of the Aged, 2005-2050</b>				
<b>Year</b>	<b>Total Population (in billions)</b>	<b>60 years and above (Per cent)</b>	<b>65 years and above (Per cent)</b>	<b>80 years and above (Per cent)</b>
<b>2005</b>	7.3	10.4	7.4	1.3
<b>2025*</b>	8.1	15.1	11.2	2.4
<b>2050*</b>	9.4	21.7	15.8	4.3
<b>2075*</b>	10.1	26.5	19.5	6.0
<b>2100*</b>	10.5	29.2	22.5	7.5
<b>2125*</b>	10.6	30.2	24.1	9.3
<b>2150*</b>	10.9	31.8	25.6	10.8

**Source:** United Nations, 2005  
\*Projected Figures

The ageing of population is one of the glaring consequences of demographic transition. The world’s population is expected to increase to 9.4 billion by 2050 from the current 7.3 billion. During the same period, the proportion of the elderly population is expected to increase from 10.4 per cent to 21.7 per cent. Among the elderly, the number of the ‘oldest old’ i.e. those aged 80 or over will increase more rapidly. It is also evident from the table 3.1 the group aged 80 years or over is increasing faster than any other age group and is expected to continue growing at very rapid rates until at least 2050. Another significant pattern observed from above the analysis is the fact that in the coming decades population ageing will become a grave problem for both planners and policy makers around the globe. Despite the positive development among elderly, the issues need to be addressed at global level is yet to be solved.

### 3.3.2: Dynamics of Population Ageing in the Contemporary World (65 Years and above)

“Population ageing, which entails an increasing share of elderly in the population, is a major global demographic trend which will intensify during the twenty-first century”<sup>8</sup>. Consequently, population ageing is an outcome of a population’s demographic transition from higher to lower levels of fertility and mortality.

<b>(Table:3.2)</b>			
<b>Dynamics of Population Ageing (65+) in the Contemporary World</b>			
<b>Region</b>	<b>Years</b>		<b>Projected Year</b>
	<b>1950</b>	<b>2000</b>	<b>2050</b>
<b>World</b>	5.2	6.9	19.3
<b>Africa</b>	3.2	3.3	6.9
<b>Latin America &amp; Caribbean</b>	3.7	5.4	16.9
<b>China</b>	4.5	6.9	22.7
<b>India</b>	3.3	5.0	14.8
<b>Japan</b>	4.9	17.2	36.4
<b>Europe</b>	8.2	14.7	29.2
<b>USA</b>	8.3	12.3	21.1

**Source:** United Nations, 2001, *World Population Prospects: the 2000 Revision*, United Nations, New York

**Note:** *Observed and Forecasted Percentages of the Elderly (65+ years/ as a share of the world population) in Selected Areas, Regions and Countries of the World: 1950, 2000 and 2050*

The most prominent historical factor in population aging has been fertility decline. Sustained decrease in total fertility rates (TFRs) in industrialised nations since at least 1900 has resulted in current levels of below replacement population rate of 2.1 live births per woman in such nations<sup>9</sup>. In 1950s, there were only 5.2 per cent of elderly to total population in the world. United States of America (USA) has the largest share among the elderly population (8.3 per cent), followed by Europe (8.2 per cent), Japan (4.9 per cent), China (4.5 per cent) and India just below the 4 per cent mark. Moreover, past few decades have witnessed the world's population on its remarkable transition path from a state of high birth and death rates to one characterised by low birth and death rates.

It is apparent from Table (3.2) that in 2000 that the arena of world ageing population has changed. Japan’s percentage of elderly population has overtaken both European countries and the United States of America. These changes have highlighted many things including a situation of a shift from west to east. Nowadays, the growth of population of Asian

countries is much faster than other parts of the world. Projections suggest that, by 2050 this proportion will increase to 19.3 percent. The most striking national increase is likely to occur in Japan; by 2050, 36.4 percent elderly in the world will be Japanese. China's elderly population will surpass the United States of America. The growth of elderly population in European countries will increase at a similar rate which they had in past. In addition to this, India's elderly will increase dramatically over the next four decades. The share of India's population aged 60 years and older is projected to from 5.0 percent in 2000 to 14.8 percent in 2050. In 2050, children would be 20.5 percent of the total population while the elderly would be 20.7 percent of the total. In 2150, there would be 17.5 percent children and 30.5 percent elderly in the total population<sup>10</sup>.

### 3.3.3: Dynamics of Population Ageing in the Contemporary World (60 Years and above)

One of the major public health achievements in the century has been the sharp decline in premature mortality from many communicable and non-communicable diseases. This is largely due to improvements in sanitation, housing, and nutrition as well as to medical innovations, including vaccinations and the discovery of antibiotics (Kalache & Stein, 1999).

<b>(Table: 3.3)</b>					
<b>Global Trends of Population Ageing ≥ 60 Years</b>					
<b>Region</b>	<b>1950</b>	<b>1975</b>	<b>2000</b>	<b>2015</b>	<b>2050</b>
<b>Asia</b>	6.7	6.6	8.6	14.8	24.4
<b>Europe</b>	12.1	16.5	20.3	27.3	33.6
<b>Latin America/Caribbean</b>	5.6	6.5	8.4	14.9	25.0
<b>North America</b>	12.4	14.6	16.3	24.7	27.0
<b>Oceania</b>	11.2	11.0	13.4	19.1	23.5
<b>Sub-Saharan Africa</b>	5.2	4.8	4.8	5.5	8.3
<b>Source:</b> World Population Prospects, the 2010 Revision (UN DESA, 2011), World Health Organization, 2014					

The phenomenon of ageing has occurred at varying speed in different countries of the world. A cursory glance as the table (3.3) suggests how elderly population is distributed around the globe. In almost every continent, the proportion of elderly is increasing. By 2050, around 2 billion people in the world will be aged 60 years and over with 400 million aged 80 years and over. In Europe, the proportion of elderly is estimated to reach

33.6 per cent by 2050 while in sub-Saharan Africa the projected figure is 8.3 per cent (Table 3.3). Furthermore, by 2050 Europe will be leading continent in the proportion with respect to the elderly followed by, North America (27.0 per cent), Latin America/Caribbean (25.0 per cent), Asia (24.4 per cent) and Oceania only (23.5 per cent). On the other hand, a small percentage of elderly population will be found in Sub-Saharan African countries. In view of this, approximately 8.3 per cent of persons will be 60 years and above in this region.

#### **3.3.4: Trends of Elderly Population in Developing Countries**

A majority of persons aged 60 years and above now live in the developing countries of the world. In the coming years, their number is expected to grow more than twice as rapidly in the developing regions as compared to the developed regions (**United Nations, 2000**). In the developing countries, “one in every 12 persons is now elderly; the ratio is expected to become one in five by 2050, equaling that in the developed countries. The latter is projected to reach one in three by 2050”<sup>11</sup>. Trends in demographic ageing have been increasing in all regions of the world. The proportion of elderly continue to grow worldwide especially in developing countries. Several decades back, this ageing issue was a concern of mostly the European countries which had already completed their demographic transition. In this regard, contemporary population ageing has become a global phenomenon with serious implications for the developing countries as well. Furthermore, advancement in medical science is a key element for the growth of general population resulting in mortality decline with increasing life expectancies. Over the past sixty years, mortality rates have declined in developing countries raising the average life span. The current aggregate growth rates of the elderly population in developing countries is more than double that in developed countries, and also double that of the total world population. After that the growth rate in developing countries is expected to rise beyond and remain above 3.5 annually from 2015 through 2030 before declining in subsequent decades<sup>12</sup>. In a number of developing countries poverty is high among older persons sometimes higher than that of the population as a whole especially, in countries with limited coverage of social security systems<sup>13</sup>. Thus, there is great need to promote wellbeing initiatives and social security system for elderly people especially, in developing world where population ageing is growing at a steady rate.

### **3.4: Determinants of Population Ageing in India**

As of 2011, India has a population of 1.21 billion people. It is the second most populous country in the world, next only to China. A negative growth of population between 1911-1921 was due to the influenza epidemic throughout India, which is estimated to have killed nearly 5 per cent of the population in the country (**Visaria & Visaria, 1994**). The decline in death rate became sharper after independence in 1947, with the result that the population nearly doubled in 34 years from 347.5 million in 1947 to 683.3 million in 1981.

#### **Drivers of Population Ageing in India**

In India, the mortality decline began in the early 1920s and fertility has been declining since the early 1970s. It is significant that the percentage decadal growth during 2001-2011 has registered the sharpest decline since independence. It declined from 23.87 percent for 1981-1991 to 21.54 percent for the period 1999-2011, a decrease of 2.33 percentage points. For 2001-2011, this decadal growth has become 17.64 percent, a further decrease of 3.90 percentage points. Furthermore, “Census 2011 is a milestone in the demographic history of the country as it is perhaps for the first time, that there is a significant fall in growth rate of population after decades of stagnation”<sup>14</sup>.

#### **3.4.1: Fertility: The Prime Driver**

“During the 1960s, especially the late 1960s, some fall in fertility was evident. The decade of 1970s saw perceptible fall in fertility, the CBR fell below 40 and the TFR below 5”<sup>15</sup>. The Crude Birth Rate (CBR) has declined from 43.5 in 1971 to 22.8 in 2008 as per the latest SRS bulletin published in October 2009. The Total Fertility Rate (TFR) has come down from 6.5 in 1971 to 2.6 in 2007. It may be noted from the projections that India’s population was supposed to reach replacement levels of TFR 2.1 in the year 2015, while some of the large northern states namely, Uttar Pradesh, Rajasthan, Bihar and Madhya Pradesh will reach that level after 2021. In fact, Uttar Pradesh will reach TFR of 2.1 only in 2027. It is now vividly evident that the demographic character of India’s population is changing rapidly. In this regards, “India is now entering the final stages of demographic transition, with the country nearing replacement-level fertility”<sup>16</sup>. As far as India is concerned, there has been a substantial reduction in mortality compared to

fertility since 1950. For instance, “while the crude birth rate declined by 52 per cent from 47.3 per cent during 1951-61 and 22.8 per cent in 1999, the crude death rate fell more steeply by 70 per cent from 28.5 to 8.4 during the same period”<sup>17</sup>.

#### **3.4.2: Growing Significance of Mortality**

Among the components of population change, mortality has historically played an important role in determining the growth of population. During the first and second stages of demographic transition, it is mortality that starts declining first, initially slowly and then rapidly. From 1970 onwards, the annual estimates of crude death rates (CDR) and infant mortality rates (IMR) available from SRS indicate that the declining trend in mortality in the country continued through the decades of 1970s and early phase of 1980s. The Crude Death Rate (CDR) has also declined from 21.3 in 1971 to 7.4 in 2008. Infant Mortality Rate (IMR), which was 129, has declined to 53 during the same period. Mortality decline means that larger proportions of the population survive to old age and as the transition progresses the elderly themselves live longer.

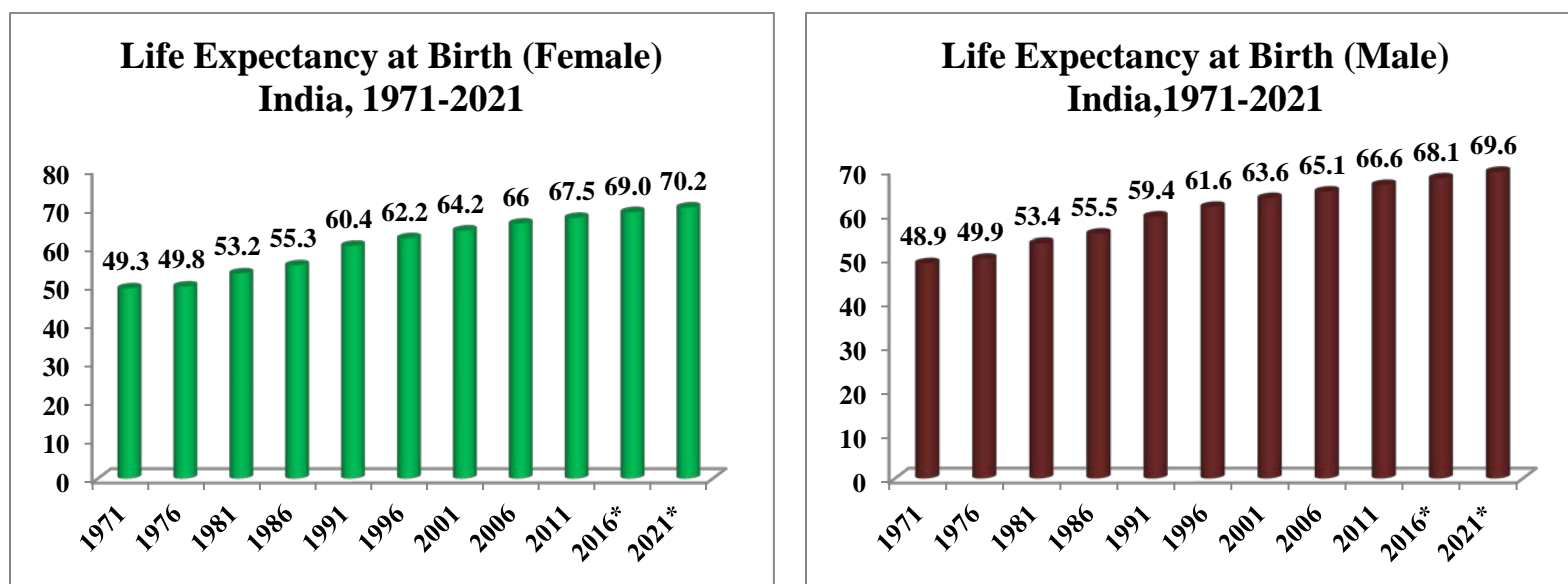
#### **3.4.3: Changing Trends in Life Expectancy**

“The extension of average life span is one of the greatest achievements of humanity”<sup>18</sup>. Life expectancy gradually increased in Europe in the first half of the nineteenth century and grew rapidly in the later years (Coale 1986; Gore 1992). Decline in mortality is the chief cause of increased life expectancy among different populations. On the other hand, “fertility decline alters the age ratios and contributes to population ageing”<sup>19</sup>. The growth in ageing population in India has been faster than in other developing countries. “In 1947, when India became independent from British rule, life expectancy was around 32 years. Life expectancy has more than doubled to 67 years in 2007, with projected increase to 74 years by 2045-2050”<sup>20</sup>. Therefore, over the period of time public health care facilities in India has improved.

### 3.5: Life expectancy at Birth by Sex

Increases in life expectancy at birth have been registered in all major regions of the world. In India, almost immediately after independence, a population programme was introduced by the Government that primarily aimed at reducing fertility. An increasing gender differential in life expectancy was the characteristics of mortality patterns in more developed countries in the 20th century, reflecting the generally lower mortality of females than males in every age group and for most causes of death<sup>21</sup>.

(Figure: 3.1)



**Source:** Calculations based on Census of India, 1971-2011

\*2016-2021: Projected Figures

Life expectancy in India has been increasing steadily over the past six decades. Increase in life expectancy is considered good in itself and is used as an important indicator for the calculation of the Human Development Index (HDI). But does increasing longevity add to

the quality of life of the elderly? There is enough evidence to indicate that generally speaking, the quality of life of the elderly goes down with advancing years<sup>22</sup>. It is seen that the life expectancy at birth among males has risen from 48.9 years during 1971 to 66.6 years in 2011. At the same time, the increase in life expectancy among females at the national level increased from 49.3 years in 1971 to 67.5 in 2011.

Increasing life expectancy implies increasing numbers of older people living longer lives than their earlier cohorts. Available statistics indicate that, since independence, there has been a marked decline in the level of mortality, particularly infant and child mortality. Population ageing is one of the essential consequences of demographic transition. Due to various biological factors, women generally live longer than men but still because of some social factors adverse to women, India was one of the few countries in the world where life expectancy at birth has slightly in favour of males till about 1980. However, because of improvement in the various socio-economic conditions since then, female life expectancy is now higher than male life expectancy in India as observed in most of the other countries of the world<sup>23</sup>.

### **3.6: Percentage Share of Elderly Population in Total Population in India and Uttar Pradesh: 1961-2011**

Population aging may be seen as a human success story and the triumph of public health, medical advancements, and economic development over diseases and injuries that had limited human life expectancy for millennia<sup>24</sup>. In the recent past, the proportion of the aged to the total population in India has been a matter of great concern. There has been an increasing trend in the proportion of the aged in the total population.

In India, by and large, the number of elderly population aged 60 years or older is steadily increasing. Such trend is more conspicuous after 1961 onwards mainly because of the significant reduction in death rate and consequent improvement in the life expectancy of persons (Audinarayana, 2012). This attempts to highlight changes in a demographic event in India. Consequently, population ageing is a 'byproduct extension' of demographic transition.



**(Table: 3.4)**  
**Percentage Share of Elderly Population in Total Population in India and Uttar Pradesh 1961-2011**

Census Year	Place of Residence	India			Uttar Pradesh		
		Total	Males	Females	Total	Males	Females
1961	Total	5.63	5.46	5.81	6.22	6.3	6.27
	Rural	5.82	5.71	5.95	6.2	6.45	6.44
	Urban	4.62	4.42	5.11	5.54	5.32	5.13
1971	Total	5.97	5.94	5.99	6.41	6.99	6.51
	Rural	6.54	6.26	6.17	6.92	7.24	6.69
	Urban	4.89	4.73	5.26	5.56	5.61	5.27
1981	Total	6.42	6.23	6.41	6.69	7.05	6.61
	Rural	7.03	7.55	6.85	7.02	7.41	6.87
	Urban	5.02	5.08	5.69	5.75	5.49	5.33
1991	Total	6.55	6.69	6.71	6.98	7.21	6.46
	Rural	7.51	7.21	7.03	7.4	7.65	6.79
	Urban	5.34	5.59	6.01	5.77	5.57	5.18
2001	Total	7.45	7.61	7.83	7.01	7.05	6.96
	Rural	7.74	7.43	8.06	7.31	7.41	7.20
	Urban	6.7	6.25	7.21	5.86	5.69	6.06
2011	Total	8.58	8.20	8.98	7.73	7.69	7.77
	Rural	8.79	8.42	9.19	8.01	8.00	8.03
	Urban	8.10	7.17	8.52	6.73	6.64	6.83

**Sources:** Calculations based on Census of India, 1961-2011

In India, since independence there has been a sharp decline in the overall death rate and mortality levels in the older age groups. This initiated the process of population ageing and was further accelerated by the rapid decline in fertility. According to the Census figures, the proportion of persons aged 60 years and above has been rising in India from one Census to next. Table 3.4 clearly indicates that the aged population in India and Uttar Pradesh is increasing both in terms of absolute numbers as well as in terms of proportion to the total population. However, it is conspicuous to note that the per cent of elderly population was always higher in rural areas than their counterparts in urban areas. There has been a steady rise in the share of elderly population (aged 60 years or above) in the total population over the last six decades. As against 5.6 per cent in 1961, the share has increased to 8.58 per cent in 2011. For males the increase was more modest from 5.5 per cent to 8.2 per cent, while for females there had been a steep rise from 5.8 per cent to 8.9

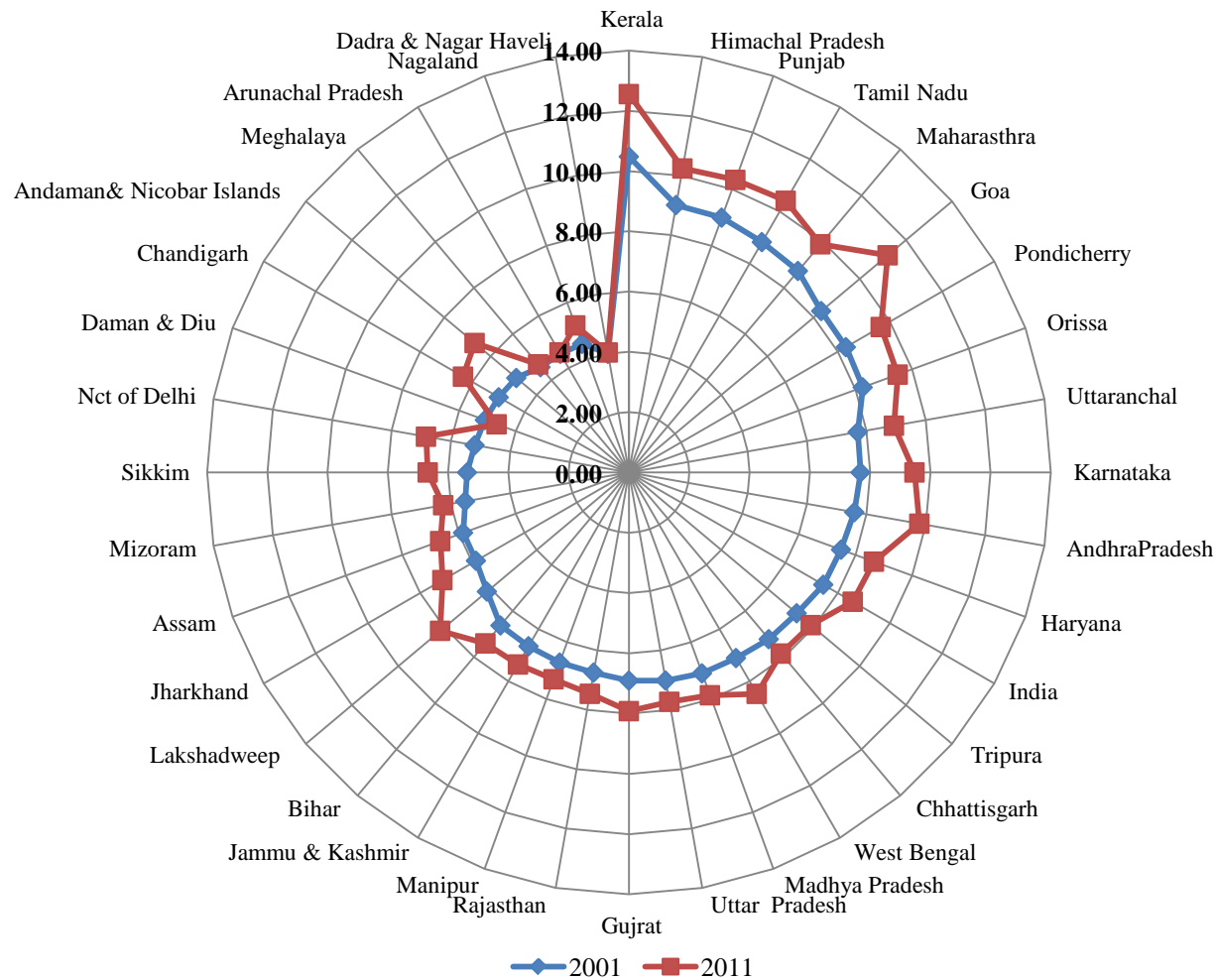
per cent during the six Census decades from 1961 to 2011. It can also be observed that the percentage (of elderly) had all along been higher in rural areas than in urban and usually more among females than males. The per cent (share) distribution of elderly population in Uttar Pradesh by their sex and place of residence during the last six census decades are presented in Table 3.4 in Uttar Pradesh, the proportion of elderly people aged 60+ has increased from 6.22 per cent in 1961 to 7.73 per cent in 2011. Table 3.4 highlights that in Uttar Pradesh the share of elderly population in total population is comparatively higher than India and consistently increased over the past six decades in both rural and urban areas. Results from Table 3.4, exhibit that the proportion of elderly was more among females than the males. Similarly, the proportion of elderly was more in rural than urban areas. It is surprising that the growth rate of elderly population is higher than the growth rate of the total population. It is a fact that India is experiencing the demographic dividend at present but very soon may face the consequences of population ageing. In just a span of 30 years from 1961-1991, the elderly population doubled from 25 million to 55 million and is expected to rise to 134 million by 2021. Though researches on elderly population have been undertaken, more needs to be done to deal with the various dimensions of the upcoming problems.

In view of this, the present study further reiterates that the phenomenon of longer life span should be supported by better medical and health care services. Another significant observation from table 3.6 relates to growing feminisation of ageing. Growing concern of feminisation of ageing has greater risks of widowhood, miserable health condition and financial insecurity. In order to explain, the elderly in India today are experiencing a sudden change in their socio-economic. The breakdown of families into nuclear unit is facing the elderly to lead lives alone without constant support. The increasing life span is also increasing the financial dependency of the elderly.

### **3.6.1: Regional Variations of Elderly Population in India (2001-2011): A State Level Analysis**

The tempo of population ageing is faster in developing countries than in developed countries. As a result, developing countries will have less time to adjust to the consequences of population ageing.

**Figure. 3.2: Regional Variations of Elderly Population in India (2001-2011): A State Level Analysis**



Source: Calculations based on Census of India, 2001-2011

In India, population ageing is a serious challenge for policy makers and planners as well development strategies. In the figure 3.2, the distribution of elderly across the states of India during past two decades have been shown. Further, Census, 2001 results indicate that, in India population ageing was highest at 10.48 per cent in Kerala followed by Himachal Pradesh (9.01 per cent), Punjab (9.00 per cent), Tamil Nadu (8.83 Per cent), Maharashtra (8.73 per cent), West Bengal (7.11 per cent), and Delhi (5.20 per cent). Lowest proportion was observed Chandigarh (4.99 per cent) followed by Arunachal Pradesh (4.55 per cent), Nagaland (4.54 per cent) and Dadra and Nagar Haveli (4.00 per cent). The continuously increasing proportion of the aged in population for the both sexes indicates that the growth rate of the aged population has always remained faster than rest of the population for both the sexes. In the second segment of the analysis, the proportion of elderly population according to Census of India (2011) has also been presented, like Census figure 2001, the proportion of elderly population dominated by major states. Population ageing was highest at 12.55 per cent in Kerala followed by Himachal Pradesh (10.24 per cent), Punjab (10.33 per cent), Tamil Nadu (10.41 Per cent) and Maharashtra (9.88 per cent). However, smaller states and Union Territories like Haryana, Arunachal Pradesh, Manipur Meghalaya, Mizoram, Sikkim Dadra and Nagar Haveli, Tripura, and Andaman and Nicobar Islands had lower proportion of elderly population.

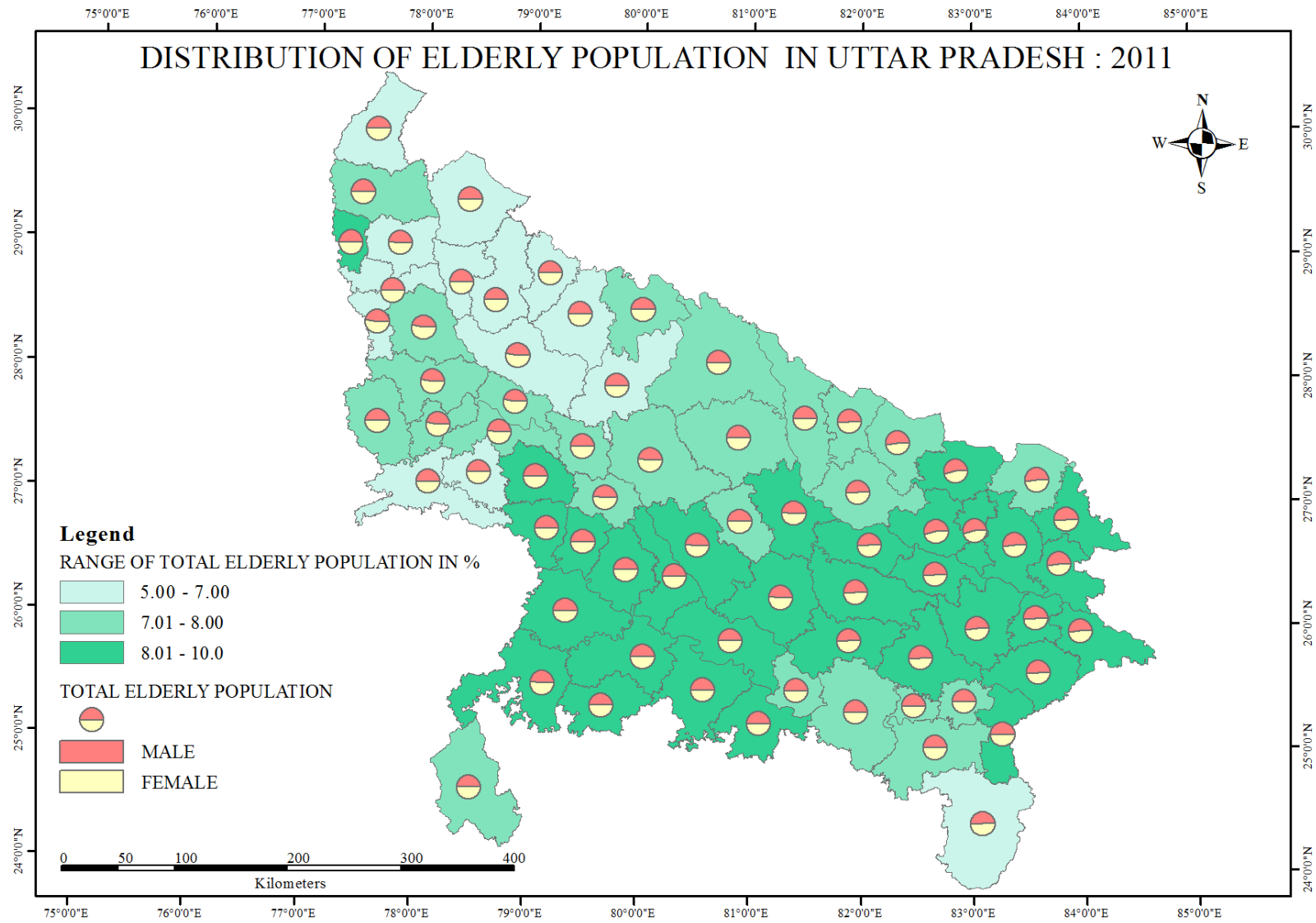
### **Urban and Rural Dimensions**

India has agrarian based economic structure where majority of workforce engaged in agriculture. In fact, the problems of the aged are widely perceived to be more acute in urban areas of the country than in rural India. It is observed that the ratio of the elderly to the total population is slightly higher in rural areas than in urban areas, indicating thereby that most of the elderly live in rural areas.

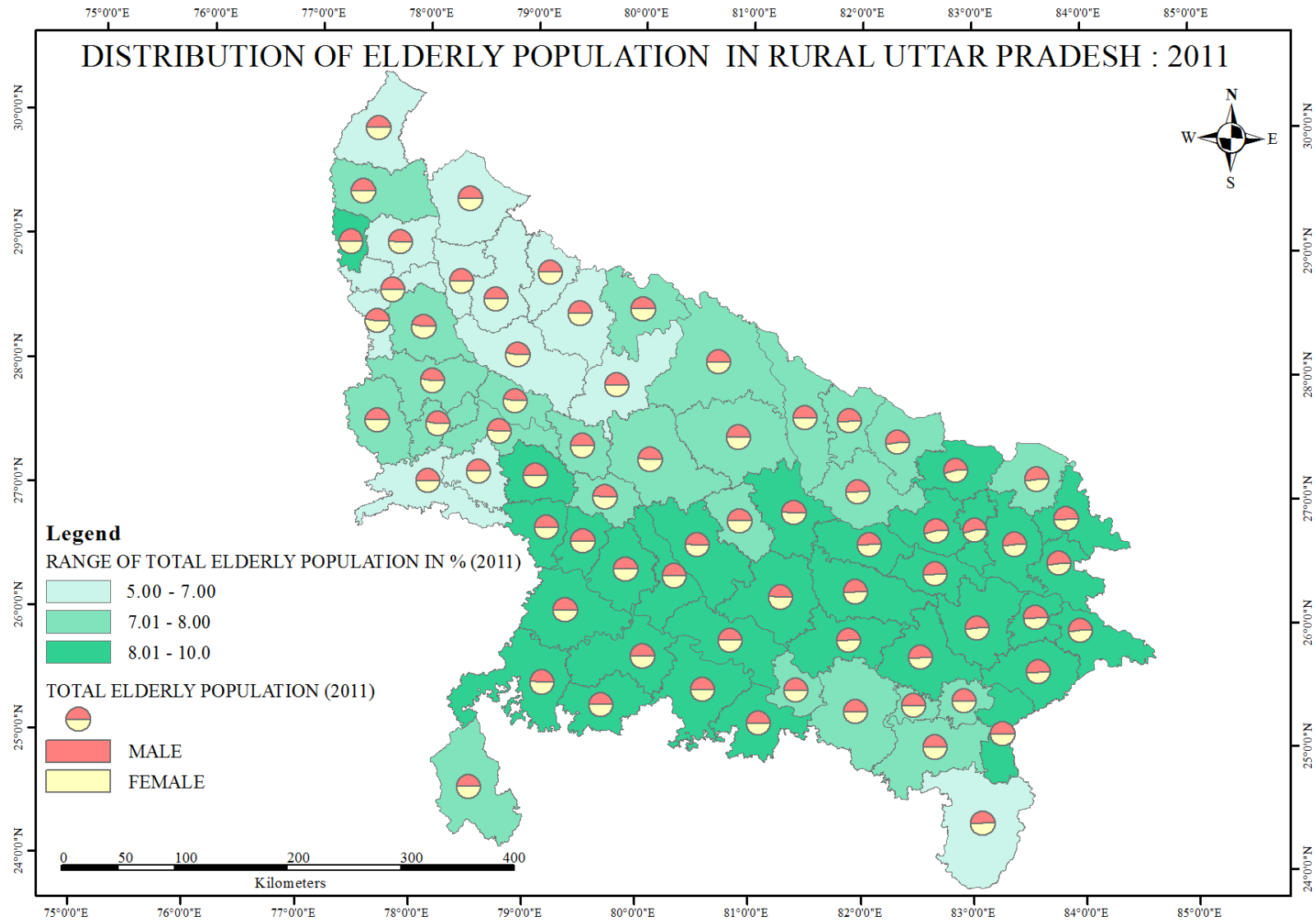
### **3.6.2: Distribution of Elderly Population by Sex and Place of Residence in Uttar Pradesh: A District Level Analysis: 2011**

In India, a wide variety of traditional cuisines can promote healthy ageing. A rapidly ageing population is expected to have significantly higher health care and financial requirement. Indeed, population ageing will continue to be the dominant feature throughout most of the parts.

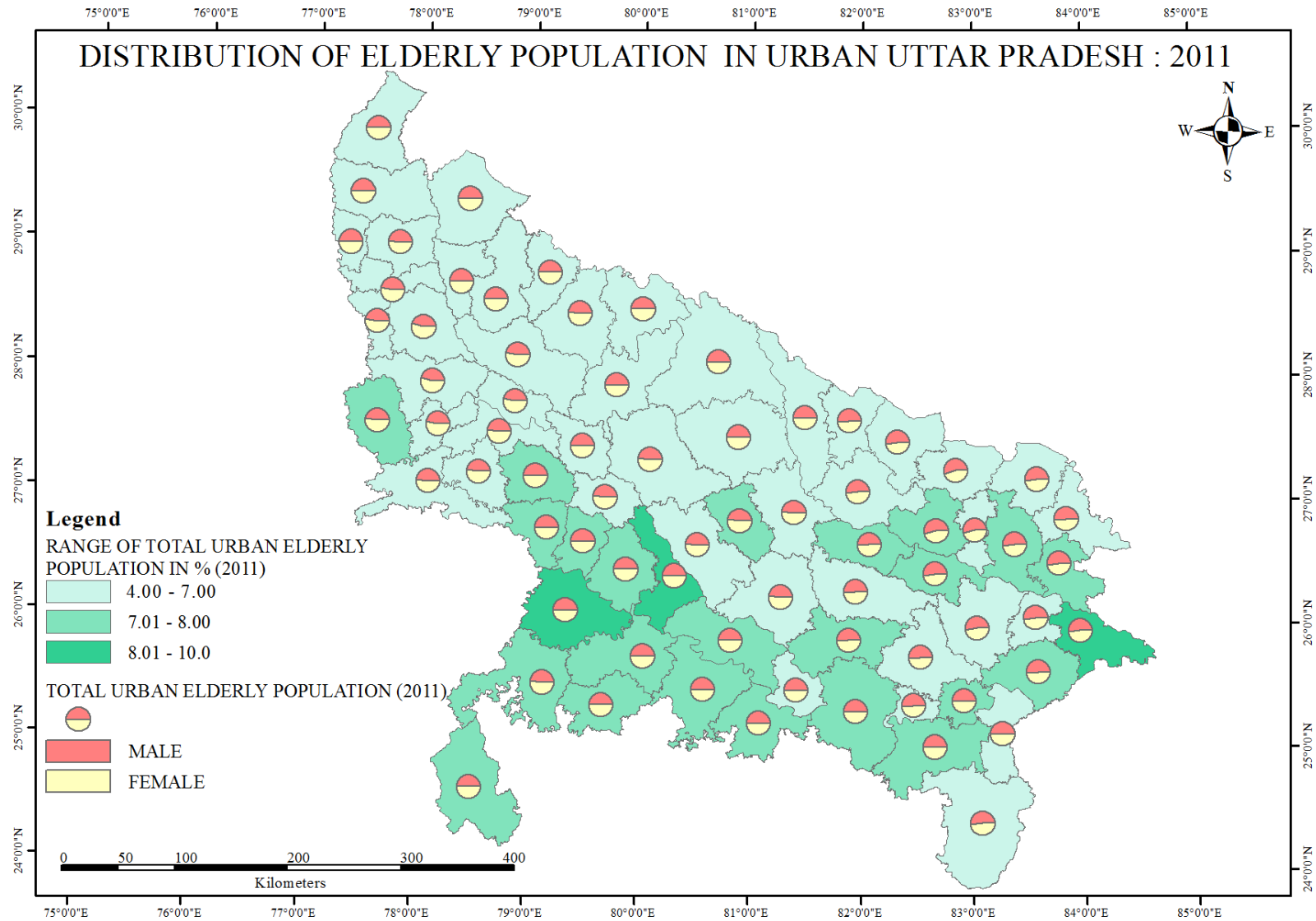
(Map 3.1)



(Map 3.2)



(Map 3.3)



India's elderly population grew rapidly during last several decades. Moreover, statistical evidences demonstrate that, Uttar Pradesh has largest share of absolute number of elderly persons. In relation to this, map 3.1, 3.2 and 3.3 demonstrate the distribution of elderly population in Uttar Pradesh. It has already been pointed out in the earlier discussion that, population ageing signifies one of the most influential demographic features in contemporary era. Map 3.1 exemplifies the status of elderly by sex and place of residence in Uttar Pradesh. In view of this, elderly population grew speedily in all districts of Uttar Pradesh. Evidences shows that in Uttar Pradesh majority of the districts have elderly population above both state and national level. The Census results indicated that in Uttar Pradesh the elderly population was highest in Hamirpur (9.53 per cent) followed by Jalaun (9.33 per cent), Mahoba (9.28) and Ambedkar Nagar (9.24 per cent). In these entire districts, the proportion of elderly population has been relatively higher in rural areas than in urban areas. It is also observed that, the proportion of elderly was more among females than male. Furthermore, both economic and health vulnerabilities are more prevalent among rural elderly than their urban counterparts. Other important issues like, social isolation, inadequate social security are the leading causes which might be more aggravated in old-age. Outmigration is another factor which determines the attitude among elderly in the rural community. Another dimension from above analysis indicates that, both in Moradabad (5.82 per cent) and Rampur (5.93 per cent) in Uttar Pradesh the proportion of elderly population has been the lowest.

Map 3.2 and Map 3.3 elaborate another aspect of the composition of the elderly to be considered in their place of residence. It is evident from above maps; that over 70 per cent of elderly population live in the rural areas. Another salient observation has been made from above map is that in both rural and urban areas, elderly population is increasing rapidly. Maps Findings further indicates that, the elderly population in rural areas surviving with multiple issues. In relation to this, both socio-economic and health concerns are more prominent. The propensity of rural-urban distribution of elderly population is found more concentrated in rural areas. In rural areas, elderly persons are victim of huge dependency, vulnerability and income insecurity. Furthermore, sex wise comparison revealed that women elderly were more neglected and disturbing in old-age compared to their male counterparts.



### 3.7: Distribution of Population of each Sex by Broad Age Groups: 1991-2011

“Sex and age are the primary variables that are necessary for almost all classifications related to population characteristics. Sex and age structure of a population defines the limits of society’s reproductive potentials” (Premi, 2009, p.103).

<b>(Table :3.5)</b>							
<b>Distribution of Population of each Sex by Broad Age Groups, 1991-2011</b>							
<b>Census Year</b>	<b>Sex</b>	<b>Age-Groups (India)</b>			<b>Age-Groups (Uttar Pradesh)</b>		
		<b>0-14</b>	<b>15-59</b>	<b>60+</b>	<b>0-14</b>	<b>15-59</b>	<b>60+</b>
1991	Male	37.7	55.5	6.7	40.0	51.9	7.2
	Female	37.8	55.5	6.7	40.7	52.3	6.7
2001	Male	35.7	57.2	7.1	40.9	51.6	7.1
	Female	35.2	57.0	7.9	40.7	51.9	6.9
2011	Male	31.2	60.2	8.2	35.9	55.5	7.7
	Female	30.3	60.6	8.9	35.4	56.1	7.8

**Source:** Calculations based on Census of India, 1961-2011  
**Note:** \*No Census was conducted in Assam in 1981; hence India's population distribution for that year excludes Assam. Similarly, the 1991 age distribution excludes Jammu and Kashmir where no census was conducted in 1991.  
 \*\* Excluding Mao Maram, Pao Mata and Purul Sub Divisions of Senapati district of Manipur

As indicated above, there is a perceptible decline in the proportion of children below the age of 15 years from 1991 onwards. The decline during the past 30 years has been largely due to a decline in birth rates. In table 3.5 population distribution of each sex by broad age groups has been presented. In India, the statistics indicates in the age group 0-14, male respondents were 37.7 per cent which declined to 31.2 per cent in 2011. In this addition to this, the proportions of female respondents were 37.8 per cent in 1991, declined to (30.3) per cent in 2011. It is evident from the table that 15-59 age group population in India has been increasing during 1991 to 2011. It is also quite revealing that, proportion of male elderly population was 6.7 per cent in 1991 that increased to 8.2 per cent in 2011. Further, the proportion of older females in India’s population has been higher than that of males. It is quite evident from the above results that in 1991 there were 6.7 per cent older women in India. In addition to this, the proportion of older women increased to 8.9 per cent in 2011. Older women in India particularly, are more vulnerable as their rights are often overlooked; their limited social exposure and low educational level do not allow them to claim their rights.

According to the latest Census figure, in percentages terms the growth of population during 2001-11 is 20.09 per cent, which is lower by 5.76 per cent points from the previous decades. Table 3.5 confirmed that, in Uttar Pradesh from 1991 to 2011, the proportion of respondents in age group 0-14 is declining. In the both the sexes the proportion of population in 0-14 age group in 1991 was 40.0 per cent, which was lower by 4.6 per cent than in 2011. Particularly results indicate in the last two decades have some increase in the 0-14 age group. As stated in the table 3.5 in the age-group (15-59) the female respondents were on the higher side during the proceeding of last three successive Census decades. The proportion of persons aged 60 years and above has been rising in India and Uttar from one Census to next. In comparison, the working population (15-59 years of age), the percentage of elderly is growing very fast in last several decades. In Uttar Pradesh there were 7.2 per cent respondents aged in 1991, which increased to 7.7 per cent in 2011. In relation to this, recent trends indicate that the beginning of feminization in the country particularly, as life expectancy of women are longer than men. The proportion of older women in Uttar Pradesh was 6.7 per cent in 1991 approximately and 7.8 per cent and in 2011 respectively.

### **3.8: Distribution of Elderly Population in Five Year Age-Group by Residence and Sex: 2011**

For the past few decades, India has been experiencing considerable change in its age structure and place of residence. Consequently, In India, the population of the elderly is growing rapidly and there is an increase in the proportion of the aged vis-à-vis the young population. Women comprise a slightly higher proportion than men, basically due to higher female life expectancy at birth. Therefore, there is an urgent need to strengthen of the elderly population. Especially, those who were reside in rural areas with extremely deprived condition. Under the modern set-up, rights of women in general and elder women in particular became illusory. 'The nature of demographic transition, such a huge increase in population of the elderly is bound to create several societal issues magnified by sheer volume. The demographic changes, and more importantly the fertility transition, in India have occurred without adequate changes in the living standard of the people. As a result, the majority of the people at 60+ are socially and economically poorer' (UNFPA, 2011, West Bengal Report).

<b>(Table :3.6)</b>										
<b>Distribution of Elderly Population in Five Year Age-Group by Residence and Sex: 2011</b>										
<b>Area</b>	<b>Age-Group</b>	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
		<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
<b>India</b>	60-64	36.3	36.6	35.9	35.9	35.9	35.8	37.2	38.3	36.2
	65-69	25.5	25.3	25.6	25.8	25.6	26.0	24.7	24.8	24.6
	70-74	18.5	18.9	18.1	18.8	19.4	18.3	17.7	17.7	17.6
	75-79	8.9	8.8	8.9	8.7	8.7	8.8	9.3	9.1	9.5
	80+	10.9	10.3	11.4	10.8	10.5	11.1	11.1	10.1	12.1
<b>Uttar Pradesh</b>	60-64	36.9	36.9	36.9	36.6	36.5	36.7	38.4	38.8	38.0
	65-69	24.9	24.4	25.4	25.0	24.4	25.7	24.2	24.1	24.2
	70-74	18.3	19.1	17.5	18.6	19.5	17.7	17.2	17.5	16.9
	75-79	8.1	7.9	8.2	8.1	7.9	8.3	8.1	8.0	8.2
	80+	11.7	11.6	11.9	11.6	11.7	11.6	12.2	11.6	12.8
<b>Bulandshahr District</b>	60-64	35.9	37.1	35.1	35.6	36.5	34.7	37.5	38.8	36.2
	65-69	23.8	23.0	24.6	24.0	23.1	24.8	23.2	22.7	23.8
	70-74	19.0	19.4	18.6	19.2	19.7	18.7	18.4	18.4	18.4
	75-79	8.6	8.3	8.9	8.7	8.4	9.0	8.3	8.1	8.5
	80+	12.6	12.2	12.9	12.6	12.3	12.9	12.7	12.1	13.2

**Source:** Calculations based on Census of India, 2011

Note: \*T; Total (Person), M; Male, F; Female

Table 3.6 presents the five year age group of elderly population by sex and place of residence in India, Uttar Pradesh and Bulandshahr district as well. According to **Census of India** (2011), 60-64 population age groups dominate the elderly population in both India and Uttar Pradesh. This share will rise gradually during the current decade. In this addition, literature has sufficient evidences that prove women have a greater life expectancy. Table 3.6 also presents the estimates of elderly population in Uttar Pradesh by age groups and place of residence. In the table 3.6, about 36.95 per cent were in age group 60-64 years, followed by 24.87 per cent were in age group 65-69 years, 18.34 per cent were in age group 70-74 years, and 8.10 per cent were in age group 75-79 years and just, 11.74 per cent who were observed in age group 80 years and above. Table 3.6 also provides the distribution of elderly population in Bulandshahr district according to various age-groups. It was already mentioned in the above analysis more than 60 per cent of elderly population is in 60-64 and 65-69 age groups. Furthermore, it is can be seen that in table 3.6, in the age group 80 or above years, the share of elderly population in Bulandshahr district was comparatively higher than state and national level.

### 3.9: Measures of Population Ageing in India

“Social protection for elderly persons is and will continue to be a fundamental pillar of development in all types of societies” (United Nations, 2013). As noted in the previous discussions, elderly population in our society has been one the most vulnerable section. In addition to this, attitude of younger generation towards their elderly reflects the changing norms of society. Moreover, in the rural society without insufficient care and support elderly population face various socio-economic and health vulnerabilities. Measures of population ageing have chief components that highlight the situation of elderly persons in different sections. Furthermore, there are certain measures which show their stipulation and suggest appropriate clarification for wellbeing of elderly.

#### 3.9.1: Index of Ageing

Index of ageing, that is the ratio of number of elderly persons to number of children in a population, is another useful measure of the ageing process and is expressed as the number of persons above 60 years for every 100 children below the age of 15 years.

<b>Table: (3.7)</b>										
	<b>Index of Ageing: India, Uttar Pradesh and Bulandshahr District, 2001-2011</b>									
<b>(2001)</b>	<b>Total</b>			<b>Rural</b>			<b>Urban</b>			
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	
<b>India</b>	19.84	18.72	21.07	19.65	18.60	20.81	20.43	19.11	21.89	
<b>Uttar Pradesh</b>	17.25	17.29	17.19	17.50	17.63	17.36	16.14	15.85	16.46	
<b>Bulandshahr</b>	18.49	17.45	19.69	18.45	17.40	19.67	18.62	17.64	19.76	
<b>(2011)</b>	<b>Total</b>			<b>Rural</b>			<b>Urban</b>			
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	
<b>India</b>	27.89	26.28	29.64	26.79	25.29	28.42	30.91	28.99	33.05	
<b>Uttar Pradesh</b>	21.65	21.38	21.95	21.57	21.35	21.83	21.99	21.53	22.50	
<b>Bulandshahr</b>	21.00	19.06	23.27	21.59	19.47	24.08	19.05	17.72	20.61	
<b>Source:</b> Calculations based on Census of India, 2001-2011										
<b>Note:</b> T; Total, M; Male, F; Female										

Table 3.7 reveals that there were nearly 19.84 elderly persons for every 100 children in 2001, which rose to more than twenty five per cent in 2011 in India. It is also surprising to compare these statistics with Uttar Pradesh; the ratio of Index of Aging indicates that 17.25 per cent of elderly were there for every 100 children in 2001, which increased by

about 4.4 per cent more in 2011. A noticeable increase in Index of Ageing among elderly in Bulandshar district has also been discussed here. It is also interesting to note that, about 18.49 per cent of elderly was there for every 100 children in 2001; that has increased to 21.0 per cent during 2011. Furthermore, according to place of residence, in Bulandshahr district, the index of ageing (2001) was highest in urban areas compared to rural areas. Similarly, 2011 statistics indicates, index of aging was observed highest in rural areas compared to urban counterparts. “The United Nation (UN) population projections show that soon after the year 2050, the elderly population in the country will outnumber children” (United Nations, 2010). A persistent speed of ageing will be experienced in the coming decades all around the sphere. Overall, it is also interesting to know, Index of Ageing is the vital indicator for the analysis of population ageing.

### 3.9.2: Potential Support Ratio

The next segment of measure of population ageing is the potential support ratio. The potential support ratio is a measure of the available support base for the older population and is the inverse of the old age dependency ratio. The potential support ratio (PSR) is measured as the number of persons aged 15 to 64 for each older person aged 65 years or over.

<b>Table: (3.8)</b>									
	<b>Potential Support Ratio: India, Uttar Pradesh and Bulandshahr District, 2001-2011</b>								
<b>(2001)</b>	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
<b>India</b>	8.01	7.63	8.42	8.60	8.32	8.89	6.64	6.08	7.28
<b>Uttar Pradesh</b>	8.16	8.26	8.05	8.72	8.93	8.48	6.26	6.02	6.54
<b>Bulandshahr</b>	8.59	8.19	9.04	9.17	8.78	9.60	6.75	6.62	7.24
<b>(2011)</b>	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
<b>India</b>	8.62	8.21	9.05	9.21	8.84	9.60	7.45	6.98	7.96
<b>Uttar Pradesh</b>	8.31	8.31	8.30	8.91	8.96	8.85	6.45	6.34	6.57
<b>Bulandshahr</b>	8.03	7.38	8.74	8.57	7.82	9.40	6.45	6.07	6.86
<b>Source:</b> Calculations based on Census of India, 2001-2011									
<b>Note:</b> T; Total, M; Male, F; Female									

In the recent years increasing evidence of the elderly becoming a burden for the family is a central theme in the ways in which older people talk about their ageing process. With the onset of the ageing procedure, deterioration of mental and physical health result is a higher dependency of the elderly on others. Information provided in the table 3.8 highlight the potential support ratio in India, Uttar Pradesh and Bulandshahr district. In general there has been some improvement in potential support ratio at the national level and that for Uttar Pradesh. On the other contrary, this has declined in Bulandshahr in 2001-2011 periods. Potential support ratio was observed higher in rural areas from their urban counterparts. In relation to this, sex wise results indicate, that potential support ratio among elderly women are higher compared to their male counterparts. It is also evident from the above analysis, in the successive decades potential support ratio among elderly has reduced in the Bulandshahr district. In addition to this, another interesting result demonstrates that, in both India and Uttar Pradesh, relatively higher degree of potential support ratio was recorded as stated earlier.

### 3.9.3: Old Age Dependency Ratio

The burden of elderly is generally measured by the old age dependency ratio. The ratio is generally used as an indicator of the burden of demographic dependency in a population; that is, how many “dependents” need to be supported by each person of working age<sup>25</sup>.

<b>Table: (3.9)</b>									
	<b>Old Age Dependency Ratio: India, Uttar Pradesh and Bulandshahr, 2001-2011</b>								
<b>(2001)</b>	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
<b>India</b>	13.08	12.45	13.77	14.11	13.59	14.65	10.75	09.93	11.67
<b>Uttar Pradesh</b>	14.42	14.59	14.23	15.45	15.80	15.07	10.98	10.67	11.35
<b>Bulandshahr</b>	15.58	14.88	16.38	15.96	15.22	16.81	14.39	13.80	15.05
<b>(2011)</b>	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
<b>India</b>	14.23	13.60	14.89	15.15	14.52	15.80	12.41	11.82	13.06
<b>Uttar Pradesh</b>	13.85	13.86	13.85	14.82	14.88	14.75	10.91	10.80	11.04
<b>Bulandshahr</b>	13.13	12.24	14.11	13.97	12.91	15.15	10.73	10.32	11.18
<b>Source:</b> Calculations based on Census of India, 2001-2011									
<b>Note:</b> T; Total, M; Male, F; Female									

The previous outcomes of both Index of Ageing and Potential Support Ratio have distinctly described the situation of the elderly population. Subsequently, old age dependency ratio is also a vital measure of population ageing. Demographically explanation of this ratio is “old-age dependency ratio (used as an indicator of the degree of dependence of older persons on potential workers) is defined as the number of people aged 60- for every 100 people in the age group aged 15-59”. Furthermore, this ratio increased from 13.08 percent in 2001 to 14.23 percent in 2011. During this period, dependency is slightly higher among women than their male counterparts. It has been also observed that the old age dependency ratio was higher in rural than in urban areas. The continued increase in old age dependency ratio in India is a major challenge for the Government to allocate resources to take care of the growing of elderly in the coming years (**Muthukrishnaveni, 2010**). Dependency ratio gives the proportion of persons whom economically active age group need to support. In Uttar Pradesh, dependency ratio has increased from 14.42 percent in 2001 to 13.85 percent in 2011. In this period, about 0.57 point decline has been observed. Elderly living in rural areas have been more dependent as compared to the urban counterparts. In relation to this, poverty, low level of education and less opportunity to work are the major factors faced by the old age dependents in rural areas. In Bulandshahr district, both the Census figures have indicated that, the old age dependency ratio is higher among the females than their male counterparts. Consequently, old age dependency is very high in India, and especially for elderly women, who are usually unemployed, less participating in labour market and more dependent on their spouses and other members of the family.

### **Conclusion**

Population ageing is a key consequence of demographic transition. Fifty years back, population ageing was the concern of the developed world. However, recent analysis indicates that, the arena has been shifted towards the developing regions. Furthermore, decline in mortality with increasing trends in life expectancy contributed to increase to promoting elderly population in the developing world. Analysis of secondary data was undertaken in order to understand the trends and patterns of the elderly population in India, Uttar Pradesh and Bulandshahr district.

India is a witness of the steady rise in the proportion of elderly. Consequently, India has a second largest 60+ population in the world. In accordance to this, Uttar Pradesh has largest absolute number of elderly population in India. This chapter has confirmed that, the condition of the elderly would depend on a variety of determinants particularly, in rural areas, where elderly have lesser opportunities for their survival.

The secondary data analyses have revealed that decline of fertility and increase in life expectancy has resulted in the population ageing in India. Sex is a significant determinant of well-being in old age. Women face greater challenges in old-age than men. Overall, this chapter has pointed out several challenges and opportunities for the society and Government as well. It has been pointed out that the decline in the size of the Indian family as well as the increase in the frequency of mobility or migration of productive age group towards urban areas, the aged are alleged to face a serious problems in rural areas. It is interesting to note that majority of the elderly population are concentrated in rural areas with enormous poverty and inadequate social security. This is particularly true for a state like Uttar Pradesh and is equally accurate for Bulandshahr district.

	<b>Picture:3.1</b>	
		
	<b>Source:</b> Field Survey Conducted from January to April, 2014	



## Endnotes

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- <sup>1</sup> Reddy, M.S.N., & Sobhha, I. (2006). Healthy Ageing: Concept, Problem and Prospects, In Joshi, A.K (Ed.), *Older Persons in India* (p. 4). New Delhi, Serials Publications.
- <sup>2</sup> Kinsella, K., & Velkoff, V.A. (2001). *An Ageing World: 2001*. US Government Printing Office, Washington, DC.
- <sup>3</sup> Kinsella, K., & Phillips, D.R. (2005). Global Aging: The Challenge of Success. *Population Reference Bureau*, 60, (1),
- <sup>4</sup> Chesnais, J.C. (1990). Demographic Transition Patterns and Their Impact on the Age Structure. *Population and Development Review*, 16, (2), 327-336.
- <sup>5</sup> Kaulagekar, A. (2007). Ageing and Social Support: A Study of Low-income Urban Elderly in Pune. *Indian Anthropologist*, 37, (2), 45-53.
- <sup>6</sup> United Nations, (2013). *World Population Ageing*. United Nations, Department of Economic and Social Affairs, ST/ESA/SER.A/348.
- <sup>7</sup> Jain, S. (2008). Globalisation and the Aged, In Joshi, A.K (Ed.), *Older Persons in India*, (p. 34), New Delhi: Serials Publications.
- <sup>8</sup> United Nations, Department of Economic and Social Affairs, Population Division (2013). *World Population Ageing 2013*, ST/ESA/SER.A/348
- <sup>9</sup> Kinsella, K., & Velkoff, V.A. (2001). *An Ageing World: 2001*. US Government Printing Office, Washington, DC.
- <sup>10</sup> Vankayalapati, V. (2008). *Problems of Rural Aged: A Sociological Perspective*. New Delhi: Kalpaz Publications, 30.
- <sup>11</sup> Rajan, S.I., & Mishra, U.S. (2003). Demography of Indian Aging, 2001-2051. *Journal of Aging & Social Policy*, 15(2-3), 14.
- <sup>12</sup> Kinsella, K., & Velkoff, V.A. (2001). *An Ageing World: 2001*. US Government Printing Office, Washington, DC.
- <sup>13</sup> United Nations, (2013). *World Population Ageing*. United Nations, Department of Economic and Social Affairs, ST/ESA/SER.A/348.
- <sup>14</sup> Census of India, (2011). *Provisional Population Totals Paper 1 of 2011, Uttar Pradesh Series*, Government of India, Directorate of Census Operations, Uttar Pradesh, p. 38.

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- <sup>15</sup> Kulkarni, P. M. (2011). Towards an Explanation of India's Fertility Transition. George Simmons Memorial Lecture, *33rd Annual Conference of the IASP*, Lucknow, November 11-13.
- <sup>16</sup> James, K.S. (2011). India's Demographic Change: Opportunities and Challenges. *American Association for the Advancement of Science AAAS*, 333.
- <sup>17</sup> Rajan, S. I. (2008). *Social Security for the Elderly: Experiences from South Asia*. New Delhi: Routledge Taylor & Francis Group, 42.
- <sup>18</sup> United Nations, Department of Economic and Social Affairs, Population Division (2013). *World Population Ageing 2013*, ST/ESA/SER.A/348
- <sup>19</sup> Bhagat, R.B., and Unisa, S. (2006). Ageing and Dependency in India, *Asian Population Studies*, 2:2, 201-214.
- <sup>20</sup> Deka1, A.K., & Nath, D. C. (2011). Socio-Demographic Correlates Explaining the Longevity of Graying Population in a Traditional Society. *International Journal of Pure and Applied Sciences and Technology*, 6(1), 21-34.
- <sup>21</sup> Kinsella, K., & Phillips, D.R. (2005). Global Aging: The Challenge of Success. *Population Reference Bureau*, 60, (1).
- <sup>22</sup> Bose, A. (2008). Increasing Life Expectancy and the Elderly. *Economic & Political Weekly*, 1-2.
- <sup>23</sup> *Situation Analysis of the Elderly in India (2011)*. Central Statistics Office, Ministry of Statistics & Programme Implementation, Government of India, New Delhi.
- <sup>24</sup> Kinsella, K., and Phillips, D.R. (2005). Global Aging: The Challenge of Success, *Population Bulletin* 60, (1),
- <sup>25</sup> United Nations, Department of Economic and Social Affairs, Population Division 2013: *World Population Ageing 2013*, ST/ESA/SER.A/348.



*Chapter: Four*

*Profile of Elderly Working Population  
in India, Uttar Pradesh and  
Bulandshahr District*

## **Chapter: 4**

### **Profile of Elderly Working Population in India, Uttar Pradesh and Bulandshahr District**

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#### **Overview**

*An attempt has been made to analyse the work profile of elderly in Uttar Pradesh in this chapter. The central theme of the chapter is to draw upon significant aspects of elderly workers. The analytical aspects of this chapter have been fulfilled through secondary sources. Population ageing is process of living long. This process is the result of declining fertility and increasing life expectancy. Work profile of elderly population has been influenced by various factors. Low socio-economic status and insufficient means of social security are the major grounds which have forced the elderly to participate in both farm and non-farm activities. The first part of this chapter presents the trends and pattern of workforce participation among elderly population. The second section provides the situation of elderly workers in Uttar Pradesh. Finally, the last section provides the conclusion and appropriate findings.*

#### **4.1: Introduction**

Ageing of population refers to the increasing proportion of old people in the total population of a country. Fertility and mortality are the major biological determinates in the process of population ageing. Low fertility rates, longevity and migration of youth adults to greener pastures will lead to the demographic scenario of there being more elderly persons than children or the youth. Today, there are 100 million elderly over the age 60 of years in India, that is nearly 10 per cent of the total Indian population. This figure will rise to 315 million by 2050. Consequently, about 20 per cent of the population will be over 60 years. Income insecurity is the most significant aspect of vulnerability among elderly population in rural areas. In rural areas limited option for income generation activities is the major obstacle among elderly. Furthermore, economic compulsion is the chief cause which forces elderly to perform in the labour market.

#### 4.2: Age Group Wise Main workers, Marginal Workers and Non-Workers of Elderly Population in India and Uttar Pradesh-2011

The Indian demographic profile depicts that, graying of population is one of the most significant characteristic of the twenty first century. Beside, a substantial increase in the overall proportion of elderly population, the sex ratio for the population aged 60 years and above continues to reflect strong preponderance of women in the older ages.

**(Table : 4.1)**

<b>Main Workers, Marginal Workers, Non-Workers and those Marginal Workers, Non-Workers of Elderly Population in India-2011</b>													
Area	Age-Group	Main Workers			Worked for less than 3 Month			Marginal Workers Worked for 3 to 6 Months			Non-Workers		
		Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
<b>Total</b>	60-69	73.11	72.17	76.32	68.55	64.00	73.00	73.17	70.24	76.62	53.82	47.28	57.08
	70-79	21.21	22.03	18.42	24.60	27.95	21.34	20.92	23.33	18.08	31.69	35.70	29.69
	80+	5.68	5.80	5.25	6.84	8.05	5.66	5.91	6.43	5.30	14.49	17.02	13.23
	60+	8.99	9.24	8.25	10.65	11.56	9.89	8.46	9.14	7.78	8.32	6.94	9.24
<b>Rural</b>	60-69	72.83	71.60	76.70	68.41	63.48	73.02	73.57	70.33	77.22	51.87	42.64	56.05
	70-79	21.70	22.77	18.37	24.77	28.40	21.39	20.81	23.47	17.83	32.74	37.75	30.47
	80+	5.47	5.64	4.93	6.81	8.12	5.60	5.62	6.20	4.96	15.39	19.61	13.47
	60+	10.23	10.70	8.97	10.85	11.93	10.00	8.68	9.52	7.89	8.00	6.01	9.40
<b>Urban</b>	60-69	74.05	73.95	74.55	69.89	68.04	72.80	70.32	69.75	71.28	57.27	54.19	59.09
	70-79	19.57	19.76	18.65	22.98	24.42	20.71	21.67	22.46	20.33	29.83	32.66	28.15
	80+	6.38	6.29	6.81	7.13	7.54	6.49	8.01	7.79	8.38	12.91	13.16	12.76
	60+	6.40	6.50	5.97	9.07	9.34	8.68	7.19	7.39	6.89	8.96	8.99	8.94

**Source:** Calculations based on Census of India, 2011

The Indian Economy is characterised by the existence of a vast majority of informal or unorganized labour employment. It is widely acknowledged that among the elderly about 8.99 per cent are main workers, while 8.46 per cent are marginal workers. This analysis also highlights the proportion of non-workers. In addition to this, around 8.32 per cent elderly are non-workers. It can be observed from table 4.1 that proportion of main and marginal elderly is quite higher in rural areas than their urban counterparts. In the early phase of old age higher number of both main and marginal elderly workers can be seen but, with advancing age the workforce participation among elderly workers decreases. In addition to this, with the advancement of age physical health aptitudes of elderly

deteriorate. It is clearly evident from table 4.1 with advancement of age working capacity of elderly persons decline. Another interesting feature of the table is that elderly in the 80+ age group are still found working. Poor financial condition and lack of support systems are the major causes that force the elderly to enter in workforce. Extensive literature in the Indian context highlight that economic compulsion is the prime factor to push elderly into the labour market.

<b>(Table : 4.2)</b>													
<b>Main workers, Marginal workers, Non-Workers and those Marginal Workers, Non-Workers of Elderly Population in Uttar Pradesh-2011</b>													
<b>Area</b>	<b>Age Group</b>	<b>Main Workers</b>			<b>Worked for less than 3 Month</b>			<b>Marginal Workers Worked for 3 to 6 Months</b>			<b>Non-Workers</b>		
		<b>Total</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>
<b>Total</b>	60-69	68.74	68.45	70.32	66.68	63.17	71.06	69.78	67.85	72.74	55.51	44.82	59.85
	70-79	23.37	23.68	21.64	24.72	27.26	21.54	22.09	23.65	19.70	29.38	34.83	27.16
	80+	7.90	7.87	8.04	8.61	9.57	7.40	8.13	8.50	7.56	15.12	20.35	12.99
	60+	11.81	11.95	11.08	11.14	11.71	10.50	9.31	9.37	9.21	6.06	4.30	7.27
<b>Rural</b>	60-69	68.39	68.04	70.28	66.66	62.91	71.16	70.05	67.89	73.25	54.71	42.17	59.50
	70-79	23.86	24.22	21.95	24.81	27.55	21.52	22.13	23.87	19.56	29.88	35.95	27.55
	80+	7.75	7.74	7.77	8.53	9.54	7.32	7.82	8.24	7.19	15.42	21.88	12.95
	60+	12.98	13.21	11.88	11.35	12.08	10.59	9.63	9.76	9.46	6.05	4.05	7.45
<b>Urban</b>	60-69	70.36	70.33	70.57	66.83	65.89	68.95	67.59	67.59	67.61	58.18	52.23	61.12
	70-79	21.03	21.20	19.87	23.54	24.21	22.02	21.80	22.14	21.06	27.71	31.70	25.73
	80+	8.61	8.47	9.56	9.64	9.90	9.04	10.61	10.27	11.33	14.12	16.07	13.15
	60+	8.27	8.31	8.00	8.93	8.88	9.05	7.31	7.34	7.26	6.10	5.16	6.70

**Source:** Calculations based on Census of India, 2011

Uttar Pradesh continues to be the most populous state in the country. Table 4.2 presents the work profile of elderly population in Uttar Pradesh. Data from the 2011 Census shows that, around 11.81 per cent of the elderly report they have worked as main workers, while nearly 9.31 per cent elderly have worked as marginal workers. It is notable that fairly high percentages of elderly in the 80+ old age group are still working. These figures suggest that the elderly are working out of economic compulsion. The tendency for families to be nuclear is increasing in India and elders from small families are participating more in the workforce.

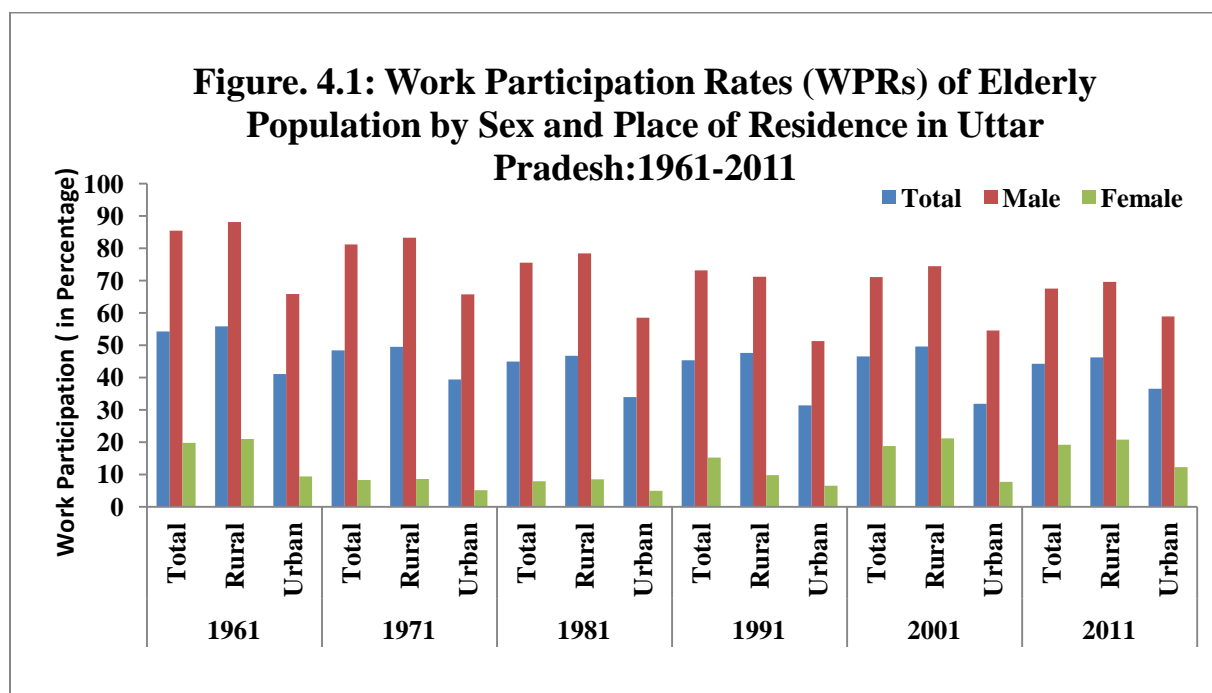
This is true in case of rural society where younger population migrates towards urban areas for job opportunities. The findings clearly indicate that, higher share of elderly in rural areas are engaged in workforce than their urban counterparts. Among all age groups, 60-69 years is the dominant working group. Finally, employment profile of the elderly population in Uttar Pradesh presents a serious note for both planners and policy makers.

### 4.3: Decadal Review of Work Participation Rate (WPRs) of Elderly Population in Uttar Pradesh: 1961-2011

Work participation among the elderly is important from the point of view of understanding their economic dependence. Work participation rates among elderly males are very high in the Uttar Pradesh mainly because of the agrarian economy of the state where there is no specific age of retirement. Work participation in old-age is much higher in India than in the developed countries (Dandekar, 1996). Higher proportions of elderly men participate in the economic activities compared to women. Inadequate income is a major problem of elderly in India (Raju, S.S., 2000, pp 25-26).

‘Work participation rate’ can be explained by following formula:

$$\text{Work Participation Rate (WPRs)} = \frac{\text{Total Number of Elderly Workers} \times 100}{\text{Total Elderly Population}}$$



Source: Calculations based on Census of India, 1961-2011

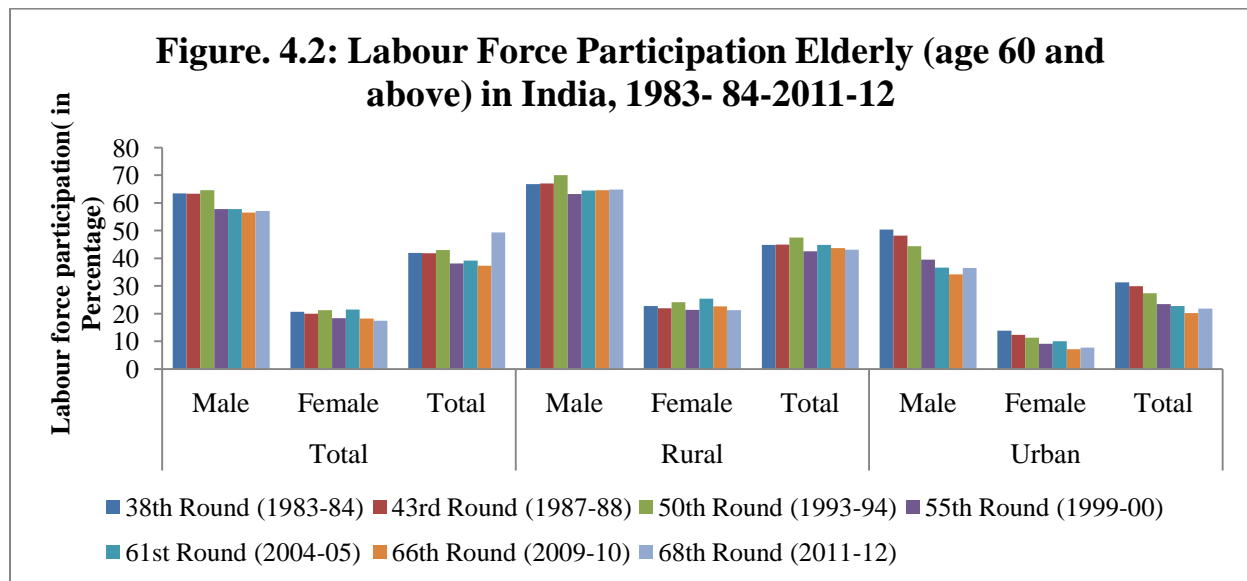
Present study also throws some light on elderly workforce participation rates in Uttar Pradesh. In addition to this, the decadal variation of elderly workforce participation has been presented. Work force participation or the percentage of elderly workers to the total population has been studied here. The trends in the working age structure among the elderly is described in figure 4.1 it is seen that, the proportion of female work participation rates (WPRs) in India have historically been significantly lower than their male counterparts. The gap between male and female WPRs has grown, as male rates have remained stable and female rates have declined below their already lower levels. In 1961, work participation among elderly was 54.27 per cent followed by 48.4 per cent in 1971. This proportion slightly decreased to 44.9 per cent in 1981. In 1991, it increased by one percent and continued till 2001. However, the latest Census (2011) figure highlight nearly 44.3 per cent work participation rate among the elderly. In the light of above discussion, the increasing trends of workforce participation among elderly exemplify their economic dependence. As stated earlier, the work participation rate among rural elderly is slightly higher as compared to urban areas. Another relevant factor that may affect the workforce participation among elderly in Uttar Pradesh is that rural areas are dominated by agricultural and allied activities. Consequently, in these sectors elderly have worked till their physical capacity allows. It is obvious from figure 4.1 that several reasons like family disputes, migration, urbanization and economic dependency are the responsible for detrimental situation among elderly population in rural societies.

#### **4.4: Level and Status of Elderly Employment in India: A Chronological Review**

The most important aspect of the employment status of the elderly is that the vast majority of them are self-employed; the next highest proportion is accounted for by casual labourers. With rural urban differences, a large proportion of the rural elderly are self-employed compared to the urban elderly. While the proportion of the self-employed among the elderly has varied from 75.7 per cent in 1983 to 79.1 per cent in 1999-2000, this proportion is slightly higher in 2004-2005, when approximately 80 per cent of older people were self-employed and 16 per cent were casual workers. Older men are more likely to be self-employed than older women, while older women are more likely to do casual work. Evidence from the International Labour Organisation research on older people pointed out that the elderly are most likely to be self-employed. It has also been reported that rural elderly continue to work though their number of working hours reduces with advancement of age. Extensive literature based evidence shows that India has the largest agricultural based economy. It has been also found that more elderly men participate in labour



force than their female counterparts in all sectors. Another observation in this regard, is that the wage discrimination and unhealthy working environment are the major problems faced by elderly in informal sector.



**Source:** Calculations based on Various Rounds of NSSO Reports: 38 (1983-84), 50 (1993-94), 55 (1999-2000), 61 (2004-05), 66 (2009-10) and 68(2011-12)

Figure 4.2 aims to illustrate the heterogeneity in the labour force participation among elderly persons in India. The increase in the labour force participation of elderly females could be attributed to the increase in the life expectancy and widowhood. Moreover, the increased incidence of poverty has also forced them to participate in the labour market as in the absence of social safety nets and declining support from their children this is the only option left for them to survive. Labour force participation rate of elderly males and females remained stable during the period between 1983 and 1993-94 and thereafter the labour force participation rate of elderly men have gradually declined. A revisit of the employment conditions among elderly shows that the proportion of urban elderly engaged in regular salaried employment is much higher than that of rural elderly. However, health is an important factor which determines the individual physical and mental ability. Inability to work because of disability also increases with increase in age of elderly for both male and female. Consequently, long term social security and family protection measures will be required for the elderly population in India.

**4.5: Main Workers by Educational Level, Age and Sex in Uttar Pradesh and Bulandshahr district: 2011**

**Main Workers by Educational Level, Age and Sex: Uttar Pradesh – 2011**

**(Table: 4.3)**

Place of Residence	Educational Level among Elderly Main Workers (Proportion to total Main Workers Population)	60-69			70+		
		T	M	F	T	M	F
<b>Total</b>	Illiterate	12.7	13.2	11.2	6.2	6.8	4.7
	Literate	5.9	6.2	3.3	2.5	2.6	1.4
	Literate but below matric/secondary	6.5	6.9	3.6	3.0	3.1	1.5
	Matric/secondary but below graduate	5.3	5.6	2.3	2.0	2.1	1.0
	Technical diploma or certificate not equal to degree	5.6	5.8	3.2	1.7	1.8	1.4
	Graduate and above other than technical degree	4.2	4.5	2.2	1.5	1.6	0.9
	Technical degree or diploma equal to degree or post-graduate degree	6.1	6.6	3.6	1.7	1.9	1.1
<b>Rural</b>	Illiterate	13.6	14.5	11.6	2.4	2.3	3.0
	Literate	4.0	4.6	1.1	2.6	2.8	1.3
	Literate but below matric/secondary	6.9	7.3	3.4	3.1	3.3	1.4
	Matric/secondary but below graduate	5.4	5.7	1.7	1.9	2.0	0.8
	Technical diploma or certificate not equal to degree	4.9	5.0	3.1	1.6	1.6	1.7
	Graduate and above other than technical degree	3.8	4.1	1.0	1.2	1.3	0.6
	Technical degree or diploma equal to degree or post-graduate degree	7.6	8.1	3.4	1.7	1.9	0.8
<b>Urban</b>	Illiterate	8.2	7.9	9.0	3.5	3.4	3.8
	Literate	5.1	5.3	3.9	2.1	2.2	1.6
	Literate but below matric/secondary	5.3	5.3	4.4	2.4	2.4	2.0
	Matric/secondary but below graduate	5.2	5.3	3.8	2.1	2.2	1.5
	Technical diploma or certificate not equal to degree	6.0	6.2	3.3	1.8	1.9	1.3
	Graduate and above other than technical degree	4.6	4.9	3.1	1.8	1.9	1.1
	Technical degree or diploma equal to degree or post-graduate degree	5.3	5.7	3.7	1.7	1.9	1.2

**Source:** Calculations based on Census of India, 2011

**Note\*:** - T: Total, M: Male, F: Female

**Main Workers by Educational Level, Age and Sex: Bulandshahr district – 2011**

**(Table: 4.4)**

Place of Residence	Educational Level among Elderly Main Workers (Proportion to total Main Workers Population)	60-69			70+		
		T	M	F	T	M	F
<b>Total</b>	Illiterate	11.7	12.1	10.7	5.9	6.7	4.3
	Literate	5.4	5.7	2.9	2.3	2.4	1.1
	Literate but below matric/secondary	5.4	5.7	3.2	2.5	2.7	1.2
	Matric/secondary but below graduate	5.5	5.7	2.0	2.1	2.1	0.8
	Technical diploma or certificate not equal to degree	4.3	4.3	5.3	1.4	1.3	2.7
	Graduate and above other than technical degree	4.9	5.2	2.2	1.5	1.6	0.7
	Technical degree or diploma equal to degree or post-graduate degree	7.1	7.6	4.3	1.6	1.6	1.3
<b>Rural</b>	Illiterate	13.0	14.0	11.1	6.7	8.0	4.5
	Literate	5.7	6.0	2.8	2.4	2.5	1.0
	Literate but below matric/secondary	5.8	6.1	3.2	2.7	2.9	1.1
	Matric/secondary but below graduate	5.7	5.9	1.7	2.0	2.1	0.6
	Technical diploma or certificate not equal to degree	4.4	4.4	5.9	1.2	1.2	0.0
	Graduate and above other than technical degree	5.0	5.4	1.0	1.4	1.5	0.5
	Technical degree or diploma equal to degree or post-graduate degree	9.2	9.4	5.8	1.8	1.9	1.1
<b>Urban</b>	Illiterate	7.6	7.5	8.0	3.4	3.4	3.3
	Literate	4.6	4.7	3.3	2.0	2.0	1.4
	Literate but below matric/secondary	4.2	4.2	3.2	2.0	2.1	1.4
	Matric/secondary but below graduate	5.0	5.1	3.2	2.1	2.1	1.5
	Technical diploma or certificate not equal to degree	4.3	4.2	5.2	1.6	1.5	3.4
	Graduate and above other than technical degree	4.7	4.8	3.3	1.6	1.7	0.9
	Technical degree or diploma equal to degree or post-graduate degree	5.5	5.9	3.8	1.4	1.4	1.3

**Source:** Calculations based on Census of India, 2011

**Note\*:** - T: Total, M: Male, F: Female

Population ageing can also be judged by the increase in the average age structure of the population. The well-being of individual persons is closely associated with their educational levels. Table 4.3 confirms the educational status of elderly main workers in Uttar Pradesh. The analysis clearly indicates that the proportion of illiterate elderly main workers have been higher in all categories. Gender wise results highlight that females were far behind than their male counterparts. Technical degree or diploma programmes are the most opted programme among the elderly in both the urban and rural areas of Uttar Pradesh. Education level is one the most eminent ingredients of social development. Thus, the level of educational qualification reflects the social and economic circumstances of a particular area. As mentioned earlier, Table 4.3 presents the educational qualification of elderly main workers in Uttar Pradesh.

The data in the table 4.4 presents, educational status of elderly main workers in Bulandshahr district. Low levels of education may be responsible for poor socio-economic development and deteriorating health among the elderly people in rural areas. In view of this, educational facilities in rural areas are not well developed as compared to the urban counterparts. Incidence of illiteracy is much higher among the female aged population than among the males. Considerable numbers of the elderly females are illiterate in most of the studies and this may be due to the reason that before 60 year female education was rare in our country, especially in rural areas. It may be seen from table, 4.4 that the proportion of illiterate elderly main workers is higher in both rural and urban areas of Bulandshahr district. Interestingly within the district educational level of elderly main workers is lower in urban areas compared to the rural areas. Added to this, technical degree and diploma are more preferred in rural areas than urban areas of Bulandshahr district. The participation of elderly people in the labour market varies according to individual characteristics, with education being particularly an important factor. But, in rural areas elderly people are not much educated. In addition to this, without sufficient education elderly are unable to get a job marked by post retirement benefits. Therefore, elderly participate in both agricultural and non-farm activities even in old-age when elderly deserve care and support for the rest of their lives.

#### **4.6: Reasons for Out-Migration by Age-Group and Present Place of Residence in Uttar Pradesh: 2007-08**

Beside, demographic phenomena, social changes such as industrialisation, urbanisation and migration are the major factors that influence the several of aspects of elderly population.

<b>(Table: 4.5)</b>						
<b>Reasons for Out-Migration by Age-Group and Present Place of Residence in Uttar Pradesh: 2007-08</b>						
<i>Present Place of Residence</i>	<b>Age-Group</b>	<b>Reasons of Out Migration</b>				
		<b>Employment Related</b>	<b>Studies</b>	<b>Marriage</b>	<b>Others</b>	<b>Total</b>
<i>same state and within the same district (Intra-District)</i>	0-14	7(3.3)	33 (15.6)	144 (67.9)	28 (13.2)	212 (100.0)
	15-29	192 (9.4)	44 (2.2)	102 (5.0)	1707 (83.5)	2045 (100.0)
	30-44	204 (13.6)	3 (0.2)	85 (5.7)	1204 (80.5)	1496 (100.0)
	45-59	86 (30.2)	0 (0.0)	16 (5.6)	183 (64.2)	285 (100.0)
	60+	8 (23.5)	0 (0.0)	2 (5.9)	24 (70.6)	34 (100.0)
	<b>Total</b>	<b>497 (12.2)</b>	<b>80 (2.0)</b>	<b>349 (8.6)</b>	<b>3146 (77.3)</b>	<b>4072 (100.0)</b>
<i>same state but another district (Inter-District)</i>	0-14	5 (2.1)	36 (14.9)	181 (75.1)	19 (7.9)	241 (100.0)
	15-29	508 (28.0)	134 (7.4)	204 (11.3)	967 (53.3)	1813 (100.0)
	30-44	478 (33.3)	0 (0.0)	159 (11.1)	799 (55.6)	1436(100.0)
	45-59	248 (59.3)	4 (1.0)	30 (7.2)	136 (32.2)	418 (100.0)
	60+	13 (44.8)	0 (0.0)	5 (17.5)	11 (37.9)	29(100.0)
	<b>Total</b>	<b>1252 (31.8)</b>	<b>174 (4.4)</b>	<b>579 (14.7)</b>	<b>1932 (49.1)</b>	<b>3937 (100.0)</b>
<i>outside the state (Inter-State)</i>	0-14	27 (5.3)	10 (2.0)	445 (86.9)	30 (5.9)	512 (100.0)
	15-29	2160 (74.7)	103 (3.6)	370 (12.8)	259 (9.0)	2892 (100.0)
	30-44	1339 (74.6)	2 (0.1)	247 (13.8)	207 (11.5)	1795 (100.0)
	45-59	352 (85.0)	1 (0.2)	24 (5.8)	37 (8.9)	414(100.0)
	60+	40 (81.0)	0 (0.0)	3 (6.1)	6 (12.2)	49 (100.0)
	<b>Total</b>	<b>3918 (69.2)</b>	<b>116 (2.0)</b>	<b>1089 (19.2)</b>	<b>539 (9.5)</b>	<b>5662 (100.0)</b>
<i>Another Country (International-Migration)</i>	0-14	0 (0.0)	0 (0.0)	9 (100.0)	0 (0.0)	9 (100.0)
	15-29	57 (72.2)	3 (3.8)	0 (0.0)	19 (24.1)	79 (100.0)
	30-44	102 (88.7)	0 (0.0)	4 (3.5)	9 (7.8)	115 (100.0)
	45-59	21 (87.5)	0 (0.0)	0 (0.0)	3 (12.5)	24 (100.0)
	60+	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (100.0)
	<b>Total</b>	<b>181 (79.4)</b>	<b>3 (1.3)</b>	<b>13 (5.7)</b>	<b>31(13.6)</b>	<b>228 (100.0)</b>

**Source:** Calculations based on NSS 64th Round, 2007-08

There has been substantial theoretical literature concerned with migration. “After fertility and mortality, migration is regarded as the third variable in bringing changes in the size and structure of population of any given area. Hence, it becomes an important component of population studies, especially population change” (Premi, 2009, pp. 80-81). Added to this, migration is dynamic process which is influenced by both push and pull factors. From table 4.5 it can be inferred the reasons of out-migration by age group and present place of residence. Added to this, both reasons of out-migration and sex of migrants are major determinants affects the nature and degree of out-migration.

Employment is one of the most foremost factors which decides population mobility on temporary or permanent grounds. In view of this, the proportion of employment related migration is higher in the inter-state levels followed by inter-district and intra-district levels. Since, post economic reform period the intensity of out-migration has increased and continued for the next two Census decades. Furthermore, literature based evidence shows that Uttar Pradesh (-2.6 million) and Bihar (-1.7 million) were the two states with largest number of net migrants migrating out of the state. Another interesting observation emanating from the above result is that majority of out-migration was seen in the age group of 15-59 among all reasons of out-migration. Study is the next important cause in this analysis for out-migration. Basically, education as a prime cause of out-migration might be experienced by youth population. Added to this, both 0-14 and 15-29 are the core age groups which exhibit higher instances of out-migration. Marriage is another chief cause of out-migration particularly for females. In view of this, the share of marriage related out-migration is higher in the inter-state level followed by inter-district and intra-district of the state. This was mostly due to system of exogamy in marriage and for joining the breadwinner at the place of destination. The migration of females due to economic reasons has been limited to a lone case which occurred as a result of transfer of her service from one place to another. Moreover, another noteworthy point that has been observed from the table is except three factors which had already been discussed in earlier phase of this analysis, there are other minor factors influence the out-migration. In this group, proximity to place of work, social / political problems, displacement by development project, housing problems and migration of parent/earning member of the family are the other major reasons which may be responsible for out-migration.

#### **4.7: Reasons for Out-Migration by Sex and Present Place of Residence in India and Uttar Pradesh: 2007-08**

In this study reasons for migration are collected based on present place of residence with rural/urban and with male/female distinctions. These reasons consisted of work/employment, education/study, marriage, and 'others'. Combination of both push and pull factors might function in the migration decision from any region.

<b>(Table: 4.6)</b>						
<b>Reasons of for Out-Migration by Gender and Present Place of Residence in India and Uttar Pradesh: 2007-08</b>						
<b>Present Place of Residence (India)</b>	<b>Reasons of Out Migration</b>					
	<b>Sex</b>	<b>Employment Related</b>	<b>Studies</b>	<b>Marriage</b>	<b>Others</b>	<b>Total</b>
<i>same state and within the same district (Intra-District)</i>	Male	6890 (71.6)	829 (8.6)	1081 (11.2)	817 (8.5)	9617 (100.0)
	Female	653 (2.8)	516 (2.2)	2443 (10.6)	19381 (84.3)	22993 (100.0)
	Total	7543 (23.1)	1345 (4.1)	3524 (10.8)	20198 (61.9)	32610 (100.0)
<i>same state but another district (Inter-District)</i>	Male	15552 (83.3)	1244 (6.7)	1435 (7.7)	447 (2.4)	18678 (100.0)
	Female	1253 (8.2)	572 (3.7)	3332 (21.8)	10102 (66.2)	15259 (100.0)
	Total	16805 (49.5)	1816 (5.4)	4767 (14.0)	10549 (31.1)	33937 (100.0)
<i>outside the state (Inter-State)</i>	Male	19410 (90.2)	725 (3.4)	1093 (5.1)	293 (1.4)	21521 (100.0)
	Female	935 (12.9)	321 (4.4)	2636 (36.4)	3359 (46.3)	7251 (100.0)
	Total	20345 (70.7)	1046 (3.6)	3729 (13.0)	3652 (12.7)	28772 (100.0)
Another Country (International-Migration)	Male	3959 (93.7)	117 (2.8)	100 (2.4)	51 (1.2)	4227 (100.0)
	Female	236 (25.1)	29 (3.1)	338 (36.0)	337 (35.9)	940 (100.0)
	Total	4195 (81.2)	146 (2.8)	438 (8.5)	388 (7.5)	5167 (100.0)
<b>Present Place of Residence (Uttar Pradesh)</b>	<b>Sex</b>	<b>Employment Related</b>	<b>Studies</b>	<b>Marriage</b>	<b>Others</b>	<b>Total</b>
<i>same state and within the same district (Intra-District)</i>	Male	482 (68.2)	50 (7.1)	112 (15.8)	63 (8.9)	707 (100.0)
	Female	15 (0.4)	30 (0.9)	237 (7.0)	3083 (91.6)	3365 (100.0)
	Total	497 (12.2)	80 (2.0)	349 (8.6)	3146 (77.3)	4072 (100.0)
<i>same state but another district (Inter-District)</i>	Male	1202 (77.0)	140 (9.0)	172 (11.0)	47 (3.0)	1561 (100.0)
	Female	50 (2.1)	34 (1.4)	407 (17.1)	1885 (79.3)	2376 (100.0)
	Total	1252 (31.8)	174 (4.4)	579 (14.7)	1932 (49.1)	3937 (100.0)
<i>outside the state (Inter-State)</i>	Male	3844 (89.5)	85 (2.0)	319 (7.4)	48 (1.1)	4296 (100.0)
	Female	74 (5.4)	31 (2.3)	770 (56.4)	491 (35.9)	1366 (100.0)
	Total	3918 (69.2)	116 (2.0)	1089 (19.2)	539 (9.5)	5662 (100.0)
Another Country (International-Migration)	Male	175 (96.2)	3 (1.6)	4 (2.2)	0 (0.0)	182 (100.0)
	Female	6 (13.0)	0 (0.0)	9 (19.6)	31 (67.4)	46 (100.0)
	Total	181 (79.4)	3 (1.3)	13 (5.7)	31 (13.6)	228 (100.0)

**Source:** Calculations based on NSS 64th Round, 2007-08

Migration is a demographic process, which is expected to ensure balance between demand and supply of labour force through redistribution of population in a country. Migration pattern reflect both push and pull factors. Table 4.6 displays the distribution of out-migrants by gender and present place of residence in India and Uttar Pradesh. The analysis revealed that the migration from Uttar Pradesh moved to various states of India and constituted a substantial proportion of the total male in-migrants in different states. It is however evident from this table that, in India among males the most important reason for migration is 'Work/ Employment'. Moreover, there is dearth of employment and other economic and social opportunities in the urban areas of the Uttar Pradesh. Therefore, it has emerged as the leading contributor of out-migrants from its urban areas. Another notable feature from table 4.6 is that the proportion of out-migration among males was higher at the inter-state level followed by inter-district and intra-district in India. In addition to this, similar pattern was observed in Uttar Pradesh. It is quite evident from table 4.6, that migration is dominated by the youth population. In India, both intra-district and inter-district out-migration is higher among males than their female counterparts. In view of this, among females it was more prevalent at the inter-state level and international out-migration. Finally, in Uttar Pradesh it has been observed that, for study or education purposes out-migration occurs from intra-district, inter-district and out-side country among male migrants. However, inter-state out-migration was dominated by females migrants.

Again from table 4.6, it is absolutely evident that in recent past, a number of changes in India are likely to have impacted on the pattern and degrees of out-migration. It is seen that, in both India and Uttar Pradesh, marriage was cited as the pre-dominant reason for out-migration among females. It has been noted earlier that the out-migration of young adults has negative consequences for rural elderly, with loneliness and economic insecurity. Furthermore, lack of poor socio-economic base and out-migration of young adults force elderly people to be involved in the labour market. Moreover, remittances are an important source of external financing for elderly population i.e. if available. Alongside income insecurity, physical separation from children place psychological burden on elderly in rural areas.

#### **4.8: Region Wise Distribution of Elderly by State of Economic Independence in Uttar Pradesh: 2014-15**

Population ageing is dependent on the intensity and speed of fertility and mortality decline with increasing trends with life expectancy.



In view of this, aged population is considered as one of the most vulnerable group, especially in a country like India, where economic and social networks for elderly is not up to the mark. Therefore, the following analysis and discussion is based on the unit level data of the seventy first round of the National Sample Survey. Finally, the high figures of dependency force the elderly into labour market as it is also evident by the data in the table 4.7.

<b>(Table: 4.7)</b>				
<b>Region Wise Distribution of Elderly by State of Economic Independence in Uttar Pradesh: 2014-15</b>				
<b>NSSO Region</b>	<b>Sex</b>	<b>State of Economic Independence</b>		
		<b>Not Dependent on Others</b>	<b>Partially Dependent on Others</b>	<b>Fully Dependent on Others</b>
Northern Upper Ganga Plains	Male	66.5	3.1	30.5
	Female	11.7	10.1	78.2
	<b>Total</b>	<b>37.9</b>	<b>6.7</b>	<b>55.3</b>
Central	Male	43.4	17.8	38.8
	Female	9.4	13.0	77.6
	<b>Total</b>	<b>25.3</b>	<b>15.2</b>	<b>59.5</b>
Eastern	Male	41.0	17.5	41.6
	Female	11.6	14.0	74.4
	<b>Total</b>	<b>27.7</b>	<b>15.9</b>	<b>56.4</b>
Southern	Male	48.0	3.3	48.8
	Female	10.3	11.6	78.0
	<b>Total</b>	<b>32.3</b>	<b>6.7</b>	<b>61.0</b>
Southern Upper Ganga Plains	Male	56.5	18.3	25.2
	Female	16.4	12.2	71.4
	<b>Total</b>	<b>36.3</b>	<b>15.3</b>	<b>48.5</b>
Total	Male	47.3	15.3	37.4
	Female	11.8	12.8	75.4
	<b>Total</b>	<b>30.0</b>	<b>14.1</b>	<b>55.9</b>

**Source:** Calculations based on NSS 71th Round, 2014-15

Table 4.7 displays the percentage distribution of elderly by state of economic independence in Uttar Pradesh. State of economic independence is one of the chief indicators that determine the wellbeing of elderly population. Table 4.7 portrays that, in all regions the proportion of fully dependent elderly is much greater compared to not dependent on others or partially dependent on others categories. In this process, in Southern region, the proportion of dependent elderly is much higher among all regions of Uttar Pradesh. It is also evident from table 4.7 that women elderly are comparatively more fully dependent on others than their male counterparts. It is however interesting to note that, in majority of Indian society financial decision making authority are the males. Furthermore, this also reflects elderly women's great vulnerability in the male

dominated society. Therefore, in old-age, elderly women depend on their family members for survival.

#### **4.9: Distribution of Elderly by Type of Living Arrangement for each Sex in Uttar Pradesh: 2014-15**

Living arrangement of the elderly reflects the chances of receiving care. Living arrangement plays a vital role to determine the condition of elderly within households. Breakdown of Indian joint family structure provides modern elements of living circumstances. Living arrangements are influenced by a variety of factors, including education, marital status, family structure and financial reliability of family. Moreover, for elderly women living arrangements is a crucial aspect. In old-age, women suffer from multiple problems and enormous discrimination. In addition, the widowhood and vulnerability leads to perpetuation of gender discrimination even at the older age.

<b>(Table: 4.8 )</b>						
<b>Distribution of Elderly by Type of Living Arrangement in Uttar Pradesh (by Region):</b>						
<b>2014-15</b>						
<b>Living Arrangement</b>	<b>Region</b>					<b>Total</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	
living alone: as an inmate of old age home	6.8	0.0	49.4	0.0	43.8	0.2
living alone: not as an inmate of old age home	25.1	33.4	22.6	11.5	7.4	2.1
living with spouse only	11.6	21.3	27.7	11.0	28.4	10.6
living with spouse and other members	9.8	24.8	43.5	7.6	14.4	51.6
living without spouse but with: children	8.9	31.9	31.0	4.1	24.1	33.1
other relations and non-relations	2.3	24.7	41.1	5.0	26.9	2.4
<b>Total</b>	<b>9.8</b>	<b>26.9</b>	<b>37.2</b>	<b>6.8</b>	<b>19.3</b>	<b>100.0</b>
<b>Note:</b> 1 Northern Upper Ganga Plains, 2 Central, 3 Eastern, 4 Southern, 5 Southern Upper Ganga Plains						
<b>Source:</b> Calculations based on NSS 71th Round, 2014-15						

Table 4.8 elucidates the living arrangements among elderly by sex in Uttar Pradesh. In this regard, plausible explanation is that, around 33.1 per cent of women elderly are more likely to stay with children due to their longer survival. It has also been observed that, around 51.6 per cent of elderly are likely to live with spouse and other members. Table 4.8 also depicts that, nearly 10.6 per cent of elderly are living with spouse only. In relation to this, reduction in family size and out-migration of young adults are the major grounds which pushes elderly to live alone. Another possible observation from table 4.8 is that, in all regions proportion of elderly living with spouse is higher compared to others. Furthermore, breakdown of joint family system, out-migration of youth and erosion of traditional norms are major factors that determine the living

conditions of the elderly. In view of this, living arrangement is an important element for the analysis of the elderly.

#### **4.10: Workforce Participation Rate (WPRs) of Elderly Population by Sex and Place of Residence: 2001-2011**

Work participation among the elderly is important from the point of view of understanding their economic dependence. Moreover, work participation rates (WPRs) of elderly males are very high in the Uttar Pradesh mainly because of the agrarian economy of the state where there is no specific age of retirement and provision of post retirement benefits. In order to, calculate the work participation rate (WPRs) for the period of 2001 and 2011 both main workers and marginal workers were combined to get the numbers of total workers.

‘Work participation rate’ can be explained with the help of the following formula:

$$\text{Work Participation Rate (WPRs)} = \frac{\text{Total Number of Elderly Workers} \times 100}{\text{Total Elderly Population}}$$

<b>(Table: 4.9)</b>							
<b>Workforce Participation Rate (WPRs) of Elderly Population by Sex and Place of Residence: 2001-2011</b>							
	Place of Residence	2001			2011		
		Total	Male	Female	Total	Male	Female
<b>India</b>	Total	40.3	60.3	20.9	41.6	60.4	23.4
	Rural	45.0	65.6	24.9	47.1	66.4	28.4
	Urban	26.2	44.1	9.0	25.4	48.6	13.0
<b>Uttar Pradesh</b>	Total	46.5	71.1	18.8	47.4	70.8	22.0
	Rural	49.6	74.5	21.2	49.8	73.3	24.2
	Urban	31.9	54.6	7.7	37.6	60.4	12.9
<b>Bulandshahr District</b>	Total	50.3	72.2	28.2	44.1	69.9	19.3
	Rural	53.6	74.5	32.4	46.4	72.4	21.8
	Urban	36.2	62.3	10.4	35.2	60.9	9.6

**Source:** Calculations based on Census of India, 2001-2011, Series-B

In the Indian context, it has been observed that, in rural areas majority of elderly have been involve in various gainful activities. It is absolutely noticeable from earlier studies that, higher work participation rate (WPRs) among elderly was observed in rural areas. Table 4.9 presents the work participation rate (WPRs) of elderly by sex and place of residence from 2001 onwards. It is evident from table 4.9, the rural-urban differentials shows a higher work participation rates among elderly in rural areas than in urban areas because most of the people after their retirement from urban areas migrate to their parent rural areas and adopt the work practices there like farming, poultry and some other economic activities. In this respect, sex wise work participation rate (WPRs) indicates that, the proportion of elderly women in the labour activities is much

lower compared to their male counterparts. However, it has also been evident that elderly women work participation rate (WPRs) has continuously declined over the past two Census decades.

### **Conclusion**

In Conclusion, the present chapter clearly shows that in India, the majority of rural population, together with the elderly is vulnerable. A number of factors may be responsible for the deprived situation among elderly people in rural areas. Majority of elderly are economically active, presumably because they are engaged in sectors for which there is no specific age of retirement. Poorer Socio-economic disparities have been responsible for their participation in the labour market. Literary evidences prove that workforce participation among elderly is much higher in rural areas as compared to their urban counterparts. Over a period of time, female workforce participation has gradually declined but not significantly. Results confirm that, in all Census decades, elderly male workforce participation is higher than their female counterparts. Migration is another factor which has affected the elderly in many ways. Migration of an adult child places economic and psychological burden on the left behind elderly parents. In view of this, in old age everybody needs care and support in terms of both economic and physical parameters. In contrast, in many cases elderly are unable to receive such support. In order to overcome this, the only option left for elderly is to participate in the labour market, whether their health permits or not. In addition to this, state of economic independency has determined the economic vulnerability and position of the elderly within the family. Results suggest that the living arrangement is one of the most crucial aspects for the analysis of the elderly. In the Indian society, living arrangement is considered as a central factor for the well being of any specific section of the population. In a nutshell, this chapter has been written to adequately focus on the characteristics of the elderly population in India, Uttar Pradesh and Bulandshahr from a macro perspective by using secondary data analysis. Moreover, it has been found that the elderly in Uttar Pradesh and Bulandshahr in particular are characterized by a series of vulnerabilities that need to be investigated thoroughly by a primary cross-sectional survey as attempted in this research.



*Chapter: Five*

*Aged Fraternity in Rural Society: An  
Introduction to the Elderly in  
Bulandshahr District*

## **Chapter: 5**

### **Aged Fraternity in Rural Society: An Introduction to the Elderly in Bulandshahr District**

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#### **Overview**

*The previous chapter highlighted that India is experiencing a marked change in the age structure of its population during the past several decades, where due to increased life expectancy and reduced fertility there has been accelerated growth of the aged population. The chief objective of the present chapter is to trace the socio-economic characteristics and existing support systems of the elderly population in the study area. This chapter has two parts i.e. first part of the chapter is based on the secondary data that have been collected from different Government agencies. Second segment of this chapter is based on the micro level data, which was collected by the researcher through field investigation. Prime agenda of the chapter is to explore the socio-economic and background characteristics of the elderly population in the study area. Present chapter also throws some light on the social security measures and other policy initiatives for the elderly persons by Government of India.*

#### **5.1: Introduction**

‘A changing demographic structure is being found worldwide with a gradual shift towards a higher proportion of older people. With a few exceptions, more people in both high and low-income regions are living longer than ever before. A declining trend in both fertility and mortality rates resulting in increase in average life expectancy has created a new set of challenges in today’s society’<sup>1</sup>. In recent years, as population ageing has grown into a “defining global issue” (**Help-Age International, 2002**). The **World Health Organization** estimates that the world’s 580 million elderly people (aged 60 years and more) include around 355 million in developing countries. By 2020, the total will reach to 1,000 million and 710 million will be in the developing countries and seven of the ten nations with the largest population of older people will be the developing countries: China with 231 million, India with 145 million, Brazil with 30 million, Indonesia with 29 million, Pakistan with 18 million, Mexico with 15 million, and

Bangladesh with 14 million. **Hanspal & Chadha (2006)** have investigated the economic situation of elderly population. By 2025, 177 million people will be senior citizens. About 90 per cent of elderly in India will work in the informal employment sector and are unlikely to have any financial security at retirement. 30 per cent of elderly will live below the poverty line and a further 33 per cent will only be marginally above it. Approximately 80 per cent of older people will live in rural areas; 73 per cent will be illiterate and 55 per cent of women over 60 will be widowed, many with no financial support. Worldwide, rapid industrialisation, rural-urban migration and high labour mobility within and between countries have been followed by unstable economic conditions. These factors cause rapid changes and disruption to informal support systems based on the extended family and the local community (**Help-Age International, 2009**). In this process, social and economic modernization has been defined as the "transformation in economic, social, and political organization and in human personality observed in a growing number of nations since the mid-eighteenth century<sup>2</sup>. They also explain an ageing population is the product of such change, but ageing may also influence the course of development. Interestingly, for the past several years, the process of ageing is more recent phenomena since declining trends in mortality and fertility levels and increases in the average span of life have been seen in the recent years. The consequences of ageing population in developing countries are being seen as increasing cost of health care, social security, and old age benefits. With a large population base in India, the absolute and the relative size of the elderly population is expected to be large enough to impose a substantial burden on the Government budget for pension and social security schemes.

## **5.2: Methodological Elaborations for the Chapter**

Population ageing is becoming one of the global issues of the modern era. In the twentieth century the proportion of population aged sixty or over has increased in all the countries of the world and their numbers are expected to increase further due to substantial improvement in life expectancy throughout the world.

### **5.2.1: Objective and Data Sources**

As noted earlier, the present study is mainly aimed to understand the health condition of elderly workers in Bulandshahr district. The productive gadgets for data access are both secondary and primary sources to determine the situation of elderly people. In order to

meet the above objective of the present chapter the *socio-economic and existing support system of elderly population in Bulandshahr district have been investigated*. The universe of the study consists of persons of age groups 60 years and above residing in rural areas of Bulandshahr district.

### **5.2.2: Methodology**

For methodological purpose various tools were developed to be used in this chapter. For analysis, initially frequency tables were prepared to understand the housing and background characteristics of elderly population. For further analysis, the care of the respondents, support system and the socio-economic profile of elderly have been measured in terms of marital status, literacy attainment, religious profile, living arrangement, economic support and source of income for their survival. Various statistical techniques were employed to understand the situation of elderly respondents in Bulandshahr district. In this process, uni-variate, bi-variate and chi-square test of significance have been exercised.

### **5.3: Socio-Economic Status of Elderly Population in India, Uttar Pradesh and Bulandshahr District: Secondary Data Analysis: Section-I**

This section begins with a brief overview of socio-economic characteristics of elderly population. The proportion of persons aged 60 years and above, increased from 5.6 percent in 1961 to 8.5 percent in 2011. During the early years of the 20<sup>th</sup> century, population ageing one of the most documented themes in demographical research. Population growth in India since independence has been accompanied by an increase in the number as well as the proportion of persons aged 60 and above. The goal of this chapter is to present the background and socio-economic characteristics of the elderly population. Several indicators have been explored to find the socio-economic condition of elderly population in Uttar Pradesh. The recent past has witnessed vulnerable situations of elderly, especially those who are engaged in work particularly in the rural areas. Furthermore, the analysis attempted in this chapter has been dealt under various sections. Both demographic and socio-economic variables have been used to explore the situation of samples population in the study area.



### 5.3.1: Marital Status of Elderly Population in India, Uttar Pradesh and Bulandshahr District: 2001-2011

With demographic changes and the changing family context, it can no longer be assumed that the elderly people live comfortably at home receiving care from family members. In this regard, in old age the marital status plays a vital role to determine the care and support among elderly population. In addition to this, in the later stage of life marital status provides mental and psychological support to elderly population.

<b>Table: (5.1 A)</b>													
<b>Place of Residence</b>		<b>Marital Status of Elderly Population in India, Uttar Pradesh and Bulandshahr District: 2001</b>											
		<b>Never Married</b>			<b>Currently Married</b>			<b>Widowed</b>			<b>Separated/ Divorced</b>		
		<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
<b>India</b>	Total	0.3	0.3	0.3	10.6	13.4	7.8	57.6	56.2	58.4	9.5	12.7	8.2
	Rural	0.3	0.3	0.2	11.0	14.0	8.2	58.3	58.0	58.4	9.7	13.2	8.1
	Urban	0.4	0.4	0.4	9.3	11.8	6.8	55.5	56.7	57.8	9.1	11.1	8.3
<b>Uttar Pradesh</b>	Total	0.4	0.5	0.3	11.0	13.4	8.6	57.8	53.9	60.1	8.6	9.6	7.5
	Rural	0.4	0.5	0.2	11.4	14.0	8.9	58.4	53.9	61.4	9.1	9.8	8.2
	Urban	0.4	0.4	0.3	9.3	11.5	7.2	54.9	54.0	55.3	6.5	7.9	5.6
<b>Bulandshahr District</b>	Total	0.3	0.4	0.2	11.7	13.9	9.5	58.6	56.8	59.4	9.3	10.1	8.4
	Rural	0.3	0.4	0.2	12.3	14.7	10.0	59.2	57.2	60.1	9.7	10.6	8.8
	Urban	0.3	0.3	0.3	9.5	11.4	7.7	56.2	55.1	56.7	7.8	8.4	7.3

**Source:** Calculations based on Census of India, 2001

**Note:** \*T; Total (Person), M; Male, F; Female

The present section of the study has been based on data generated from the Census of India, 2001. Data in the table 5.1 (A), presents the distribution of elderly population by their marital status. A review of table shows that, about 10.55 per cent elderly were currently married. In addition to this, almost 13.38 per cent of elderly male and just, 7.77 per cent of women were married. Widowhood is one of the most critical phases of women’s life. Elderly widows were slightly higher than widowers. Elderly women in India are often the most poor and vulnerable of the population groups, and they are also the primary

caregivers of one of the other, most vulnerable population groups i.e. the children. It was found that at state level, about 53.93 per cent of elderly were widowers while, 60.10 per cent were widows. However, the proportions of elderly belonging to never married group were the smallest. Yet another category shows the marital relationships among elderly is separated/ divorced. It was observed from table 5.1(A) that, small portion of elderly are living as separated or divorced. The living conditions of women and gender discrimination in earlier life coupled with ageing in later life have also been responsible for the vulnerable situation of elderly women.

<b>Table:(5.1 B)</b>																
<b>Place of Residence</b>		<b>Marital Status of Elderly Population in India, Uttar Pradesh and Bulandshahr District-2011</b>														
		<b>Never Married</b>			<b>Currently Married</b>			<b>Widowed</b>			<b>Separated</b>			<b>Divorced</b>		
		<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
<b>India</b>	Total	0.4	0.5	0.4	11.8	14.6	8.9	58.9	60.8	58.3	10.9	13.3	9.8	8.7	8.9	8.6
	Rural	0.4	0.4	0.4	12.2	15.2	9.4	60.2	61.1	59.9	11.6	14.5	10.1	9.2	9.5	9.1
	Urban	0.6	0.5	0.6	10.7	13.5	7.9	55.9	59.9	55.0	9.7	10.8	9.1	7.9	7.8	7.9
<b>Uttar Pradesh</b>	Total	0.6	0.7	0.4	12.0	14.4	9.7	59.1	57.4	60.1	9.2	10.0	8.3	9.5	9.9	9.2
	Rural	0.5	0.7	0.4	12.5	15.0	10.2	60.7	58.1	62.3	9.9	10.4	9.1	10.5	10.5	10.5
	Urban	0.6	0.6	0.6	10.2	12.5	8.0	53.2	54.5	52.7	7.1	8.4	6.2	7.3	8.0	6.9
<b>Bulandshahr District</b>	Total	0.4	0.5	0.3	11.2	13.4	9.2	60.1	58.8	60.6	7.5	8.6	6.5	7.5	6.2	8.8
	Rural	0.4	0.5	0.3	11.8	13.9	9.7	61.4	59.1	62.3	7.9	8.9	6.8	7.6	6.1	9.3
	Urban	0.5	0.5	0.5	9.6	11.7	7.6	55.5	57.8	54.6	6.3	7.5	5.5	7.3	6.3	7.8

**Source:** Calculations based on Census of India, 2011

**Note:** \*T; Total (Person), M; Male, F; Female

The results of the analysis of secondary data revealed that the decline of fertility and increased life expectancy has resulted in population ageing. As noted earlier, marital status of elderly population is a key indicator to determine their social condition. The present analysis attempts to highlight the pattern of marital status based on Census of India, 2011. Figures in the table 5.1 (B) demonstrate that less than 1 per cent of both males and females in the 60+ age group were found to be never married. It was found that a small proportion of married elderly resided in the urban areas. In this regard, about 14.6 per cent males and only 8.9 per cent females were married. Further, same trends were found at the state and at the district level. In case of

widowhood, it was found that majority of the elderly were widows compared to widowers. The chief reason for this difference is that males who lost their wives remarry to a much bigger extent than women, who lost their husband. It has been observed from table 5.1 (B) that separated elderly males were slightly higher than separated females. In addition to this, in India, about 13.3 per cent elderly males and 9.8 per cent elderly females were living as separated. Some tendency was found at the state and district level. However, table 5.1 (B) also reveals a concern about the elderly who have been divorced due to some reasons. Furthermore, in India, it was found that a higher proportion of the divorced elderly are found in rural areas compared to urban areas. Finally, similar pattern was also observed both at the state and district level.

### 5.3.2: Literacy Rate among Elderly Population in India, Uttar Pradesh and Bulandshahr District: 2001-2011

The **United Nations** has defined literacy as the ability of a person to read and write with understanding a short simple statement in his everyday life. From 1901 onwards, the population was dichotomously classified into as literate and illiterate. From 1931 onwards, the definition of literacy was more or less uniform. According to 1991 Census, a person aged 7 and above who can both read and write with understanding in any language is to be taken as literate.

$$\text{Literacy Rate} = \frac{\text{The Number of literate Persons Aged 7 +} \times 100}{\text{Population Aged 7 +}}$$

<b>Table: (5.2)</b>									
<b>Literacy Rates of Elderly Population: India, Uttar Pradesh and Bulandshahr District, 2001-2011</b>									
<b>(2001)</b>	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
<b>India</b>	36.3	52.8	20.3	29.1	45.5	13.0	58.1	75.0	41.8
<b>Uttar Pradesh</b>	28.5	42.5	12.6	24.2	38.1	8.3	48.8	64.1	32.4
<b>Bulandshahr</b>	29.2	46.3	11.9	26.2	43.7	8.4	42.2	57.8	26.7
<b>(2011)</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
<b>India</b>	43.5	59.1	28.5	34.2	50.5	18.4	66.0	79.6	52.7
<b>Uttar Pradesh</b>	35.9	51.7	18.8	30.7	47.0	13.1	57.6	71.2	42.8
<b>Bulandshahr</b>	36.1	57.5	15.7	33.0	55.4	11.6	48.0	64.7	31.3
<b>Source:</b> Calculations based on Census of India, 2001-2011									
<b>Note:</b> *T; Total (Person), M; Male, F; Female									

In demographic literature, literacy rate and educational growth is the most effective feature that explains individual development. In India, educational backgrounds of the elderly have not been satisfactory. In other words, the picture was slightly different in rural areas where educational facilities are usually poor. Literacy level of the elderly has been presented in table 5.2. In this regards, the literacy rate in the country among elderly population improved from 36.3 per cent in 2001 to 43.5 per cent in 2011. In view of this, rural literacy increased from 29.1 per cent in 2001 to 34.2 per cent in 2011. In addition to this, literacy rate among elderly also improved in urban areas. Presently, in both Uttar Pradesh and Bulandshahr district, extensive sex differentials in literacy rate are being experienced. It would be more useful to examine the distribution of literate older persons with minimum level of education. Another salient feature indicates a significant increase in male literacy rate compared to the female counterpart.



### 5.3.3: Educational Level by Age and Sex for Population aged 60 and above in India: 2011

Education system could play an important role in offsetting the possible negative effects of demographic change on economic growth and productivity, while contributing to the productivity gains that will be needed in the global economic context.

<b>(Table: 5.3)</b>									
<b>Educational Level by Age and Sex for Population aged 60 and above in India: 2011</b>									
<b>Educational Qualifications</b>	<b>Place of Residence</b>								
	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
Illiterate	13.1	11.1	14.6	13.7	12.2	14.9	10.8	7.3	13.5
Literate	5.9	6.9	4.6	5.2	6.5	3.4	7.2	7.8	6.4
Literate without educational level	11.1	11.2	11.0	11.1	11.5	10.5	11.2	10.6	11.9
Below Primary	6.3	7.1	5.3	5.9	7.2	4.3	7.4	6.6	8.3
Primary	6.4	7.5	5.1	5.8	7.4	3.7	8.1	7.8	8.3
Middle	4.3	5.2	3.0	3.6	4.9	1.9	5.6	5.8	5.2
Matric/Secondary	5.3	6.7	3.1	4.2	5.8	1.5	6.8	8.1	5.0
Higher-secondary/Intermediate/Pre-University	4.5	5.6	2.9	3.1	4.1	1.3	6.0	7.3	4.3
Non-technical diploma or certificate not equal to degree	9.0	9.5	8.1	7.2	7.7	6.3	10.2	10.6	9.4
Technical diploma or certificate/ not equal to degree	7.8	7.6	8.5	5.5	5.4	5.7	9.5	9.2	10.4
Graduate & above	6.4	8.2	3.7	4.4	5.6	1.5	7.4	9.6	4.4
Unclassified	13.0	12.2	14.0	13.0	12.5	13.6	13.0	11.4	14.7
<b>Source:</b> Calculations based on Census of India, 2011									
<b>Note:</b> *T; Total (Person), M; Male, F; Female									

The well-being of elderly persons is closely associated with their educational attainment in life. The elderly population of today are the products of an era prior to the present level of socio-economic development of the country and as a consequence their literacy are lower. Table 5.3 presents the educational attainment of the aged population indicating that about 11.1 per cent of the elderly males and 14.6 per cent of the female elderly are illiterate in the country in 2011. The higher literacy levels of aged persons living in urban areas than their counterparts in rural areas may be due to higher literacy level prevailing in urban areas and the past practice and selective higher migration of literate persons to urban areas. Another possible factor which determines the lower literacy in rural areas is the fact that the educational facilities are not so developed as compared to the urban

areas. In addition to this, the educational background of the elderly population reveals a higher share of elderly in the literate without any educational level category. In the light of above discussion, can also be seen that elderly females have always had a lower participation in educational activities. This results in their lower status in society and lesser authority in the family and individual opinions. In addition to this, educational attainment of elderly females is far behind as compared to their male counterparts.

#### 5.3.4: Educational Level by Age and Sex for Population aged 60 and above in Uttar Pradesh: 2011

As mentioned earlier, the role of education is important as an instrument of personal development as well as social progress. In view of this, education is a key indicator to determine the status of elderly population, especially in rural areas.

<b>(Table :5.4)</b>									
<b>Educational Level by Age and Sex for Population aged 60 and above in Uttar Pradesh: 2011</b>									
<b>Educational Qualifications</b>	<b>Place of Residence</b>								
	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
Illiterate	11.6	10.7	12.2	12.3	11.8	12.7	8.3	6.4	9.8
Literate	4.8	6.1	3.0	4.5	5.9	2.3	5.9	6.7	4.8
Literate without educational level	9.9	10.5	9.0	10.1	11.0	8.8	9.4	9.3	9.5
Below Primary	1.9	2.5	1.1	1.9	2.6	1.0	2.1	2.1	2.0
Primary	5.8	7.3	4.0	5.7	7.5	3.3	6.5	6.3	6.7
Middle	4.5	5.6	2.7	4.3	5.6	2.0	5.3	5.5	5.0
Matric/Secondary	5.1	6.6	2.6	4.7	6.3	1.4	6.3	7.4	4.7
Higher-secondary/Intermediate/Pre-University	4.6	6.0	2.1	4.0	5.5	1.2	5.7	7.3	3.5
Non-technical diploma or certificate not equal to degree	10.9	13.7	7.5	9.6	13.2	6.3	12.8	14.4	10.2
Technical diploma or certificate/ not equal to degree	9.0	9.5	4.9	5.6	5.8	3.2	12.1	13.3	5.6
Graduate & above	6.1	7.6	3.3	4.7	6.0	1.5	7.3	9.4	4.4
Unclassified	8.5	9.1	7.5	8.4	9.3	7.1	8.6	8.8	8.3
<b>Source:</b> Calculations based on Census of India, 2011									
<b>Note:</b> *T; Total (Person), M; Male, F; Female									

The overall picture of the status of educational background of the elderly population in Uttar Pradesh has been discussed in table 5.4. The results highlight that, elderly women are less educated as compared to their male counterparts in all categories of educational qualifications. In a country like India where, male dominated society prevails men folk

rarely share the household chores and the working ladies have to stretch themselves hard to prove themselves at both fronts; home and working place. Most of the elderly persons were with an educational level below Matric/Secondary, and even in urban areas smaller number of elderly are reported in this category. It is also observed that, the participation of elderly in higher education is quite less compared to other categories. In addition to this, rural- urban differential is more or less similar to male-female differentials. Rural areas have more percentage in lower levels of education, whereas urban areas show relatively more population in higher levels of education. In spite of rural- urban differential in education, socio-economic status of individuals also play vital role in determining the educational attainment of elderly population in Uttar Pradesh.

### 5.3.5: Educational Level by Age and Sex for Population aged 60 and above in Bulandshahr District: 2011

In the previous table, an analysis has been carried out for education level of elderly population in Uttar Pradesh. In addition to this, district level education status among elderly has been presented for Bulandshahr District in table 5.5.

<b>(Table: 5.5)</b>									
<b>Educational Level by Age and Sex for Population aged 60 and above in Bulandshahr District:2011</b>									
<b>Educational Qualifications</b>	<b>Place of Residence</b>								
	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
Illiterate	11.3	9.1	12.8	12.3	10.2	13.7	8.1	6.2	9.5
Literate	4.6	5.8	2.7	4.4	5.8	2.2	5.1	5.9	4.0
Literate without educational level	9.0	9.5	8.2	9.0	9.7	7.8	8.9	8.9	8.8
Below Primary	1.4	1.8	1.0	1.4	1.8	0.8	1.7	1.8	1.5
Primary	5.1	6.1	3.9	5.0	6.3	3.4	5.4	5.2	5.6
Middle	4.4	5.5	2.6	4.4	5.7	2.0	4.7	4.8	4.5
Matric/Secondary	5.6	7.2	2.3	5.5	7.2	1.4	5.9	7.1	4.2
Higher-secondary/Intermediate/Pre-University	5.2	6.8	1.7	5.0	6.5	1.1	5.7	7.9	2.7
Non-technical diploma or certificate not equal to degree	10.1	15.1	6.2	10.0	14.2	6.2	10.2	15.7	6.3
Technical diploma or certificate/ not equal to degree	6.6	6.7	4.7	4.7	4.9	0.8	10.0	10.4	7.2
Graduate & above	6.6	8.6	2.6	6.4	8.1	1.4	6.8	9.3	3.3
Unclassified	9.0	8.7	9.5	9.7	9.6	9.8	7.2	6.3	8.6
<b>Source:</b> Calculations based on Census of India, 2011									
<b>Note:</b> *T; Total (Person), M; Male, F; Female									

An additional social dimension of ageing in India will be the faster ageing process among females in future and consequently an increasing share of women in the elderly population. Education makes an individual more receptive to new ideas and practices and they begin to move from their traditional ways of life towards a more complex, technologically advanced and rapidly changing style of life. In table 5.5, an attempt is made to analyse the educational pattern among elderly in Bulandshahr district. Furthermore, results from table 5.5 reveals that majority of elderly have been engaged in both technical and non-technical diploma courses in Bulandshahr district. In addition to this, it is relevant to note that smaller number of elderly are graduates and above. In other words, contribution of elderly in higher education is quite less compared to other categories. The educational profile of elderly reveals that a majority of them are illiterates. The illiterate males comprise 11.3 per cent while 12.8 per cent are females. It must be noted here that literacy is generally accepted as the best single indicator of education at the macro level, from a human capital perspective, it is desirable to see whether educational achievement goes beyond mere literacy<sup>3</sup>. Lastly, the above analysis indicates that, the education level among elderly persons is quite low in Bulandshahr district compared to both state and national levels. Education status is related to the socio-economic development of a region. In Uttar Pradesh, though the level of education has increased over the years, but this is still low compared to most of the other Indian states.



### 5.3.6: Distribution of Scheduled Tribe Elderly Population in India, Uttar Pradesh and Bulandshahr District: 2001-2011

Population ageing is one of the key components of contemporary demographical research. In the table 5.6 the proportion of scheduled tribe elderly has been presented. Enormous literature based evidences show that the scheduled tribes have been the vulnerable section of our society. Consequently, it would be quite interesting to identify that the status of literacy and education of the scheduled tribe elderly population.

<b>(Table: 5.6)</b>									
<b>Distribution of Scheduled Tribe Elderly Population in India, Uttar Pradesh and Bulandshahr District: 2001-2011</b>									
<b>(2001)</b>	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
<b>India</b>	6.8	5.7	6.5	6.2	5.9	6.6	4.6	4.2	5.1
<b>Uttar Pradesh</b>	5.5	5.6	5.3	5.7	5.9	5.4	3.7	3.4	4.0
<b>Bulandshahr</b>	10.6	8.7	12.9	17.3	19.2	15.4	8.1	5.2	11.9
<b>(2011)</b>	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
<b>India</b>	6.9	6.5	7.3	7.0	6.6	7.5	5.5	5.1	6.0
<b>Uttar Pradesh</b>	6.9	7.0	6.7	7.0	7.2	6.8	5.7	5.8	5.6
<b>Bulandshahr</b>	6.6	6.8	6.3	7.3	10.7	0.0	6.4	5.6	7.5
<b>Source:</b> Calculations based on Census of India, 2001-2011									
<b>Note:</b> *T; Total (Person), M; Male, F; Female									

Table 5.6 reveals that, in India, about 6.08 per cent elderly were scheduled tribe in 2001. State level results indicate that nearly 5.6 per cent elderly belongs to the scheduled tribe community, while this proportion is slightly higher at the district level i.e. around 10.6 per cent elderly were counted as scheduled tribe in Bulandshahr district. Sex wise analysis indicates that, the proportion of elderly women are slighter higher than their male counterparts. The sub-section of table 5.6, also presents the distribution of elderly scheduled tribe according to Census figure 2011. In view of this, about 6.9 per cent of elderly are reported as scheduled tribe. While this proportion in Uttar Pradesh is 6.9 per cent but at the district level this proportion comes down to 6.6 per cent. Furthermore, in rural areas around 7.0 per cent of elderly are scheduled tribes while in the urban areas this proportion is just 5.5 per cent. However, in Bulandshahr district the proportion of scheduled tribes are slightly higher as compared to the national and state level.

### 5.3.7: Distribution of Scheduled Caste Elderly Population in India, Uttar Pradesh and Bulandshahr District: 2001-2011

In the recent years, India has experienced rapid decline in traditional joint family system with increasing trends in urbanisation and industrialisation. In this relation, outmigration from rural areas leaves their elderly parents with inadequate financial and physical support. In rural India, caste factor play a dominant role that influences thousands of lives. Generally, elderly from scheduled caste are not well off in socio-economic development. Elderly from scheduled caste communities are also constrained by a lot many problems.

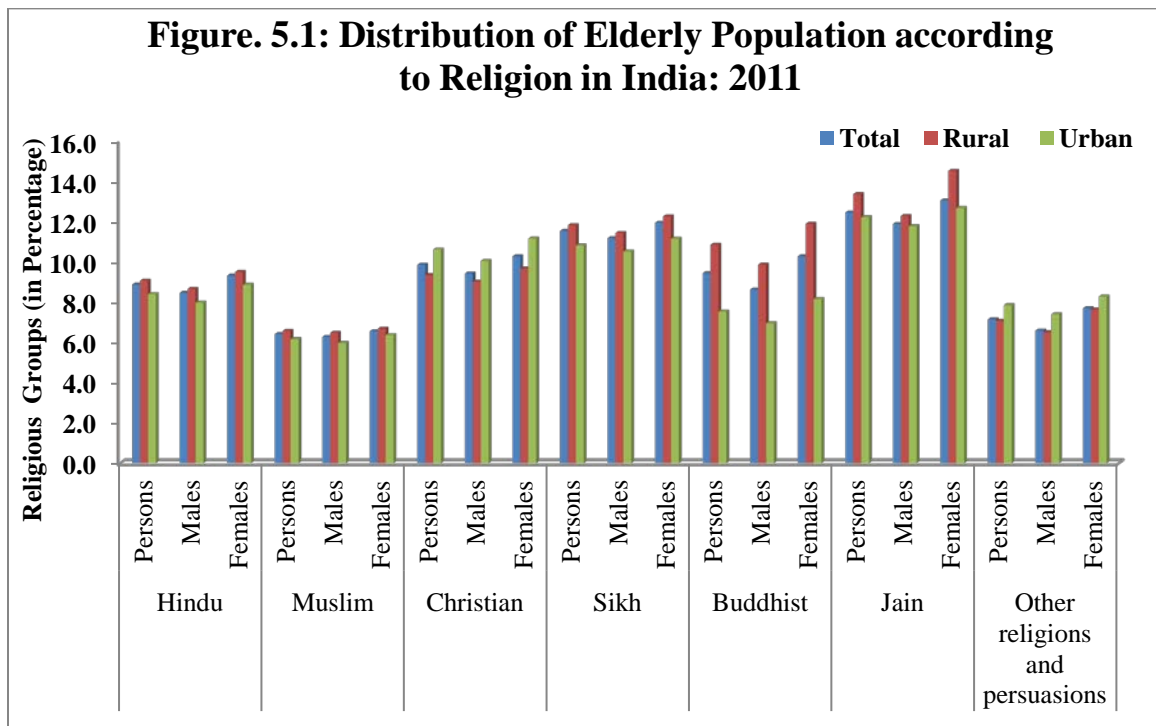
<b>Table: (5.7)</b>									
<b>Distribution of Scheduled Caste Elderly Population in India, Uttar Pradesh and Bulandshahr District: 2001-2011</b>									
<b>(2001)</b>	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
<b>India</b>	6.9	6.5	7.2	7.2	6.9	7.5	5.5	5.0	6.0
<b>Uttar Pradesh</b>	6.7	6.6	6.8	6.9	6.9	7.0	5.1	4.8	5.4
<b>Bulandshahr</b>	7.1	6.6	7.7	7.4	6.9	8.0	5.3	4.8	6.0
<b>(2011)</b>	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
<b>India</b>	7.8	7.4	8.2	8.2	7.8	8.6	6.6	6.1	7.1
<b>Uttar Pradesh</b>	7.4	7.3	7.5	7.6	7.5	7.7	5.8	5.6	6.1
<b>Bulandshahr</b>	6.9	6.3	7.7	7.2	6.5	8.0	5.8	5.4	6.3
<b>Source:</b> Calculations based on Census of India, 2001-2011									
<b>Note:</b> *T; Total (Person), M; Male, F; Female									

In table 5.7, the proportion of scheduled caste elderly population in 2001-2011 has been demonstrated. Furthermore, table 5.7 suggests that, in India nearly 6.9 per cent elderly were scheduled castes. It is interesting to note that the state level analysis highlights that about 6.7 per cent elderly population were scheduled caste, this proportion increased to 7.1 at district level. Another dimension of this table is to highlight the gender wise proportion of scheduled caste elderly population. It can be evidently seen from table 5.7 that the proportion of elderly women are slightly higher than their male counterparts. The sub-section of table 5.7 presents the distribution of scheduled caste elderly population in 2011. The national level figure indicates that nearly 7.8 per cent elderly were scheduled castes. This figure is slightly lower at the state level, while at district level this figure is

just 6.9 per cent. Literature based evidence demonstrate that Uttar Pradesh has the largest share of scheduled caste population. In the light of this, table 5.7, clearly reveals that in rural areas the proportion of scheduled caste elderly are quite higher than their urban counterparts. Another noticeable observation also made from above statistics is that, greater proportions of elderly women are detected in both urban and rural areas probably due to a higher life expectancy of females.

**5.3.8: Distribution of Elderly Population according to their Religious Profile in India: 2011**

India has experienced demographic changes in the past several decades. With 1.2 billion as per the latest Census figure, India is the world’s second most populated country. Population ageing is taking place in nearly all the countries of the world.



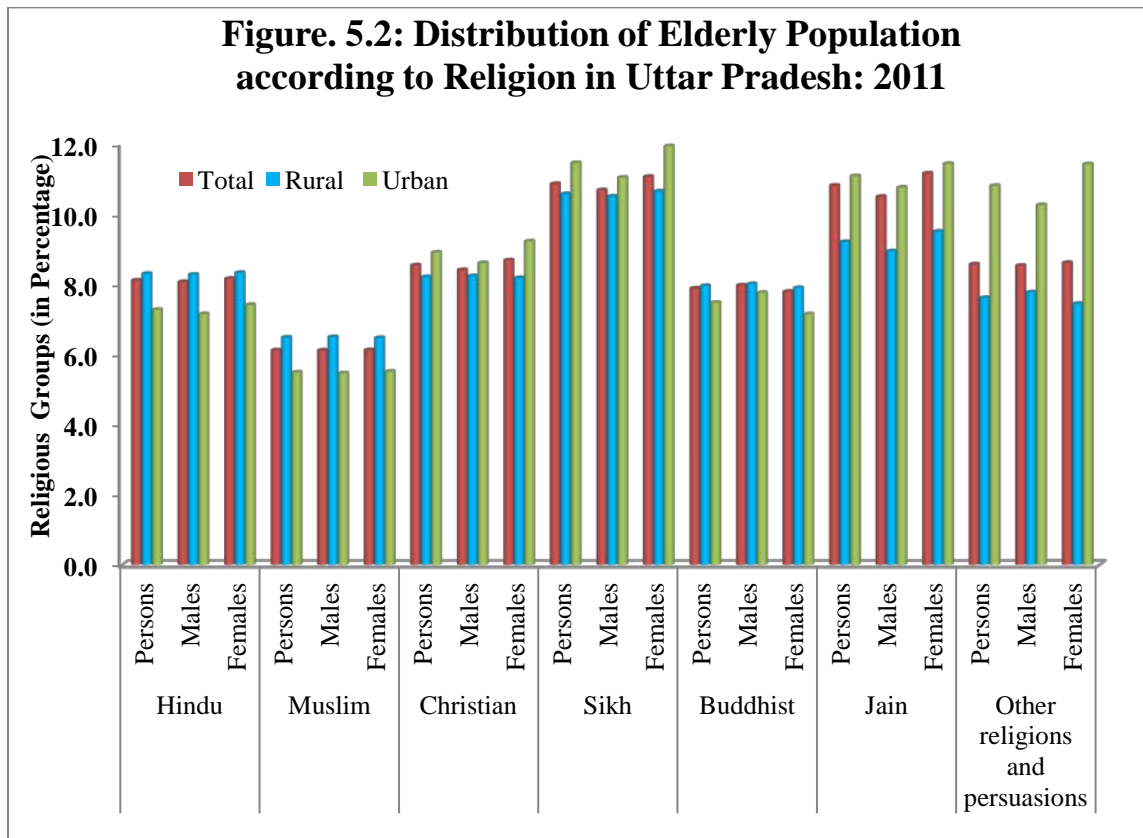
**Source:** Calculations based on Census of India, 2011

Data in figure 5.1 highlights the distribution of elderly population according to their religious characteristics. In addition to this, the elderly population in India reveals that among all religious groups Jains are the majority followed by, Sikhs and Christians. It has been observed from figure 5.1 that the proportion of Hindu elderly population less and Muslims least. Finally, in Indian society religion play is very important role along with

socio-economic factors in shaping human development. Consequently, in India majority people who are belongs to various religious groups living together.

### 5.3.9: Distribution of Elderly Population according to their Religious Profile in Uttar Pradesh: 2011

As mentioned earlier, religion is one of the most important element of social tradition in India. Fortunately, old age is associated with wisdom and enlightenment. It is noteworthy to mention that religion profile of elderly people has presented in the figure 5.2.



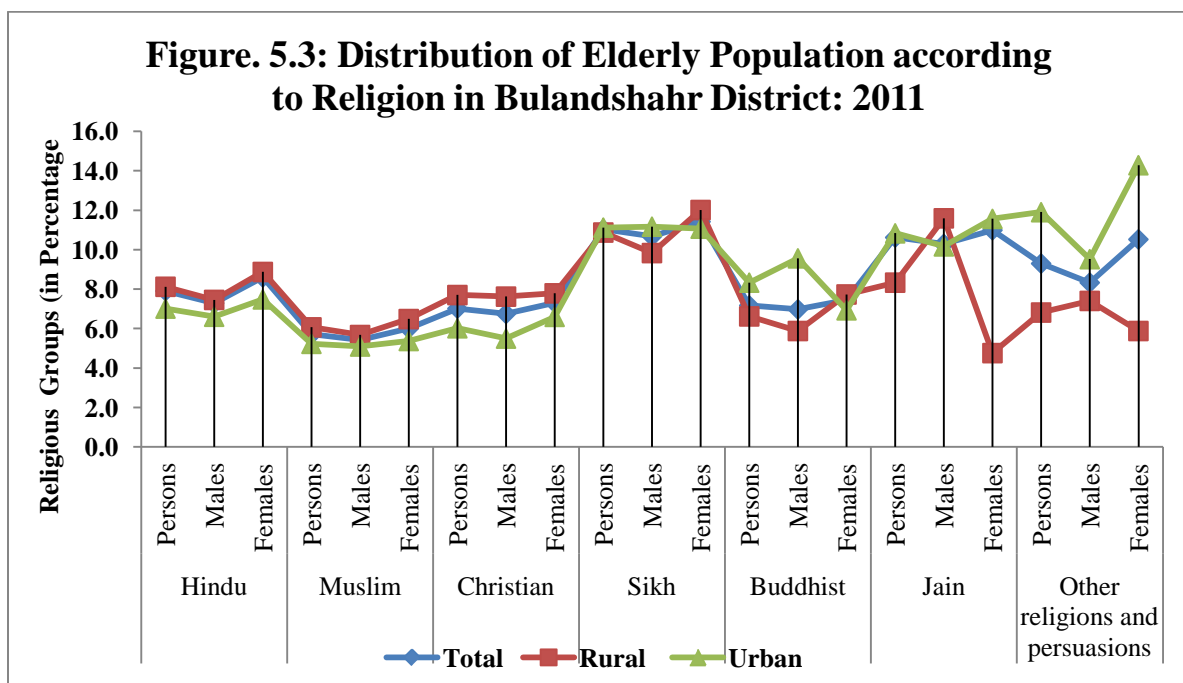
**Source:** Calculations based on Census of India, 2011

Data in the figure 5.2, presents the distribution of elderly population across various religious groups in Uttar Pradesh. With a large population, multi-religious and multi-cultural community have jointly inhabited in Uttar Pradesh. The above description strongly highlights the religious profile of elderly influenced by several characteristics. In this analysis proportion of Jain elderly are higher followed by Sikhs, Christians and Hindus. Results also indicate that among all religious groups’ Muslim elderly have the lowest representations. Finally figure 5.2 shows a significant rural- urban difference in

religious profile among elderly population. It discloses that rural areas had higher elderly population than the urban areas in all religion. It can be concluded that social arena of older persons in our society is influenced by copious causes and religion is one of them.

### 5.3.10: Distribution of Elderly Population according to their Religious Profile in Bulandshahr district: 2011

Elderly population in India is experiencing unexpected changes in their socio-economic status due to modernisation and disintegration of the joint family system. In this process, social determinants have influenced their life-style. In India, religion is one of the most important elements that may affect many features of human behaviour.



**Source:** Calculations based on Census of India, 2011

Figure 5.3 presents the distribution of elderly population according to their religious profile in Bulandshahr district. Considering the broad categories of religion, it is seen that the Hindus elderly are substantially higher than the Muslims. Proportion of the elderly population as well as the survival of elderly per household is higher among the Hindus than among the Muslims. In the same analysis, despite major religious groups the proportion of religious minorities like Jain and Sikh community are found in higher proportion in the Bulandshahr district. Census of India 2011, includes an additional category of religion is called other religion and persuasions. Under this category Census includes all individuals who believe in other religions.

## **Section-II**

### **5.4: Levels and Trends of Elderly Population in Bulandshahr District: A Micro Level Analysis, (A Field Experiences)**

The main purpose of this section is to explore the housing and living conditions of the elderly including, background and socio-economic characteristics of the eligible respondents. This study is conducted in the fifteen villages, namely Mumrejpur, Usmanpur, Jalalabad Urf Chingrawli, Azmabad, Gangthala, Lakhawti Mirzapur, Hamirpur, Hinsoti, Araniya Khurd, Dhakpura, Ahmadpur Halpura, Jarara, Nagal, Deenual, and Bichat Sujanpur. For the purpose of this study, persons who have attained the age of 60 and above are considered elderly and selected for sampling. The basic amenities and infrastructure facilities available to the households determine the quality of life of the elderly population groups. Hence, the aim of the present research has been to collect a wide range of information about basic housing amenities available to households of study region, during field investigation.

#### **5.4.1: Study Area (Micro Level): Bulandshahr District**

\*The history of Bulandshahr begins even before 1200 B.C. This region is nearer to the capital of Pandavas - Indraprasth and Hastinapur. After the decline of Hastinapur, Ahar which is situated in the north east of district Bulandshahr became an important place for Pandavas. With the passage of time King Parma made a fort in this part of region and a king named Ahirbaran laid the foundation of a tower called Baran (Bulandshahr). The first part of the district to come into the hands of the British was the Pargana of Anupshahr and Jahangirabad, which were ceded in 1801 by Saadat Ali. Bulandshahr took the pride of joining the first battle of Independence in 1857 by the 9th Native Infantry which took place on May 21, shortly after the outbreak at Aligarh. In 1857, during the first war of independence even Bulandshahr could not remain in isolation and joined the popular rebellion against the British rule. In 1919 Bulandshahr came into prominence as a centre of nationalist activities. The infamous Rowlatt Act gave vent to feelings of deep resentment and indignation and raised a storm of protest all over the district. Mahatma Gandhi launched his famous Non-Cooperation Movement and it received enthusiastic response from all sections of the people. On June 28, 1922, Moti Lal Nehru and

Tasadduq Ahmad Shervani (the Nationalist) visited the district and addressed a public meeting in Khurja.

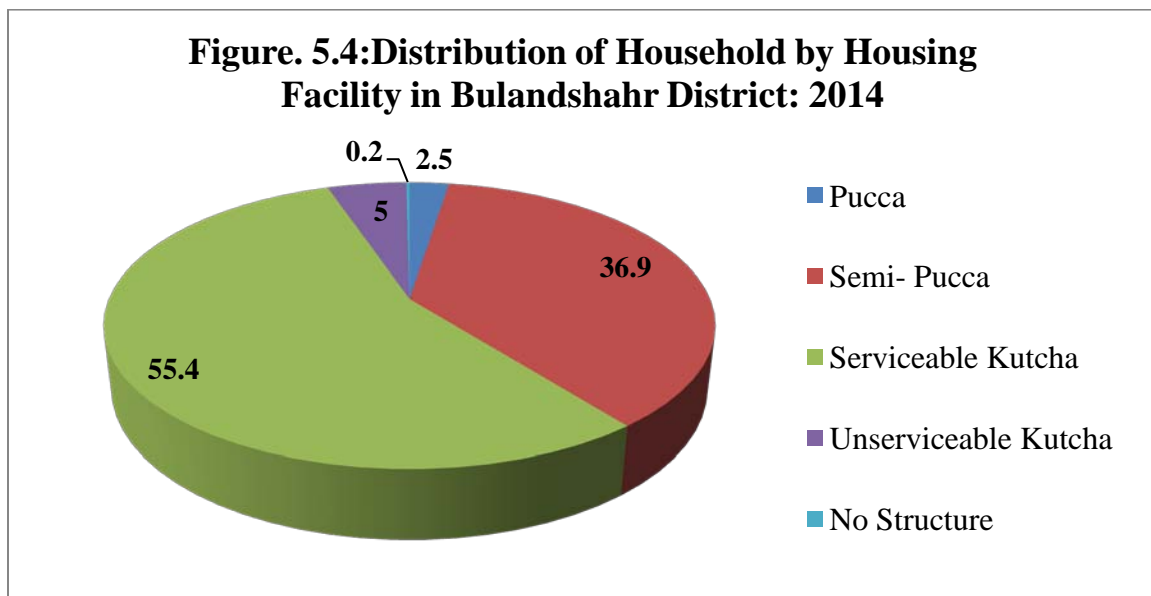
**Note:** \* The above historical tale of Bulandshahr district has been adopted from (District Census Handbook Bulandshahr -2011) **Directorate of Census Operations Uttar Pradesh**

#### 5.4.2: Housing Characteristics in the Study Region

“Access to basic household amenities such as proper housing, provision of piped drinking water, sanitation facilities and clean cooking fuel is an important measure of the socio-economic status of the elderly. In turn, this has implications on their health and living conditions”<sup>4</sup>. In other words, “housing has become an important public issue in almost all societies. Housing condition of a society measures the society’s socio-economic development level”<sup>5</sup>. Housing condition of the elderly determines to a large extent people’s economic status and access to facilities for quality living in old age. The respondents from the Bulandshahr district were asked in detail about their type and status of housing along with the housing facilities available to them.

#### 5.4.3: Distribution of Households by Housing Attributes

Household is defined as a basic component of human settlements. In this study, a rural setting has been chosen for the analysis. Housing pattern in rural areas has not developed like those found in the urban locality. In rural Uttar Pradesh, housing blueprints is common to all other rural communities.



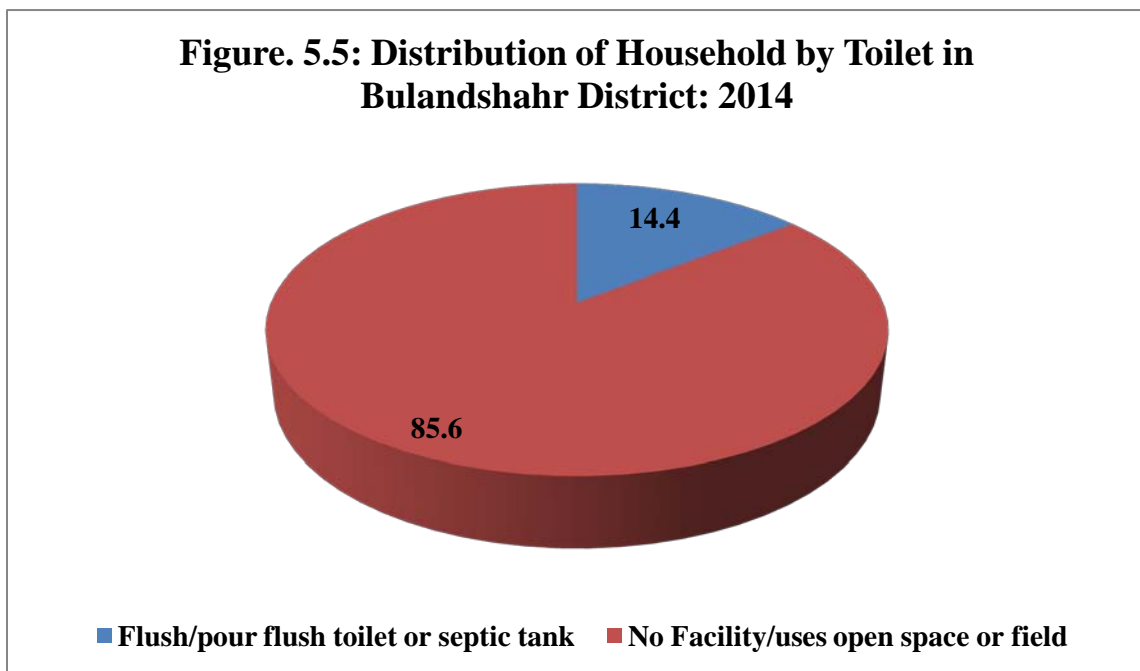
**Source:** Calculations based on Field Survey Conducted from January to April, 2014

**Note:** *Classification based on NSSO 61 Round Reports*

In India, majority of the population resides in rural areas. Figure 5.4 shows the distribution of households by their housing characteristics in the study area as per field survey results. As an empirical observation, more than 50 per cent of elderly lived in serviceable kutchha houses while, 36.9 per cent lived in semi pucca houses and only 5 per cent of elderly have resided in pucca houses. The less percentage of pucca houses indicates that housing conditions in rural areas have not developed much like urban counterparts.

#### **5.4.4: Distribution of Households by Toilet Facility**

For the households who had access to toilet, the type of toilet used by the household was collected in this study. These toilet types are explained in figure 5.5. A latrine connected to underground sewerage system is termed as a flush system latrine. A latrine connected to underground septic chambers is considered as a septic tank latrine. A latrine connected to a pit dug in earth is called a pit latrine. In a few areas, one might still come across latrines that are serviced by scavengers. These are called service latrines<sup>6</sup>. In this study, only two categories have been included as found in the households i.e. (a) flush/ pour flush toilet or septic tank and (b) No facility / open spaces.



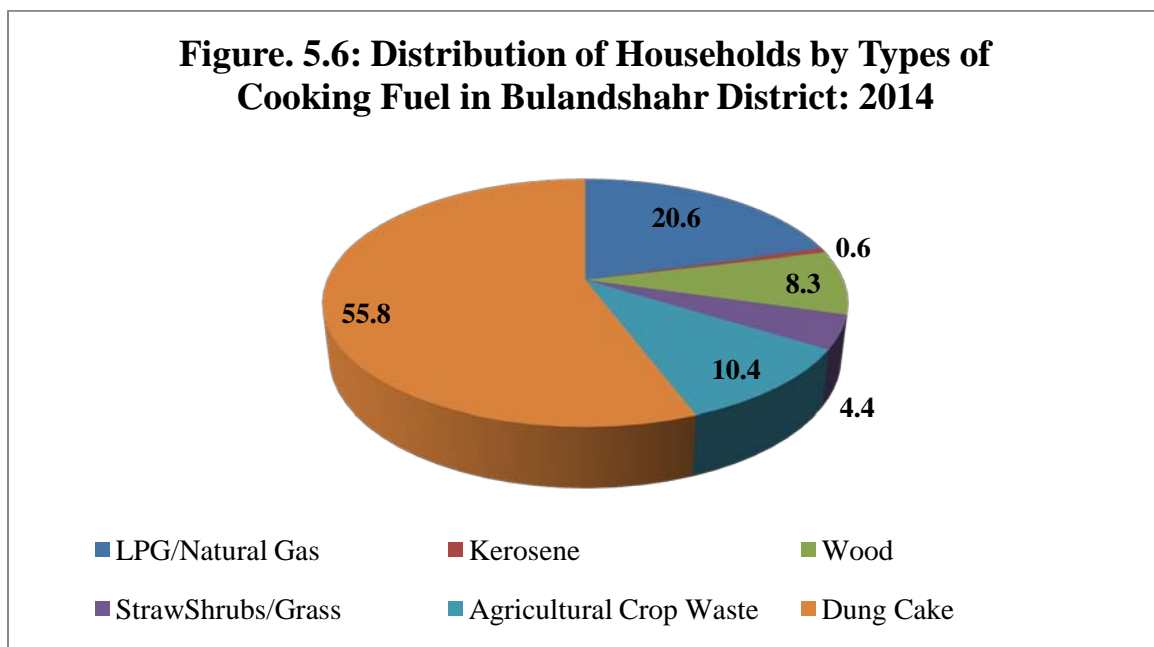
**Source:** Calculations based on Field Survey Conducted from January to April, 2014



The access to an improved toilet facility is an important indicator that reflects the living condition of the elderly population. The survey results reveal that about 85.6 per cent households use open space i.e. field as toilet, while, only 14.4 per cent households have a proper toilet facility. Furthermore, on the whole, in Uttar Pradesh, majority of rural households are without proper toilet facilities. The lack of availability of sanitary facilities poses a serious health concern for the elderly, along with other age groups in rural areas of the entire nation. Furthermore, in old-age, physical movement gets restricted and hence going to the fields for sanitation may become cumbersome for the elderly.

#### 5.4.5: Distribution of Households by Types of Cooking Fuel

In the present section, an attempt is also made to explore the types of cooking fuel used by the sampled households in Bulandshahr. In this process, cooking fuel is also a significant variable of the standard of living of households. In urban areas people with higher standard of living usually prepare food using the LPG, while poor families mostly use bio-mass fuels like wood, cow dung cakes and other fuels. However, in rural areas people still prefer traditional methods of cooking, that includes a variety of sources.



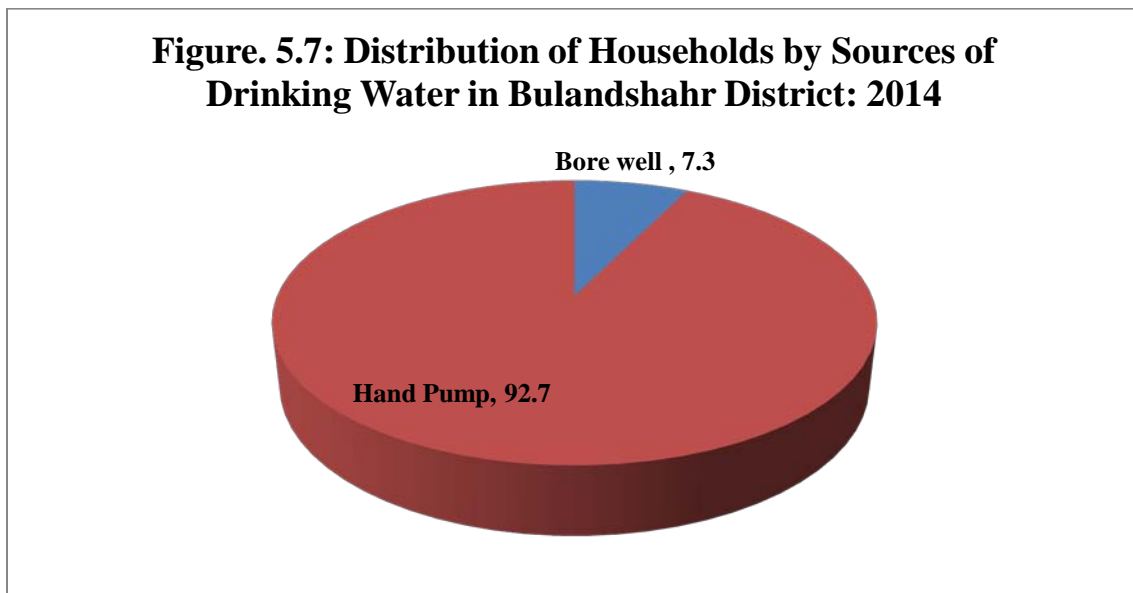
**Source:** Calculations based on Field Survey Conducted from January to April, 2014

Figure 5.6 presents the distribution of households by types of cooking fuel respondents' use while preparing their meals. As indicated in figure 5.6, dung cake is the most widely

used cooking fuel among rural households (55.8 per cent). As shown in Figure 5.6, Bulandshahr, (rural Uttar Pradesh) derives the bulk of its cooking energy needs from solid fuels, such as firewood and cattle dung. In the study, two sources ‘agricultural crop waste’ and ‘LPG natural gas’ together accounted for only 30 per cent. Based on this field information other fuel types include straw shrubs/grass, wood and kerosene. Figure 5.6 also portrays that only 4.4 per cent households use straw shrubs/grass as source of cooking fuel. In the light of above discussion, it is clear that people in rural areas still prefer traditional sources of cooking fuel as they are cheaper and are easily available in a rural setting.

#### **5.4.6: Distribution of Households by Sources of Drinking Water**

Source of drinking water of a household is also an important indicator of the quality of life. The source of drinking water also indicates the standard of the socio-economic status of a household. In this analysis information with respect to the household’s major source of drinking water during the last 365 days was collected. The list of different sources of drinking water on which information was collected is given in figure 5.7.



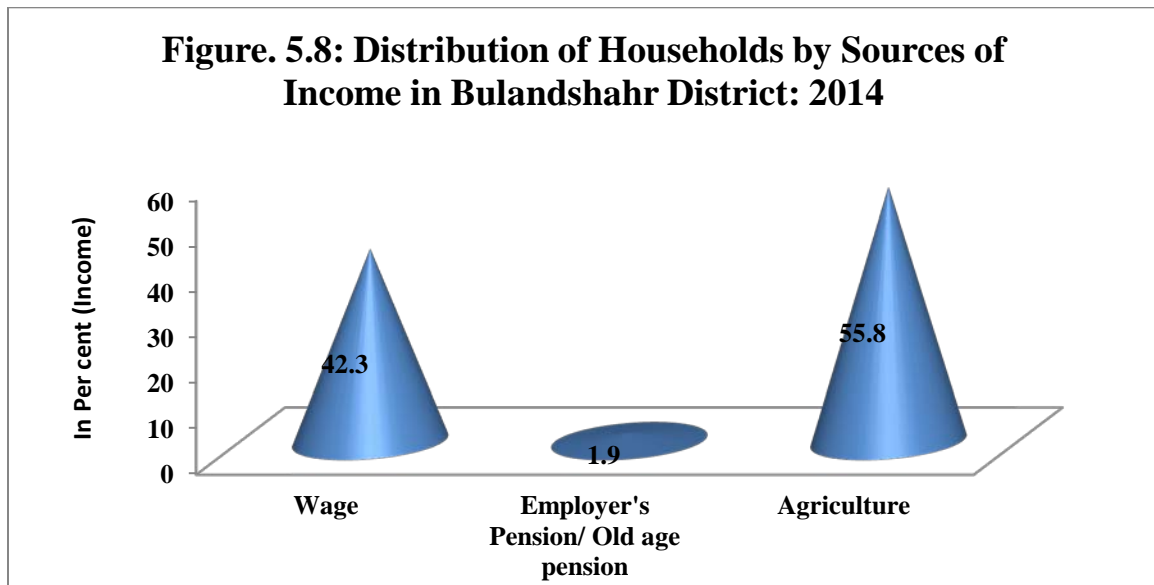
**Source:** Calculations based on Field Survey Conducted from January to April, 2014

The state is blessed with rivers like Ganga, Yamuna, Gomti, Ramganga and Ghaghara. In terms of availability of safe drinking water, about 80 per cent of the population of the state has access to safe drinking water. Drinking water supply is considered as the basic

necessities of life. In reference to the information on source of drinking water in the selected area of study; majority households had hand pumps as the major source of drinking water. Figure 5.7 reveals that only 7.3 per cent households' use bore well as drinking water. Bulandshahr is a district of western Uttar Pradesh. Most part of this region is a plains region. Primary investigation pointed out to the two major sources of drinking water i.e. bore well and hand pump and accessibility to other sources of drinking water was found to be too limited. Therefore, hand pumps and bore well have emerged as the most regularly used source of drinking water in Bulandshahr district. In the light of above discussion, other sources of drinking water like; piped water supply and electric motor pump were almost negligible sources of drinking water supply in the region concerned.

#### 5.4.7: Households by Sources of Income

Among the most urgent issues of older persons worldwide is income security. This, together with health, is the most frequently mentioned concerns by older persons themselves. These issues are also among the greatest challenges for Governments/Nations experiencing ageing populations. In addition to this, families have the main responsibility for the care and financial support of older dependant<sup>7</sup>.



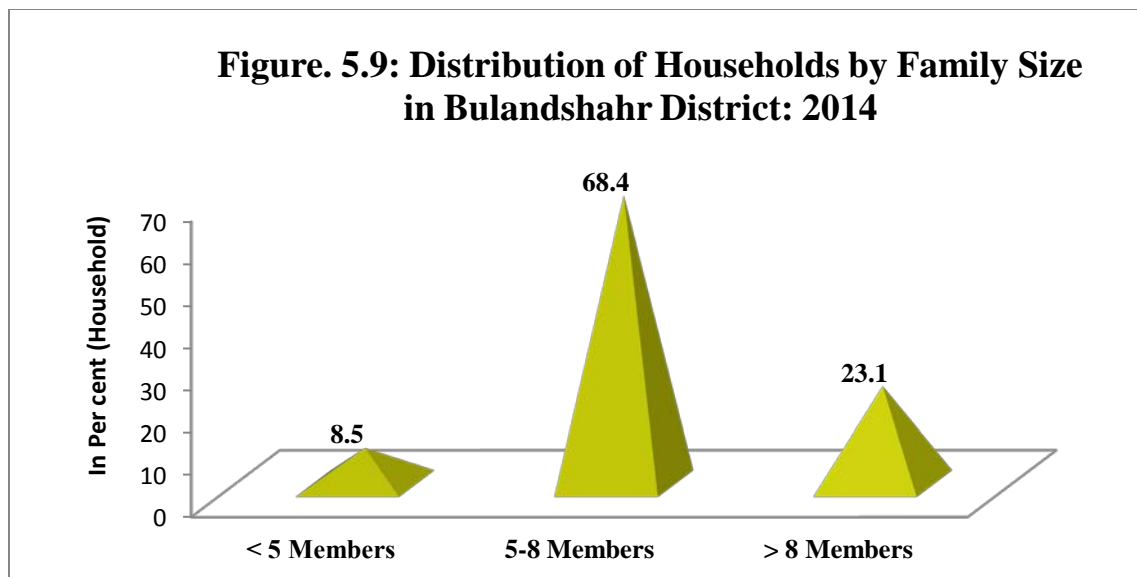
**Source:** Calculations based on Field Survey Conducted from January to April, 2014

Figure 5.8; explains the distribution of households through major sources of income generation activities. From figure 5.8, it can be seen that the agricultural activities are the

major sources of income generation for the households. The term “agricultural” can be defined as those households having at least one member self-employed in farming, either in principal or subsidiary status, during the last 365 days. In the study area, about 55.8 per cent households depend on agriculture as a source of income because, rural Uttar Pradesh and Bulandshahr in particular has a strong agrarian base. It has been also found that about 42.3 per cent households receive their income from wage/salaried employment. However, a mere 1.9 per cent of rural households also depend on employer’s pension or old age pension. This is particularly in the context of the aged population in the study area.

#### 5.4.8: Distribution of Households by Household Size

Household size is an indication of the degree of bonding of family members over generations. In joint or extended families, the elderly are likely to get better attention including care during sickness. According to this criterion, nearly 71 per cent of the households in India belong to this category. If any family has more than six members (children, parents and at least one of the grandparents), it constitutes a three-generation household. Almost half the number of households in India are therefore three-generation households<sup>8</sup>.



**Source:** Calculations based on Field Survey Conducted from January to April, 2014

Household is considered to be the basic unit of a society for social, economic, political and socialization purposes. Sociologically, household is a co-residential socio-economic

unit regardless of kinship ties whereas family is a group - membership which is mainly based on affinity and consanguine ties<sup>9</sup>. Due to the break-up of the joint family system and due to out-migration of the youth the elderly are often left behind. Hence they face isolation, insecurity, and are also constrained by lack of financial resources. The family size in the villages covered ranged from six to eight, with at least four children in most households. It is interesting to note that the largest proportion of elderly lived in 5-8 member family. Approximately, about 68.4 per cent of elderly lived in this group, only 23.1 per cent were found in more than 8 member family, while, just 8.5 per cent of elderly belonged to less than 5 member family. Consequently, family size in rural areas is larger compared to the urban counterparts.

#### **5.4.9: Block Wise Distribution of Elderly Households by Monthly Expenditure, Bulandshahr, 2014**

The total consumer expenditure over all items divided by the household size and expressed on a per month (30 days) basis is referred as the MPCE. A person's MPCE is understood as that of the household's to which he or she belongs<sup>10</sup>. MPCE = aggregate monthly consumer expenditure of the household ÷ household size. It is evident from literature; healthy life style highly depends on economic soundness of the family. Furthermore, the quality of life and standard of living of an individual depends upon the socio-economic status and in this respect MPCE is a very good indicator as expenditure can be taken as a proxy for income.

<b>(Table: 5.8)</b>					
<b>Block Wise Distribution of Elderly Households by Monthly Expenditure, Bulandshahr, 2014</b>					
<b>Block</b>	<b>Monthly Expenditure (₹)</b>				<b>Total</b>
	<b>Less than (₹) 2000</b>	<b>(₹) 2000-4000</b>	<b>(₹) 4000-6000</b>	<b>More than (₹) 6000</b>	
<b>Araniya</b>	26 (11.1)	201 (85.5)	6 (2.6)	2 (0.9)	235 (100.0)
<b>Khurja</b>	10 (6.0)	148 (88.1)	7 (4.2)	3 (1.8)	168 (100.0)
<b>Jewar</b>	6 (5.1)	102 (87.5)	7 (6.0)	2 (1.7)	117 (100.0)
<b>Total</b>	<b><i>n</i> = 42 (8.1)</b>	<b><i>n</i> = 451 (86.7)</b>	<b><i>n</i> = 20 (3.8)</b>	<b><i>n</i> = 7 (1.3)</b>	<b><i>n</i> = 520 (100.0)</b>
<b>Note:</b> Bracketed Figures Denote Percentages to their Respective Totals					
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014					

Economic activities pursued by the household members have bearing on the household income and in turn, on the household monthly per capita expenditure. Table 5.8 presents information on monthly expenditure among elderly households. It is a general perception that in Indian families the average income of households is usually significantly lower in rural areas than in urban areas.

It can be seen from table 5.8 that about 8.1 of per cent households had a monthly expenditure less than ₹2000. The majority of the households i.e. about 86.7 per cent had a monthly expenditure between ₹ 2000-4000. On the other hand, about 3.8 per cent households monthly expenditure varied between ₹ 4000-6000 and only 1.3 per cent of households had spent more than ₹ 6000 as monthly expenditure. The sub-section of table 5.8, portrays the block wise distribution of households according to their monthly expenditures. It is evident from the table that, in all blocks more than 85 per cent of household's monthly expenditure varied between ₹ 2000-4000. The next category was less than ₹ 2000. Almost negligible households were found in the higher expenditure slabs, indicating that the study region is a poorer one.

	<b>Picture: 5.2</b>	
		
	<b>Source:</b> Field Survey Conducted from January to April, 2014	

## **5.5: Socio-Economic Traits of Elderly Population in Bulandshahr District: A Micro Level Analysis**

For the present research work 520 respondents were interviewed through a detailed field investigation by the researcher. The fieldwork for study was carried out in the three Vikas Khands simultaneously during the period January to April 2014.

### **Categorisation of the Respondents (Age-Groups Wise)**

Demographic ageing and proportion of elderly population have been analyzed by many authors. Natural dynamics viz fertility and mortality are the components that influence the phenomenon of population ageing; whereas migration of youth reflect the condition of the left-behind elderly. The elderly themselves also do not form a homogeneous group as there are various ages and stages that a person can remain old, till death knocks the doorsteps. The prime agenda of this section is to highlight and identify these demographic characteristics of the elderly phases related to population ageing in Indian context. Elderly persons can be divided into three or more age cohorts, viz., the ‘young-old’, the ‘middle- old’, the ‘old-old’, and the ‘very- old’. The ‘young-old’ category comprises of persons in the age group 60-69 years, who maintain working capability after their retirement. The ‘middle-old’ consists of persons aged between 70 and 75 years. The ‘old-old’ category comprises of individuals aged over 75, who are likely to be frail, and possibly be a victim of physical disabilities and mental illness associated with old age. Finally, the ‘very-old’ category constitute individuals who are 80 years and above<sup>11</sup>. In the light of above discussion, the elderly respondents were divided into four separate age cohorts. According to these divisions different attributes / characteristics of elderly respondents have been analysed. As this study is centered on the health status of the elderly population, the socio-economic background characteristics of the sampled population is a key requirement for the study. This has been presented in table 5.9, discussed thereof.

#### **5.5.1: Distribution of Elderly (Block Wise) by Selected Background Characteristics in Bulandshahr District: 2014**

<b>(Table: 5.9)</b>				
<b>Distribution of Elderly (Block Wise) by Selected Background Characteristics in Bulandshahr District: 2014</b>				
<b>Background characteristics</b>	<b>Araniya</b>	<b>Khurja</b>	<b>Jewar</b>	<b>Total</b>
<b>Sex</b>				
Male	117 (41.1)	105 (36.8)	63 (22.1)	285 (54.8)
Female	118 (50.2)	63 (26.8)	54 (23.0)	235 (45.2)
<b>Total</b>	<b>n= 235 (45.2)</b>	<b>n= 168 (32.3)</b>	<b>n= 117 (22.5)</b>	<b>n= 520 (100.0)</b>
<b>Age</b>				
60-69	168 (43.2)	142 (36.5)	79 (20.3)	389 (74.8)
70-75	41 (48.2)	19 (22.4)	25 (29.4)	85 (16.3)
75-80	19 (61.3)	5 (16.1)	7 (22.6)	31 (6.0)
80+	7 (46.7)	2 (13.3)	6 (40.0)	15 (2.9)
Total	235 (45.2)	168 (32.3)	117 (22.5)	520 (100.0)
<b>Living Arrangements</b>				
Son	103 (53.6)	62 (32.3)	27 (14.1)	192 (36.9)
With Daughter	2 (22.2)	7 (77.8)	0 (0.0)	9 (1.7)
With Spouse	100 (39.8)	86 (34.3)	65 (25.9)	251 (48.3)
Alone	30 (44.1)	13 (19.1)	25 (36.8)	68 (13.1)
<b>Marital Status</b>				
Never Married	5 (100.0)	0 (0.0)	0 (0.0)	5 ( 1.0)
Currently Married	164 (44.6)	115 (31.2)	89 (24.2)	368 (70.8)
Widowed	62 (43.7)	52 (36.6)	28 (19.7)	142 (27.3)
Divorced/Separated	4 (80.0)	1 (20.0)	0 (0.0)	5 (1.0)
<b>Caste</b>				
General Caste	146 (56.6)	69 (26.7)	43 (16.7)	258 (49.6)
SC	85 (39.5)	77 (35.8)	53 (24.7)	215 (41.3)
OBC	4 (66.7)	0 (0.0)	2 (33.3)	6 (1.2)
Other	0 (0.0)	22 (53.7)	19 (46.3)	41 (7.9)
<b>Education</b>				
Illiterate	154 (41.5)	130 (35.0)	87 (23.5)	371 (71.3)
Primary	42 (60.9)	18 (26.1)	9 (13.0)	69 (13.3)
Middle	15 (35.7)	14 (33.3)	13 (31.0)	42 (8.1)
Secondary	6 (35.3)	5 (29.4)	6 (35.3)	17 (3.3)
Higher Secondary or Above	18 (85.7)	1 (4.8)	2 (9.5)	21 (4.0)
<b>Religion</b>				
Hindu	235 (49.1)	146 (30.5)	98 (20.5)	479 (92.1)
Muslim	0 (0.0)	22 (53.7)	19 (46.3)	41 (7.9)
Total	235 (45.2)	168 (32.3)	117 (22.5)	520 (100.0)
<b>Household Size</b>				
Less than 5 Members	24 (54.5)	13 (29.5)	7 (15.9)	44 (8.5)
5 to 8 Members	166 (46.6)	121 (34.0)	69 (19.4)	356 (68.5)
More than 8 Members	45 (37.5)	34 (28.3)	41 (34.2)	120 (23.1)



**Age-Groups\*:** Young- Old (60-69), Middle-Old (70-75), Old – Old (75-80) Oldest-Old (80+)

**Note:** Bracketed Figures Denote Percentages to their Respective Totals

**Source:** Calculations based on Field Survey Conducted from January to April, 2014

Table 5.9 shows the block wise distribution of elderly, according to their selected background characteristics. The results of the analysis of primary survey data on health status of elderly workers revealed that among the 520 interviewed respondents, about 54.81 per cent were male and 45.19 per cent were females. The profile of the elderly population as analysed from the field data reveals that a majority of them i.e. 74.8 per cent belong to the age groups of 60-69 years, while 16.3 per cent are of the age of 70-75 years, only 6.0 per cent are of the age of 75-80 years and just 2.9 per cent are of 80 years and above. In this respect, most of the elderly have been found in the Araniya block. Around 45.2 per cent elderly belong to this region. In addition, just 32.2 per cent of elderly are found in Khurja block, while merely 22.5 per cent of the elderly are from Jewar block.

Table 5.9 presents the distribution of elderly by living arrangements. It can be seen in the table, 5.9 per cent about 36.9 per cent of elderly are living with their sons. About 53.6 per cent such elderly were found in Araniya block followed by 32.3 per cent in Khurja block and just 14.1 per cent of elderly were accounted in Jewar block. A similar pattern was also observed in case of the elderly who were living with spouse. In this regard, about 39.8 per cent elderly were found in Araniya block, followed by about 34.3 per cent in Khurja block, while 25.9 per cent elderly were found in Jewar block. Table 5.9 also depicts the distribution of elderly population by their caste structure. In view of this, around, 56.6 per cent of general caste elderly were observed in Araniya block, followed by 26.7 per cent in Khuja block and just, 16.7 per cent in Jewar Block. As stated earlier in the discussion, general caste is the leading community in the study area, scheduled caste was the second largest community in the study area. Furthermore, about 39.5 per cent scheduled caste elderly were found in Araniya block around 35.8 per cent were seen in Khurja block and just 24.7 per cent scheduled caste elderly people belonged to the Jewar block. Another purpose of this table is to review the relationship between education and background characteristics of elderly in Bulandshahr District. Education of adults persistently emerges as the single most powerful indicator in

demographic events. In addition, approximately, 71.3 per cent of the elderly were illiterate, followed by 13.3 per cent elderly who were found to be educated till primary, 8.1 per cent middle, 3.3 secondary and just 4.0 per cent elderly were educated till postgraduate level. While all these variations are noted, female education is far behind than their male counterparts. India is a multi-religious society where many religions have flourished for the thousands of years. While Hindus form the most dominant community form the time immemorial, Muslims, Buddhists, Jains and Christians have been in the country for a long time. With 80 per cent of India's population, Hinduism is the most dominant religions in India. Islam is the second most foremost religion in the country with 13 per cent population. Sikhs and Christians are also present in the country but in a very small numbers. In this regard, table 5.9 also demonstrated the distribution of elderly population by their religious characteristics. It is clear from the table that, over ninety per cent of elderly belonged to Hindu religion. On the other hand, about 7.9 per cent elderly constituted the Muslims. Furthermore, except Hindu and Muslim no other religious community has been found in this study.

It is however interesting to note that table 5.9 also depicts proportions of elderly according the household size. In this respect, more than 65 per cent of the elderly belonged to the households that have at least 5 to 8 members in the family, followed by about 23.1 per cent elderly observed in the households that have more than 8 members and only 8.5 per cent elderly were found living in the households restricted to less than 5 members in the family. It can therefore be concluded that the elderly population in rural areas of the study area were subjected to different background characteristics.

### **5.5.2: Distribution of Elderly by Marital Status according to Selected Background Characteristics in Bulandshahr District: 2014**

The observed increase in the size and proportion of the elderly population has posed serious challenges to society. In the past few decades, the size of elderly in India has been increasing rapidly from 5.6 per cent in 1961 to 8.5 per cent in 2011. Distribution of population by marital status is an important characteristic of population in any region. The marital status of elderly persons is mostly determined by the mortality rates of spouses and remarriage rates. Male spouses are more likely to die before their wives because of the higher male mortality and the fact that men tend to marry younger wives. In most societies, remarriage probabilities are lower for elderly women than for older men, partly because of the reduced availability of men of similar or older age (**World population Ageing, 2013**). For the first time in the 2001 Census, tabulation of the four separate categories of marital status of the individuals, separately for males and females, by each religious community has been done. The separate categories are:

- i.** Never Married
- ii.** Currently Married
- iii.** Widowed and
- iv.** Divorced / Separated

In most societies, there are much more widows than widowers, and the proportion in a marital union is lower among elderly women than among older men (**World population Ageing, 2013**). Hence, marital status and within it widowhood may be taken as a special indicator to cover the social dimension of ageing. One common characteristic of population throughout the world is the preponderance of women at older ages. Women are the majority of the elderly population in the vast majority of countries, and their share of the population increases with age. This gender imbalance at older ages has many implications for population and individual aging, perhaps the most important of which involve marital status and living arrangements<sup>12</sup>. Widowhood acts as an invitation to worries, sorrows, misfortune, instability and dependency in our society. In this respect, problems among elderly widows get more aggravated. Elderly Widows are the most vulnerable and deprived section the society particularly their position in a patriarchal society, where their condition become even more precarious because of the limited rights.

<b>(Table: 5.10)</b>					
<b>Distribution of Elderly by Marital Status according to Selected Background Characteristics in Bulandshahr District: 2014</b>					
<b>Demographic Variables</b>	<b>Never Married</b>	<b>Currently Married</b>	<b>Widowed</b>	<b>Divorced/Separated</b>	<b>Total</b>
<b>Sex</b>					
Male	5 (1.8)	225 (78.9)	54 (18.9)	1 (0.4)	285 (54.8)
Female	0 (0.0)	143 (60.9)	88 (37.4)	4 (1.7)	235 (45.2)
<b>Total</b>	<b>n= 5 (1.0)</b>	<b>n= 368 (70.8)</b>	<b>n= 142 (27.3)</b>	<b>n= 5 (1.0)</b>	<b>n= 520 (100.0)</b>
<b>Age</b>					
60-69	1 (0.3)	295 (75.8)	90 (23.1)	3 (0.8)	389 (74.8)
70-75	3 (3.5)	56 (65.9)	24 (28.2)	2 (2.4)	85 (16.3)
75-80	1 (3.2)	13 (41.9)	17 (54.8)	0 (0.0)	31 (6.0)
80+	0 (0.0)	4 (26.7)	11 (73.3)	0 (0.0)	15 (2.9)
<b>Living Arrangements</b>					
Son	0 (0.0)	100 (52.1)	90 (46.9)	2 (1.0)	192 (36.9)
With Daughter	0 (0.0)	7 (77.8)	2 (22.2)	0 (0.0)	9 (1.7)
With Spouse	0 (0.0)	244 (97.2)	7 (2.8)	0 (0.0)	251 (48.3)
Alone	5 (7.4)	17 (25.0)	43(63.2)	3 (4.4)	68 (13.1)
<b>Caste</b>					
Upper Caste	2 (0.8)	193 (74.8)	62 (24.0)	1 (0.4)	258 (49.6)
SC	3 (1.4)	139 (64.7)	69 (32.1)	4 (1.9)	215 (41.3)
OBC	0 (0.0)	4 (66.7)	2 (33.3)	0 (0.0)	6 (1.2)
Other	0 (0.0)	32 (78.0)	9 (22.0)	0 (0.0)	41 (7.9)
<b>Education</b>					
Illiterate	4 (1.1)	237 (63.9)	125 (33.7)	5 (1.3)	371 (71.3)
Primary	0 (0.0)	59 (85.5)	10 (14.5)	0 (0.0)	69 (13.3)
Middle	1 (2.4)	39 (92.3)	2 (4.8)	0 (0.0)	42 (8.1)
Secondary	0 (0.0)	16 (94.1)	1 (5.9)	0 (0.0)	17 (3.3)
Higher Secondary or Above	0 (0.0)	17 (81.0)	4 (19.0)	0 (0.0)	21 (4.0)
<b>Religion</b>					
Hindu	5 (1.0)	336 (70.1)	133 (27.8)	5 (1.0)	479 (92.1)
Muslim	0 (0.0)	32 (78.0)	9 (22.0)	0 (0.0)	41 (7.9)
<b>Household Size</b>					
Less than 5 Members	5 (11.4)	15 (34.1)	24 (54.4)	0 (0.0)	44 (8.5)
5 to 8 Members	0 (0.0)	261 (73.3)	90 (25.3)	5 (1.4)	356 (68.5)
More than 8 Members	0 (0.0)	92 (76.7)	28 (23.3)	0 (0.0)	120 (23.1)
<b>Age-Groups*:</b> Young- Old (60-69), Middle-Old (70-75), Old – Old (75-80) Oldest-Old (80+)					
<b>Note:</b> Bracketed Figures Denote Percentages to their Respective Totals					
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014					

Data in table 5.10 presents the marital status of the elderly by background characteristics.

In old age, marital status is one of the most influential determinants among the elderly.

There have been enough evidences available in the literature, which indicates that married elderly live a healthier life. As shown in table 5.10 the incidence of widowhood among the aged, is quite higher among the females. In addition, only 18.9 per cent elderly were widowers, the proportion of widowed population was significantly higher at 37.4 per cent. Significant gender differentials in marital status exist. The higher percentage of older women than men who are widowed reflects sex differentials in age at marriage, longevity and remarriage rates. Factors behind gender gaps in widowhood are given below:

- Gender differences in the expectation of life.
- Differences in the age of marrying partners.
- Differences in chance of remarriage between men and women.

The marital status of elderly has significant effect in terms of the family support and the care they can expect to receive in their old-age. It is a common observation that a much lower proportion of men than women are widowed during old age primarily because of the longer life span of women compared to that of men, the age difference between man and women at the time of their first marriage and the general tendency on the part of man to remarry if they become widowers<sup>13</sup>. In this regard field observations revealed that, around 27.3 per cent are widowed while 70.8 per cent of them lived with their husbands. It is indeed true that it is the marital status that determines ones position within the family as well as the status in society. In this study, small number of elderly have been never married and divorced/separated. In the rural region fewer elderly were reported as deserted or alienated. It was observed that, marital status among elderly is the most important determinant in the last phase of life cycle. Table 5.10 gives a detailed description of the elderly by living arrangement. It can be observed from the table that a relatively higher proportion of elderly widowed lived alone (63.2 per cent) compared to the elderly who were currently married (25.0 per cent). The reflection of above analysis presents the association between marital status and education of elderly. It has also been inferred that about 63.9 per cent illiterate elderly were currently married and only 33.7 per cent elderly were widows. Moreover, another noteworthy point that has been observed from the table is about 74.8 per cent general caste elderly were currently married, and around 64.7 per cent currently married elderly belonged to scheduled caste

community. Household is a central unit of care and support for the elderly population. Household size determined the situation of elderly in the family and perception of family members towards their aged. In rural areas children still have some form of respect towards their elderly compared to in urban settings as found during the field work.

#### **Case Study: 5.1**

Laxmi Devi\* is 67 years old. She belongs to a backward community. She works as an agricultural worker. She earns 100-150 rupees daily but that amount is not sufficient for her survival. She has two sons. She has lost her husband. She has no educational background. Moreover she is suffering from geriatric health problems. She does not receive any social and psychological support from her family or society. She feels that the present generation does not have any respect and value for their old parents. She said, present generation is busy with their own issues and nobody can understand the elders.

**\*: Name changed**

### 5.5.3: Distribution of Elderly by Levels of Education according to Selected Background Characteristics in Bulandshahr District: 2014

From 1961 to 1981 Censuses, all children below the age of 5 were regarded as illiterate. In the 1991 Census, however, all children below the age of 7 were considered as illiterate. Also to compute refined literacy rate the base population was changed from the total to **‘population aged 7 years and above.’** While the formula for computing literacy rate till 1981 was

$$\text{Literacy Rate (LR)} = \frac{\text{Number of Literate Persons} \times 100}{\text{Total Population}}$$

It was changed to

$$\text{Literacy Rate (LR)} = \frac{\text{Number of Literate Persons Aged 7 plus} \times 100}{\text{Population aged 7plus}}$$

**Definition of literate:** A person aged 7 and above who can both read and write with understanding in any language is to be taken as literate (**Census of India, 2001**). Literacy is one the most important social indicator to measure human development. It also affects the population dynamics. The increase in female literacy is a healthy phenomenon for the society and the state. A high level of illiteracy, particularly among older women in rural areas, is yet another characteristic of vulnerability for older persons in the study area. Older women in rural areas have the lowest level of literacy compared to general population as well as all other elderly. The educational attainment of the elderly has risen during the last several decades in many countries, and will continue to increase in the future. In developing countries, literacy may be less among older populations. Many of today’s elderly lived much of their lives prior to the rapid increase in educational attainment that occurred in the second half of the twentieth century. Consequently, many older people, and again particularly women, have low levels of literacy<sup>14</sup>. Education among elderly persons is a gray area particularly in rural areas. Healthy education system provides great strength for the people of our society. The Indian experience is subsequently different in this respect. Developed countries have an education system that extends to all population subgroups as compared to developing world. Therefore, literature with respect to the developed countries reflects that the elderly in these parts enjoy a higher quality of life that partly reflects to higher capabilities due to enhanced education.

<b>(Table : 5.11)</b>						
<b>Distribution of Elderly by Levels of Education according to Selected Background Characteristics in Bulandshahr District: 2014</b>						
<b>Background Characteristics</b>	<b>Illiterate</b>	<b>Primary</b>	<b>Middle</b>	<b>Secondary</b>	<b>Higher Secondary or Above</b>	<b>Total</b>
<b>Sex</b>						
Male	158 (55.4)	49 (17.2)	41 (14.4)	16 (5.6)	21 (7.4)	285
Female	231 (90.6)	20 (8.5)	1 (0.4)	1 (0.4)	0 (0.0)	235
<b>Total</b>	<b>n= 371 (71.3)</b>	<b>n= 69 (13.3)</b>	<b>n= 42 (8.1)</b>	<b>n= 17 (3.3)</b>	<b>n= 21 (4.0)</b>	<b>n= 520 (100.0)</b>
<b>Age</b>						
60-69	278 (71.5)	54 (13.9)	31 (8.0)	8 (2.1)	18 (4.6)	389 (74.8)
70-75	56 (65.9)	12 (14.1)	8 (9.4)	7 (8.2)	2 (2.4)	85 (16.3)
75-80	24 (77.4)	3 (9.7)	1 (3.2)	2 (6.5)	1 (3.2)	31 (6.0)
80+	13 (86.7)	0 (0.0)	2 (13.3)	0 (0.0)	0 (0.0)	15 (2.9)
<b>Living Arrangements</b>						
Son	142 (74.0)	22 (11.5)	13 (6.8)	6 (3.1)	9 (4.7)	192 (36.9)
With Daughter	6 (66.7)	1 (11.1)	1 (11.1)	1 (11.1)	0 (0.0)	9 (1.7)
With Spouse	166 (66.1)	41 (16.3)	23 (9.2)	10 (4.0)	11 (4.4)	251 (48.3)
Alone	57 (83.3)	5 (7.4)	5 (7.4)	0 (0.0)	1 (1.5)	68 (13.1)
<b>Caste</b>						
Upper Caste	144 (55.8)	50 (19.4)	33 (12.8)	14 (5.4)	17 (6.6)	258 (49.6)
SC	191 (88.8)	12 (5.6)	7 (3.3)	2 (0.9)	3 (1.4)	215 (41.3)
OBC	3 (50.0)	2 (33.3)	0 (0.0)	0 (0.0)	1 (16.7)	6 (1.2)
Other	33 (80.5)	5 (12.2)	2 (4.9)	1 (2.4)	0 (0.0)	41 (7.9)
<b>Marital Status</b>						
Never Married	4 (80.0)	0 (0.0)	1 (2.0)	0 (0.0)	0 (0.0)	5 (1.0)
Currently Married	237 (64.4)	59 (16.0)	39 (10.6)	16 (4.3)	17 (4.6)	368 (70.8)
Widowed	125 (88.0)	10 (7.0)	2 (1.4)	1 (0.7)	4 (2.8)	142 (27.3)
Divorced/Separated	5 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (1.0)
<b>Religion</b>						
Hindu	338 (70.6)	64 (13.4)	40 (8.4)	16 (3.3)	21 (4.4)	479 (92.1)
Muslim	33 (80.5)	5 (12.2)	2 (4.9)	1 (2.4)	0 (0.0)	41 (7.9)
<b>Age-Groups*:</b> Young- Old (60-69), Middle-Old (70-75), Old – Old (75-80) Oldest-Old (80+)						
<b>Note:</b> Bracketed Figures Denote Percentages to their Respective Totals						
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014						



The distribution of elderly population by education level has been presented in table 5.11. The table clearly indicates that the number of illiterate elderly is much higher as compared to other categories of literate and education. Sex wise results confirm that illiterate males and females are 55.4 and 90.6 per cent respectively. Moreover, around, 71.3 per cent elderly are illiterate, followed by 13.3 per cent primary, 8.1 per cent middle, 3.3 per cent secondary and only 4.0 per cent elderly are higher secondary and above. The gender differential in the level of higher education is also noticeable. In this study, nearly 5.6 per cent of the males had achieved secondary level education and for females it was only 0.4 per cent. It is however evident from this table that in secondary or above, the participation among elderly is very small. From the table 5.11, it was clearly indicates; only males appearance in this category, not a single elderly women has been found in this class. The aged of today are survivors of an era when the facilities for schooling and education were relatively quite limited. Table 5.11 reveals a low educational attainment, particularly among elderly women. Consequently, in India literacy and education attainment among the elderly are much less compared to other developed and developing society.

Living arrangement is also an important variable that defines the situation of the individual in the family. In this respect, about 74.0 per cent elderly were found to stay with their sons. This proportion reduced to 66.7 per cent for illiterate elderly staying with spouse. The proportion of illiterate elderly who were living alone is 83.3 per cent. Another feature that has been noted from the table is that how caste influence the educational behaviour among elderly population in Bulandshahr district. Particularly, in rural areas caste is a most essential element which was determine the living condition of many. In rural areas, lower level of education is also observed in various caste communities. It is evident from table 5.11; about 55.8 per cent of the illiterate elderly are belong to the general caste as against 88.8 per cent among scheduled caste. Furthermore, this decline is clearly evident when level of education has increased. In addition, about 5.4 per cent general caste elderly had received secondary level education; while this proportion reduced to 0.9 per cent for scheduled caste elderly.

An important correlation of ageing is the education associated with the marital status. Marital status of elderly persons is another social element. In the early period marital status was an even more important factor that was responsible for the provision of essential support and care. In view of this, among currently married 64.4 per cent are illiterate, followed by 16.0 per cent primary, 10.6 per cent middle, 4.3 per cent secondary and just 4.6 per cent elderly received education to higher secondary or above. Another interesting fact from the above results was that majority of divorced/separated elderly are illiterate or without formal education. Subsequently, widowed elderly are found mostly to be illiterate. In addition to this, about 88.0 per cent elderly are illiterate compared to 64.4 per cent currently married.

Religion is another social indicator which might be reflected the situation of elderly in Bulandshahr district. In this respect, Hindus are more educated compared to Muslim counterparts. A similar fact is also observed that, nearly eighty per cent of Muslim elderly are illiterate. Furthermore, about, 4.4 per cent Hindu elderly are educated higher secondary or above.

### **Case Study: 5.2**

85 years old respondent from Scheduled Caste expressed his views about poor education or illiteracy. He said that, “people from general caste never allow us to sit among them or other place in the school. Whenever we studied together they have criticized us by our caste, occupation and family background”. Sometimes we had complained about this issue, but we never received any positive reply from the administration side. More importantly, economic vulnerabilities were another big factor for not accessing quality education.

#### 5.5.4: Distribution of Elderly by Caste Structure in Bulandshahr District: 2014

In rural India, caste system still dominated the socio-cultural life functions, status and opportunities of the villagers. The upper caste people have larger land-holdings, joint families, comparatively better education and a different behaviour. On the other hand, people of lower caste possess low socio-economic status, often stay in nuclear families, sometimes broken families and face several other handicaps and obstacles towards greater vertical mobility. Many of the poor aged persons continue to do hard and labour intensive work for their survival<sup>15</sup>.

<b>Caste categories</b>	<b>Constituent Caste</b>
<b>General Caste</b>	Viasya, Thakur, Brahmin, Kayastha, Khatri, Baniya, Jhatt,
<b>Other Backward Caste (OBC)</b>	Prajapati, Kumhar, Ahir,
<b>Scheduled Caste</b>	Pasi, Jatav (Harijan), Dhobi, Kori, Guria
<b>Other Caste</b>	Muslim (Caste not Revealed)

In the present study caste group as reported by the informant i.e for the head of any given household was taken to be the social group of all members of that household and was not ascertained from any official list. In case different members of a household belong to different social groups, the group to which the head of the household belongs has been considered as the social group of the households.

<b>(Table: 5.12 )</b>				
<b>Distribution of Elderly by Caste Structure in Bulandshahr District: 2014</b>				
<b>Caste Structure</b>	<b>Blocks</b>			<b>Total</b>
	<b>Araniya</b>	<b>Khurja</b>	<b>Jewar</b>	
<b>General Caste</b>	146 (56.6)	69 (26.7)	43 (16.7)	258 (49.6)
<b>Scheduled Caste (SC)</b>	85 (39.5)	77 (35.9)	53 (24.7)	215 (41.3)
<b>Other Backward Caste</b>	4 (66.7)	0 (0.0)	2 (33.3)	6 (1.2)
<b>Other Caste</b>	0 (0.0)	22 (53.7)	19 (46.3)	41 (7.9)
<b>Total</b>	<b>n= 235 (45.2)</b>	<b>n= 168 (32.2)</b>	<b>n= 117 (22.5)</b>	<b>n= 520 (100.0)</b>
<b>Pearson-Chi Square</b>	<b>Value</b>	<b>Df</b>	<b>Asymp. Sig. (2-sided)</b>	
	54.107	6	000***	
<b>Note:</b> Bracketed Figures Denote Percentages to their Respective Totals				
<b>Significance Level:</b> *** Significance at 1% Level, ** Significance at 5% Level, * Significance at 10 % Level				
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014				

An attempt has been made to identify the social composition of elderly by their caste affiliations. It can be ascertained from table 5.12 that, about 49.6 per cent elderly population belong to the general caste. In addition to this, among the general castes Thakurs were the most numerous followed by Brahmins, Rajputs, Baniyas and Jaats. Caste stratification of sample was possible only for the rural areas, hence the family dynamics and the effect on aged persons can be better understood in the rural context. Above table 5.12 confirms that, scheduled caste was the second dominant caste in the study area. In relation to this, around 41.3 per cent elderly belong to schedule caste (SC). During same investigation, the share of other backward caste (OBC) was just 1.2 per cent. As stated earlier in the discussion, general caste, schedule caste and other backward caste were the different social groups of the study region. Except these broad categories another group is also formulated in this study called other caste. Furthermore, in this study, Muslim population has not been identified according to caste criteria. For analytical purpose Muslim elderly has been considered as the other caste i.e. 7.9 per cent elderly were the Muslims. Table 5.12 also depicts the block wise distribution of elderly by their caste composition. In this regard, in both Khurja and Jewar blocks scheduled caste elderly are higher. However, Araniya block is dominated by the general caste.

#### **5.5.5: Distribution of Elderly by Living Arrangement according to Selected Background Characteristics in Bulandshahr District: 2014**

India lacks adequate social security and institutional set up to support the growing proportion and number of aged population. Therefore, family and relatives continue to provide support to the health and well being of the elderly. The term 'living arrangement' is used to refer to the household structure (**Palloni, 2001**). Some other experts like Rajan, Mishra & Sharma (1995), have explained these living arrangement in terms of the type of family in which the elderly live, the headship they enjoy, the place they live in and the people they live with, the kind of relationship they maintain with their kith and kin, and, on the whole, the extent to which they adjust to the changing environment<sup>16</sup>. The living arrangements of older persons are determined by cultural norms regarding co-residence and inter-generational ties and familial support (**World Population Ageing, 2013**).

<b>(Table: 5.13)</b>					
<b>Distribution of Elderly by Living Arrangement according to Selected Background Characteristics in Bulandshahr District: 2014</b>					
<b>Demographic Variable</b>	<b>Son</b>	<b>With Daughter</b>	<b>With Spouse</b>	<b>Alone</b>	<b>Total</b>
<b>Sex</b>					
Male	87 (30.5)	4 (1.4)	160 (56.1)	34 (11.9)	285 (54.8)
Female	105 (44.7)	5 (2.1)	91 (38.7)	34 (14.5)	235 (45.2)
<b>Total</b>	<b>n= 192 (36.9)</b>	<b>n= 9 (1.7)</b>	<b>n= 251 (48.3)</b>	<b>n= 68 (13.1)</b>	<b>n= 520 (100.0)</b>
<b>Age</b>					
60-69	124 (31.9)	9 (2.3)	203 (52.2)	53 (13.6)	389 (74.8)
70-75	34 (40.0)	0 (0.00)	39 (45.9)	12 (14.1)	85 (16.3)
75-80	22 (71.0)	0 (0.00)	7 (22.6)	2 (6.5)	31 (6.0)
80+	12 (80.0)	0 (0.00)	2 (13.3)	1 (6.7)	15 (2.9)
<b>Marital Status</b>					
Never Married	0 (0.0)	0 (0.0)	0 (0.0)	5 (100.0)	5 (1.0)
Currently Married	100 (27.2)	7 (1.9)	244 (66.3)	17 (4.6)	368 (70.8)
Widowed	90 (63.4)	2 (1.4)	7 (4.9)	43 (30.3)	142 (27.3)
Divorced/Separated	2 (40.0)	0 (0.0)	0 (0.0)	3 (60.0)	5 (1.0)
<b>Caste</b>					
Upper Caste	113 (43.8)	3 (1.2)	118 (45.7)	24 (9.3)	258 (49.6)
SC	68 (31.6)	5 (2.3)	103 (47.9)	39 (18.1)	215 (41.3)
OBC	3 (50.0)	0 (0.0)	1 (16.7)	2 (33.3)	6 (1.2)
Other	8 (19.5)	1 (2.4)	29 (70.7)	3 (7.3)	41 (7.9)
<b>Education</b>					
Illiterate	142 (38.3)	6 (1.6)	166 (44.7)	57 (15.4)	371 (71.3)
Primary	22 (31.9)	1 (1.4)	41 (59.4)	5 (7.2)	69 (13.3)
Middle	13 (31.0)	1 (2.4)	23 (54.8)	5 (11.9)	42 (8.1)
Secondary	6 (35.3)	1 (5.9)	10 (58.8)	0 (0.0)	17 (3.3)
Higher Secondary or Above	9 (42.9)	0 (0.0)	11 (52.4)	1 (4.8)	21 (4.0)
<b>Religion</b>					
Hindu	184 (38.4)	8 (1.7)	222 (46.3)	65 (13.6)	479 (92.1)
Muslim	8 (19.5)	1 (2.4)	29 (70.7)	3 (7.3)	41 (7.9)
<b>Household Size</b>					
Less than 5 Members	11 (25.0)	1 (2.3)	12 (27.3)	20 (45.5)	44 (8.5)
5 to 8 Members	131 (36.8)	8 (2.2)	181 (50.8)	36 (10.1)	356 (68.5)

More than 8 Members	50 (41.7)	0 (0.0)	58 (48.3)	12 (10.0)	120 (23.1)
<b>Age-Groups*:</b> Young- Old (60-69), Middle-Old (70-75), Old – Old (75-80) Oldest-Old (80+) <b>Note:</b> Bracketed Figures Denote Percentages to their Respective Totals <b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014					

**Sex and Living Arrangements:** For Indian women who have lost their spouse, financial security poses a problem, since women generally do not own land or other assets and are dependent on their children, particularly sons. In fact, research on widows in India by Marty Chen (1998) and others indicates that there is a high level of poverty among women in India upon becoming widows<sup>17</sup>. Table 5.13 demonstrated the relationship between the sex of the elderly and their living arrangements. Table 5.13 shows that majority of elderly lived with their sons, around 36.9 per cent elderly lived along with sons followed by, 48.3 per cent resided with spouses, about 1.3 per cent of the elderly were living alone, and 1.7 per cent elderly lived with daughters. It is interesting to note that the proportion of elderly women who lived with sons is slightly higher than their male counterparts. Elderly people living alone have been described as an ‘at risk’ group by the World Health Organization (**World Health Organization, 1977**). Living alone in later life is often seen as an undesirable state and as a potential health risk and needs specific attention<sup>18</sup>. Living with spouse had acted as a greater economic security to elderly persons in India.

**Age and Living Arrangements:** From the foregoing discussion, it is evident that age of elderly has been considered a vital indicator in living arrangements. For the present analysis, the age of the elderly has been categorised as *Young- Old (60-69)*, *Middle-Old (70-75)*, *Old – Old (75-80)* and *Oldest-Old (80+)*. It is quite evident from above table that as they got older, the proportion of elderly living alone decrease. In rural areas children still have some respect towards their parents. In view of this, elderly living alone is observed in the age group 60-69 years (13.6 per cent). This proportion increased to 14.1 per cent when elderly moved to the age group 70-75 years. Another interesting observation from above result is the lesser probability of the elderly living alone when they grow older. However, an attempt was made to look into the relationship between marital status and living arrangements. The marital status of the elderly is divided into four categories: never married, currently married, widowed, and divorced/separated.

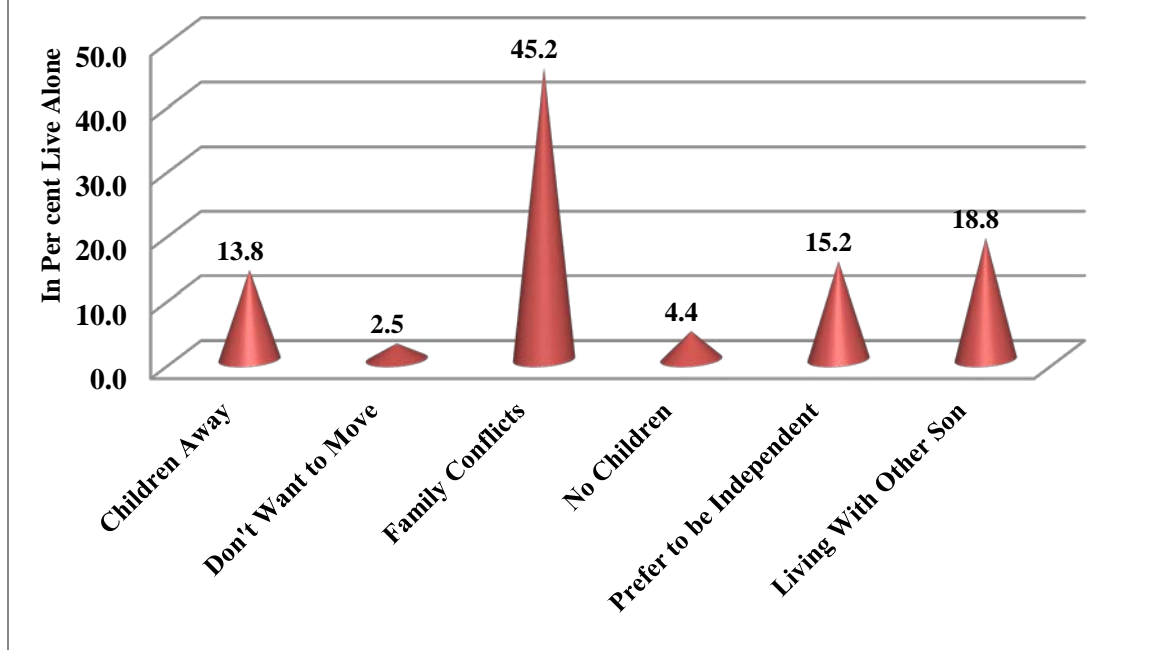
Furthermore, majority of the widowed (63.4 per cent) lived with their children. About 30.0 per cent widowed lived alone. Just 63.3 per cent currently married elderly lived with their spouse. In this attempt a review has been made to analyse the association between caste and living arrangement. It can be observed from table 5.13 the probability of living alone is greater among scheduled caste elderly. In addition to this, probability of adult migration is more frequent in scheduled caste group.

Education is another indicator which plays a vital role to improve human behaviour and their living pattern. In Indian literature has sufficient evidence to advocate that in habitants of rural areas have poorer education profile. Consequently, living pattern of elderly in rural society is determined by various factors and education is one of them. In the light of the above, it is evident that the majority of elderly are illiterate. In view of this, about 44.7 per cent illiterate elderly lived with spouse and only, 15.4 per cent lived alone. It has also been observed that family size is another indicator that might be considered as basic unit of care and support. In this respect, about 45 per cent of elderly are living alone. It is quite evident from table 5.13 that the chances of living alone decreased as size of the family members increased. Moreover, with declining fertility, migration and nuclearisation of families are the possible reasons for such reduction in the household size. Literature based evidences demonstrate that parents still predominantly prefer to live with their children even when they have problems with them. In particular, living with the eldest son is the most preferred choice and living with a daughter is the least preferred one.

#### **5.5.6: Distribution of Elderly by Reasons to Live Alone in Bulandshahr District: 2014**

Almost 15 million elderly in India live alone and close to three-fourth of them are women. In some states the proportion of such 'single elders' is even higher with one in 11 those aged above 60. In rural areas, 28 lakh elderly women live all alone, while in urban areas about 8.2 lakh elderly women live alone<sup>19</sup>.

**Figure. 5.10: Distribution of Elderly by Reasons to Live Alone in Bulandshahr District: 2014**



**Source:** Calculations based on Field Survey Conducted from January to April, 2014

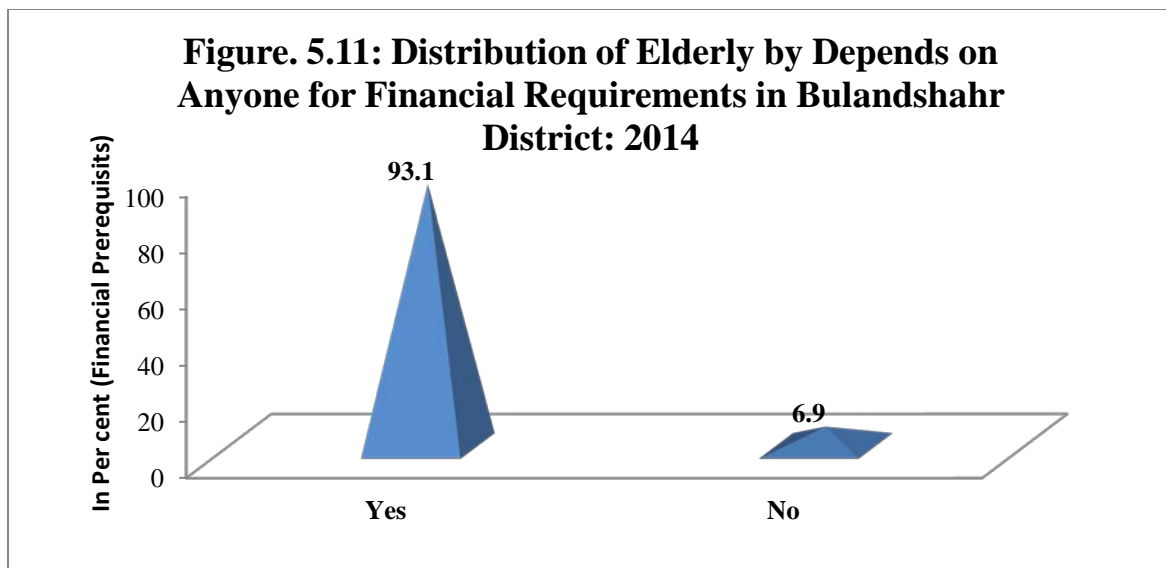
It is evident from figure 5.10 that there are certain factors which push elderly to live alone or without any relational bond. During the last few decades, it has been observed that living arrangement for elderly have experienced drastic changes due to the transformation of the Indian family structure. In the recent times, the concept of nuclear family has affected the living pattern of elderly population. Nuclear families are more prominent in urban settings though in rural societal structure the joint family system still dominates. However, the picture has been also changing in rural societies. Perhaps, due to certain factors elderly in rural society are also forced to live separately or without insufficient support. It has been noted that family conflicts is the major factor which pushed elderly to live alone, about 45.2 per cent of elderly were found living along due to family conflicts. As shown in figure 5.10 merely 15.2 per cent of elderly are living alone because they prefer to be independent. Furthermore, about 13.8 per cent of elderly are living alone because their children moved away / migrated to other places to hunt job opportunities for their survival. Lastly, about 4.4 per cent of elderly are forced to live



alone because they do not have children to support them. Migration, resource change and life cycle events are having significant roles in shaping living structures in old age<sup>20</sup>.

### 5.5.7: Distribution of Elderly by Depends on Anyone for Financial Requirements in Bulandshahr District: 2014

In India, a significant amount of the elderly are still obliged to earn their livelihood well after retirement age. While there are elderly who have no income of their own there are those who are still the chief breadwinners of the families in which they live. The ability of children or other relatives to support the aged is relatively insignificant due to the meager resources of the average Indian family<sup>21</sup>.



**Source:** Calculations based on Field Survey Conducted from January to April, 2014

Adequate income support at older ages is a matter of primary concern for those who wish to ensure some degree of independence; absence of a sufficient and reliable income reduces the elderly to varying degrees of dependence<sup>22</sup>. In relation to this, majority of the elderly depends on someone to fulfill their financial requirements. Furthermore, it has been experienced that, almost 93.1 per cent elderly are completely dependent on someone for financial support. However, only 6.9 per cent of the elderly received some kind of economic support. During the field investigation it was observed that majority of elderly have sufficient agricultural land but for their life survival they are dependent on family members. In old age despite economic security, emotional support and care are chief prerequisites for the elderly. Thus, there is a greater need to provide them financial security especially in light of poverty and vulnerability in the old age.

**5.5.8: Distribution of Elderly Population according by Main Source of Economic Support in Bulandshahr District: 2014**

Hindu society is a patriarchal society and has patriarchal attitude to women’s role and values in society. The status of women shows that Hindu society is a male dominated society and bias, discriminatory attitude and inhuman practices prevails towards women<sup>23</sup>.

**(Table: 5.14)**

<b>Distribution of Elderly Population according by Main Source of Economic Support in Bulandshahr District: 2014</b>						
<b>Sex</b>	<b>Self</b>	<b>Son</b>	<b>Son-in-Low</b>	<b>Spouse</b>	<b>Others</b>	<b>Total</b>
<b>Male</b>	69 (24.2)	149 (52.3)	1 (0.4)	64 (22.5)	2 (0.7)	285 (100.0)
<b>Female</b>	18 (7.7)	99 (42.1)	1 (0.4)	117 (49.8)	0 (0.00)	235 (100.0)
<b>Total</b>	87 (16.7)	248 (47.7%)	2 (0.4)	181 (34.8)	2 (0.4)	520 (100.0)

**Note:** Bracketed Figures Denote Percentages to their Respective Totals

**Source:** Calculations based on Field Survey Conducted from January to April, 2014

In this section of the chapter, it has been observed that in old-age, economic support is a vital indicator that can influence individual quality of life. In relation to this, majority of elderly depend on sons for financial requirements, about 47.7 per cent elderly in the study area are dependent on their sons, followed by 34.8 per cent of elderly dependent on spouse and only 16.7 per cent elderly are self-dependent. Table 5.14 also depicts the gender differentials among elderly who are seeking economic support. In this regard, about 52.3 per cent of elderly males were dependent on sons, while 24.2 per cent of elderly were dependent on self and just 22.5 per cent considered spouses as chief source of financial support. Furthermore, females are found to be more likely to dependent on others compared to males to fulfill the basic economic necessities. Among the elderly women around 49.8 per cent were dependent on spouse followed by only 7.7 per cent women who were self dependent and about 47.7 per cent of elderly women depended on sons for their financial requirements. Consequently, dependency structure among the elderly in the study area revealed that they required financial support from some source or the other.

The north Indian system of patrilineal inheritance and patrilocal residence and women as daughters are entitled to a share of their father's property until they get married. But when she joins her husband's village at the time of her marriage, a daughter loses her status as a co-partner in her natal household. After that, she can reclaim her rights of inheritance to her father's property only under very exceptional circumstances<sup>24</sup>.

#### 5.5.9: Distribution of Elderly by State of Economic Dependency according to Selected Background Characteristics: 2014

<b>(Table : 5.15)</b>				
<b>Distribution of Elderly by State of Economic Dependency according to Selected Background Characteristics: 2014</b>				
<b>Selected Background Characteristics</b>	<b>Not Dependent on Others</b>	<b>Partially Dependent on Others</b>	<b>Fully Dependent on Others</b>	<b>Total</b>
<b>Sex</b>				
Male	25 (8.8)	44 (15.4)	216 (75.8)	285 (54.8)
Female	3 (1.3)	16 (6.8)	216 (91.9)	235 (45.2)
<b>Total</b>	<b><i>n</i> = 28 (5.4)</b>	<b><i>n</i> = 60 (11.5)</b>	<b><i>n</i> = 432 (83.1)</b>	<b><i>n</i> = 520 (100.0)</b>
<b>Age</b>				
60-69	20 (5.1)	41 (10.5)	328 (84.3)	389 (74.8)
70-75	5 (5.9)	14 (16.5)	66 (77.6)	85 (16.3)
75-80	2 (6.5)	4 (12.9)	25 (80.6)	31 (6.0)
80+	1 (6.7)	1 (6.7)	13 (86.7)	15 (2.9)
<b>Living Arrangements</b>				
Son	15 (7.8)	23 (12.0)	154 (80.2)	192 (36.9)
With Daughter	0 (0.0)	1 (11.1)	8 (88.9)	9 (1.7)
With Spouse	9 (3.6)	32 (12.7)	210 (83.7)	251 (48.3)
Alone	4 (5.9)	4 (5.9)	60 (88.2)	68 (13.1)
<b>Caste</b>				
Upper Caste	21 (8.1)	41 (15.9)	196 (76.0)	258 (49.6)
SC	6 (2.8)	12 (5.6)	197 (91.6)	215 (41.3)
OBC	1 (16.7)	0 (0.00)	5 (83.3)	6 (1.2)
Other Caste	0 (0.00)	7 (17.1)	34 (82.9)	41 (7.9)
<b>Marital Status</b>				
Never Married	1 (20.0)	0 (0.00)	4 (80.0)	5 (1.0)
Currently Married	19 (5.2)	54 (14.7)	295 (80.0)	368 (70.8)
Widowed	8 (5.6)	6 (4.2)	128 (90.1)	142 (27.3)
Divorced/Separated	0 (0.00)	0 (0.00)	5 (100.0)	5 (1.0)
<b>Education</b>				
Illiterate	7 (1.9)	29 (7.8)	325 (90.3)	371 (71.3)
Primary	4 (5.8)	11 (15.9)	54 (78.3)	69 (13.3)
Middle	6 (14.3)	9 (21.4)	27 (64.3)	42 (8.1)
Secondary	2 (11.8)	6 (35.3)	9 (52.9)	17 (3.3)
Higher Secondary or Above	9 (42.9)	5 (23.8)	7 (33.3)	21 (4.0)
<b>Religion</b>				
Hindu	28 (5.8)	53 (11.1)	398 (83.1)	479 (92.1)

Muslim	0 (0.0)	7 (17.1)	34 (82.9)	41 (7.9)
<b>Household Size</b>				
Less than 5 Members	6 (13.6)	1 (2.3)	37 (84.1)	44 (8.5)
5 to 8 Members	9 (2.5)	43 (12.1)	304 (85.4)	356 (68.5)
More than 8 Members	13 (10.8)	16 (13.3)	91 (75.8)	120 (23.1)
<b>Age-Groups*:</b> Young- Old (60-69), Middle-Old (70-75), Old – Old (75-80) Oldest-Old (80+)				
<b>Note:</b> Bracketed Figures Denote Percentages to their Respective Totals				
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014				

Analysis of data in table 5.15, reveals that large number of elderly are economically vulnerable. In view of this, reduction of family size could be prime cause of this vulnerability. All the eligible respondents in the sample were asked to describe the state of their economic dependence and their responses were coded under three different categories: not dependent on others, partially dependent on others and fully dependent on others. Limited financial security is one of the major problems of the Indian elderly. In the present analysis, elderly have been asked from whom they received economic support. As far as dependency and support is concerned in India, at least 75 per cent of those who are economically dependent are supported by their family, mostly children and grandchildren<sup>25</sup>. In this context, about 11.5 per cent of the elderly had feelings of economic insecurity as they were partially dependent, while 83.1 per cent were entirely deprived of financial security as they were completely dependent and only, 5.4 per cent of the elderly were not dependent on others. A large number of Indian families reflect the patriarchal nature of living. Therefore, elderly women have limited rights particularly in economic decision making. From table 5.15, it is evident that about 75.8 per cent of the elderly men were fully economically dependent followed by around 15.4 per cent were partially dependent and only 8.8 per cent elderly were not dependent on others. There is significant evidence that elderly women are more economically vulnerable than their male counterparts. In this regard, in the aggregate, about 91.9 per cent elderly women are totally dependent on others while 6.8 per cent were partially dependent on others and only 1.3 per cent elderly women are not independent. In Indian society, caste system plays a vital role, especially in rural society. It can be seen in table 5.15, among the dependent elderly majority of them belonged to scheduled caste. Approximately, 91.6 per cent schedule caste elderly were totally dependent on others. Education is another element which shows, the individual's living pattern. It is evident from above table; about

90.3 per cent of dependent elderly were illiterate. In this regard, education has decreased the chances of being dependent. A quite astonishing fact revealed from table 5.15 is that higher number of members in the household has increased the chances of being dependent. In spite of so many social and economic changes, the role of family members particularly one's children still remains crucial in taking care and support. However it is quite evident from the above results is that the majority of elderly are financially dependent on others. In relation to this, both Government agencies and community support have to step forward for the well being of elderly.

#### 5.5.10: Probable Support System for Elderly in Bulandshahr District: 2014

In India, still a higher proportion of elderly population are living with their families. With increasing life expectancy and increasing migration of youngsters towards cities and nuclearisation of family will surely affect the elderly more so in the future.

**(Table: 5.16)**

<b>Probable Support System for Elderly in Bulandshahr District: 2014</b>				
<b>Sources of Support System</b>	<b>Blocks (Vikas Khand)</b>			<b>Total</b>
	<b>Araniya</b>	<b>Khurja</b>	<b>Jewar</b>	
<b>Family Members</b>	158 (45.7)	107 (30.9)	81 (23.4)	346 (66.5)
<b>Community/ friends</b>	8 (44.4)	7 (38.9)	3 (16.7)	18 (3.5)
<b>Relatives</b>	8 (72.7)	3 (27.3)	0 (0.0)	11 (2.1)
<b>Government</b>	61 (42.1)	51 (35.2)	33 (22.8)	145 (27.9)
<b>Total</b>	<b>n= 235 (45.2)</b>	<b>n= 168 (32.3)</b>	<b>n= 117 (22.5)</b>	<b>n= 520 (100.0)</b>

**Note:** Bracketed Figures Denote Percentages to their Respective Totals  
**Source:** Calculations based on Field Survey Conducted from January to April, 2014

The purpose of table 5.16 is to understand the type of support system elderly desire. Around 66.5 per cent elderly in the study area have replied that they expected support from family members. However, 3.5 per cent of the elderly wanted societal support, while 2.1 per cent of elderly had faith on their relatives and 27.9 per cent of elderly had expectations from the Government. It further suggests that, majority of the elderly believed that family members are unable to support their elderly parents. In view of this, elderly expect the Government and semi-Government agencies to take care of them. In the traditional Indian society, grand parents would play important roles in the rearing and caring of the grand children. Due to modern lifestyle, migration and industrialisation not only the joint family set up is crumbling but also the intergenerational relationships

undergoing a transition. Consequently, lack of care and support for elderly population in has become grave cause of their mental and physical distress and suffering. In order to describe, family is one of the major roots of support system. Older person have always seeking care and support from their own family. In our society family is an institution where people would have taken care of each other. Lastly, India is one of the countries where socio-economic institutions are well developed and highly approachable for availing societal benefits. However the present study reveals the dearth of familial and societal care for the needy i.e. the elderly in this case and that too in a traditional rural area such as Bulandshahr district in the most populated state of Uttar Pradesh.

#### 5.5.11: Support System of Elderly for Life Style Habits in Bulandshahr District: 2014

Old age is the era of deteriorating health, both physical and psychological. It is the time of support and security needed for the older persons. In India, family still continues to be the primary institution where people find physical and psychological support and security.

<b>(Table: 5.17)</b>				
<b>Support System of Elderly for Life Style Habits in Bulandshahr District: 2014</b>				
<b>Type of Support System</b>	<b>Blocks</b>			<b>Total</b>
	<b>Araniya</b>	<b>Khurja</b>	<b>Jewar</b>	
<b>Help in Daily Routine</b>	35 (23.0)	66 (43.4)	51 (33.6)	152 (29.2)
<b>Help in Mobility</b>	43 (48.9)	20 (22.7)	25(28.4)	88 (16.9)
<b>Provide Medical Aids</b>	32 (62.7)	19 (37.3)	0(0.0)	51 (9.8)
<b>Security Against Abuse</b>	0(0.0)	0 (0.0)	1 (100.0)	1 (0.2)
<b>Financial Support</b>	53 (49.5)	29 (27.1)	25 (23.4)	107 (20.6)
<b>Provide income Generation Activities</b>	0 (0.0)	1 (100.0)	0 (0.0)	1 (0.2)
<b>Health Care Services</b>	72 (60.0)	33 (27.5)	15 (12.5)	120 (23.1)
<b>Total</b>	<b>n= 235 (45.2)</b>	<b>n= 168 (32.3)</b>	<b>n= 117 (22.5)</b>	<b>n= 520 (100.0)</b>
<b>Note:</b> Bracketed Figures Denote Percentages to their Respective Totals				
<b>Significance Level:</b> *** Significance at 1% Level, ** Significance at 5% Level, * Significance at 10 % Level				
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014				

As mentioned earlier, old age is the time of multiple illness and deterioration of one's physical and mental status. In a nutshell, it can be summarized that the in old-age elderly requires various types of support system. It is clear from table 5.17 that, about 29.2 per

cent of elderly stated that they require support for their daily routine activities followed by around 16.9 per cent elderly needing support during mobility while, nearly 20.6 per cent elderly sought support for financial requirements and just 23.1 per cent elderly were seeking support during their illness and for health expenditure. In the table 5.17, block wise distribution of elderly has also been presented. As has been already mentioned, both financial and health expenditures are most predominant grounds associated with many concerns. Furthermore, similar pattern of support system among elderly were also observed in all blocks of Bulandshahr district.

### **Conclusion**

The above discussion shows throughout this analysis, the elderly are defined as persons of 60 years of age and above. Population ageing is one of the main driving forces behind the consequences of demographic transition in recent years.

The chapter begins with an overview of the socio-demographic profile of the elderly in India, Uttar Pradesh and Bulandshahr district. Major thrust of this chapter is to identify the demographic and socio-economic aspects of elderly in Bulandshahr district. Furthermore, household size, age-sex composition, marital status, type of family, level of literacy and educational attainment, occupation, sources of income of the household, religion and caste among elderly have been analysed here based on primary investigations. This analysis suggests that poor deprived situation might be responsible for lower quality of life of elderly. This implies that poverty cannot be the only cause especially in rural areas where, employment structure, migration of youth and changing structure of family size are also important concerns affecting the life of the elderly. Notwithstanding, the growth rate of the elderly population is higher in the low variant assumption suggesting a faster pace of ageing. As far as the social aspects of elderly are concerned, it can be observed that in the rural areas higher prevalence of widowhood among females is due to their higher life expectancy. Education plays a key role in supporting the process of development. In addition to this, higher incidence of illiteracy among elderly reflects their vulnerability.

Another depiction of this chapter has been to review the issues of economic dependency, social security and negligence of the elderly that has become areas of

concern. Limited financial security is one of the major problems faced by the elderly in Bulandshahr district. In this regard, the chief reason for increasing dependency in old-age was increasing burden of medical expenditure. Among elderly women the causality is slightly different than their male counterparts. Support system is the vital indicator among elderly. In this study, financial support has been found to be the most crucial factor which affects the health and other aspects of both elderly workers and non-workers.





## Endnotes

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<sup>1</sup> Biswas, P., & Zaman, S. (2006). Dynamics of Health Care Seeking Behaviour of Elderly People in Rural Bangladesh. *International Journal of Ageing and Later Life*, 1(1), 69–89.

<sup>2</sup> Treas, J., & Logue, B. (1986). Economic Development and the Older Population. *Population and Development Review*, 12, (4), 645-673.

<sup>3</sup> Kulkarni, P.M. (2014). The Population and Development Scenario in India. In: Jejeebhoy et.al, ed. 2014. *Population and Reproductive Health in India: An Assessment of the Current Situation and Future Needs* (ch.2, p. 73.). New Delhi: Oxford University Press.

<sup>4</sup> Alam, et al., (2012). *Report on the Status of Elderly in Select States of India*. New Delhi: BKPAI, United Nations Population Fund (India).

<sup>5</sup> National Sample Survey Organisation (2008). *Housing Condition and Amenities in Kerala*. 65<sup>th</sup> Round July 2008 – June 2009. National Sample Survey Organisation (NSSO), Ministry of Statistics and Programme Implementation, Government of India.

<sup>6</sup> National Sample Survey Organisation (2008). *Housing Condition and Amenities in Kerala*. 65<sup>th</sup> Round July 2008 – June 2009. National Sample Survey Organisation (NSSO), Ministry of Statistics and Programme Implementation, Government of India.

<sup>7</sup> United Nation. (2012). *Ageing in the Twenty-First Century: A Celebration and a Challenge*. United Nations Population Fund (UNFPA), New York, and Help-Age International, London.

<sup>8</sup> Mathew, E.T., and Rajan, S.I., 2008 *INDIA*. In: ed. 2008 Rajan, S. I., *Social security for the elderly: Experiences from South Asia* (ch.2, 52-53). New Delhi: Routledge Taylor & Francis Group.

<sup>9</sup> Census of India: 2001, Household series.

<sup>10</sup> National Sample Survey Organisation (2008). *Employment and Unemployment Situation in India*. 65<sup>th</sup> Round May 2010. Report No. 531 (64/10.2/1), National Sample Survey Organisation (NSSO), Ministry of Statistics and Programme Implementation, Government of India.

<sup>11</sup> Vankayalapati, V. (2008). *Problems of Rural Aged: A Sociological Perspective*. New Delhi: Kalpaz Publication, p. 24.

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- <sup>12</sup> Kinsella, K., & Velkoff, V.A. (2001). *An Ageing World: 2001*. US Government Printing Office, Washington, DC.
- <sup>13</sup> Mahmood, N., & Nasir, Z.M. (2008). Pakistan. In: Rajan, S. I., (ed). 2008: Social Security for the Elderly: Experiences from South Asia (ch.3, 114-115). New Delhi: Routledge Taylor & Francis Group.
- <sup>14</sup> Kinsella, K., & Velkoff, V.A. (2001). *An Ageing World: 2001*. US Government Printing Office, Washington, DC.
- <sup>15</sup> Joshi, A.K. (2006). Older Persons in India. New Delhi: Serials Publications, 74.
- <sup>16</sup> Mathew, E.T., and Rajan, S.I., 2008 *INDIA*. In: ed. 2008 Rajan, S. I., Social Security for the Elderly: Experiences from South Asia (ch.2, 52). New Delhi: Routledge Taylor & Francis Group.
- <sup>17</sup> Lekha, S., & Bansod, D.W. (2011). Demographics of Population Ageing in India: Trends and Differentials. New Delhi: BKPAI Working Paper No. 1, United Nations Population Fund (UNFPA).
- <sup>18</sup> Agrawal, S. (2012). Effect of Living Arrangement on the Health Status of Elderly in India. *Asian Population Studies*, 8(1), 87-101.
- <sup>19</sup> The Times of India, New Delhi, Wednesday, October 1, 2014.
- <sup>20</sup> Mathew, E.T., and Rajan, S.I., 2008 *INDIA*. In: ed. 2008 Rajan, S. I., Social security for the elderly: Experiences from South Asia (ch.2, 52). New Delhi: Routledge Taylor & Francis Group.
- <sup>21</sup> Hanspal, S., & Chadha, N.K. (2006). Economic Aspects of Aging in India. *Journal of Intergenerational Relationships*, 4(1), 81-92.
- <sup>22</sup> Lakshmanasamy, T. (2012). Ageing and Security: Savings and Transfers Behaviour of Indian Households. *Indian Journal of Gerontology*, 26 (4), 484–501.
- <sup>23</sup> Pandya, R., & Shah, P. (2008). Problems of Elderly Widows of Baroda-Gujarat. In. Joshi, A.K., ed. 2006: Older Persons in India. New Delhi: *Serials Publications*, 172.
- <sup>24</sup> Dreze, J., & Chen, M. (1992). Widows and Health in Rural North India. *Economic and Political Weekly*, 27, (43/44), 81-92.
- <sup>25</sup> Gopal, M. (2006). Gender, Ageing and Social Security. *Economic and Political Weekly*, 1-10.



*Chapter: Six*

*Nature of Work and Problems Faced by  
the Elderly Workers in Bulandshahr  
District*

## **Chapter: 6**

### **Nature of Work and Problems Faced by the Elderly Workers in Bulandshahr District**

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#### **Overview**

*In this chapter, an attempt has been made to discuss the nature of work and problems faced by the elderly workers. This has been divided into three distinct sections. Purpose of the first section is to understand what drives the elderly's decisions on whether to work or not. In the second section, concentration on the work patterns of the elderly have been explored and an attempt has been made to develop a profile of the characteristics and strategies of those who still work and of those who do not. In the third section an attempt has been made to assess the working condition of elderly workers and challenges faced by them. Finally, the major findings of this chapter has been summed up in the conclusions.*

#### **6.1: Introduction**

Ageing of population is closely associated with increased life expectancy, which is mainly determined by better quality health services, new discoveries in pharmaceuticals, new parameters of treatment, as well as increased standard of living in comparison with antebellum period<sup>1</sup>. Major changes in fertility, together with significant improvements in longevity, the world population has shifted from one dominated by young people to one increasingly dominated by older people. The unprecedented increase in human longevity in 20th century has resulted in the phenomenon of population ageing all over the world. Countries with large population such as India have large number of people now aged 60 years or more<sup>2</sup>. Over the years, the demographic trends have changed very steadily around the globe. In the light of above discussion, an increase in life expectancy could be a positive factor for older labor supply, but it will have a negative impact on health and social security system in India. In India, unemployment is chronic and results from

structural defects in the economy. In rural areas, people do not have adequate work throughout the year. Many suffer from unemployment for long periods.

In the Indian rural sector, most employment is in agriculture and allied activities<sup>3</sup>. The majority of older people in India still live in rural areas. One important reason for the growing proportion of the rural older population in India is rural-to-urban migration of younger adults. The vulnerability of older persons in India is also rooted in the fact that over 66 per cent of them are either illiterate or without any formal schooling, with about 80 per cent of women being totally illiterate. This degree of educational backwardness is also reflected in the form of poor economic status of the Indian elders and their high levels of (total or partial) dependence<sup>4</sup>. In India, majority of elderly face multiple problems especially, in rural areas. In this regard, stable source of income, social security, health care financing and utilization of health care are the key prerequisites among the elderly workers in the Bulandshahr district.

### **6.2: Work Situation in Indian Context**

Population ageing is evolving as one of the most conspicuous demographic phenomenon in the world today. In 1950, just 8 per cent of the world population was aged 60 years and over. By 2000 the proportion of older population had risen to 10 per cent and it is expected to reach 21 per cent in 2050 (**United Nations, 2000**). In Indian context, generally men or women in the formal sector are eligible to work up to 58 or 60 years of age depending upon their occupational position and type of establishment they work. Benefits would be provided after retirement from their services. Conversely, the situation would be entirely different for those who work in the informal sector wherein such benefits would not be there<sup>5</sup>. Work in later life requires access to appropriate and supportive financial services, products and information.

### **6.3: Why do the Elderly Work**

The age group that will, in the next few decades, most certainly grow at an unprecedented rate, in both absolute and relative terms, is the group above age 60. With population ageing, millions more older people will have no choice but to work for longer, in low-paid jobs that do not pay enough to cover even their basic cost of living. They have no choice but to work until ill health or frailty force them to stop working. In many cases, elderly people want to remain economically active. Some elderly people reported during

the field survey that they work because they want to contribute to family income and they prefer to keep active and productive. Work also gives them a sense of self-esteem and inclusion in family and community life (*Help Age International 2010*). Elderly workers fall into two categories: formal sector workers, who generally stop working at age 60 because of mandatory retirement regulations, and casual workers and the self-employed, who, due to poverty, work till very old ages and stop working primarily because of poor health. Elderly workers are usually distressed. In many developing countries, older people are one of the poorest population groups, in particular where there are no public pension schemes. Elderly people who are poor have no option but to work; they mostly work in the informal sector, in irregular, seasonal, low-paid jobs that are often strenuous<sup>6</sup>. The United Nations (UN) estimates that in 30 countries, at least half of those aged 65 and over continue to work (*UNDESA, 2009*).

### **6.3.1: Type of Work Undertaken by the Elderly**

In India the informal sector is the largest employment providing sector (**Shakthivel & Joddar, 2006**). Informal sector work tends to be characterised by working long, irregular hours for very low wages. The most common types of informal jobs for older men and women include: domestic work (such as cleaning, sewing, and washing clothes), taking care of livestock, selling goods as street vendors (mostly vegetables), farming, labouring, carpentry and handicrafts. In the rural India majority of elderly people work in the informal sector jobs that are usually low paid, irregular, and often on the fringes of law, so workers receive little wage, long working hours or no legal or social protection. Elderly in rural areas may be forced to acquire work. Non-availability of regular work is another constraint for elderly workers.

### **6.4: Methodological Aspects for the Present Chapter**

In India, the majority of the population, including the elderly, is poor. However, one positive feature concerning the elderly population is that many of those who are 60 years old or more are economically active, presumably because they are engaged in sectors for which there is no specific age of retirement<sup>7</sup>. In the present chapter an attempt has been made to investigate the working condition and its impact on elderly workers in Bulandshahr district.

#### **6.4.1: Objective of the Present Chapter**

The primary objective of the chapter is to *identify the reasons why elderly people work, the type of work they do, and the challenges they face*. In order to identify the factors that affect the status of elderly persons in India, particularly, in rural society.

#### **6.4.2: Sources of Data and Methodology**

The purpose of the present chapter is to elucidate the nature of work environment and their consequences on elderly workers. In this regard, data collection was done with the help of individual interviews of the elderly. The current chapter is based primarily on field generated / primary data. The purpose of the present analysis is to find the causes and consequences of work environment among elderly workers and the challenges faced by them. The differentials in various issues related to elderly workers have been analysed with cross-tabulations and chi-square test of significance. Lastly, the determinants of various (demographic and socio-economic) features of elderly have been analysed with the help of multinomial regression model.

#### **6.5: Block Wise Distribution among Elderly Workers and Non-Workers by their Occupational Structure in Bulandshahr District: 2014**

In old age, a person generally becomes dependent on his/her children. Sometimes the elderly do not receive such care and support. Consequently, they prefer to work for cash income for their financial necessities and also to maintain their self-respect in the family. In this respect, elderly often participate in the labour market under deprived health conditions; as, the majority of elderly suffer from various health geriatric and chronic diseases. In this process, old-age is a period when everyone suffers from one health problem or the other. It is significant to note, in rural areas, elderly survive with enormous vulnerabilities. Furthermore, lower standard of living and poor health are the major areas of anxiety for them.

<b>(Table: 6.1)</b>				
<b>Block Wise Distribution among Elderly Workers and Non-workers by their Occupational Structure in Bulandshahr District: 2014</b>				
<b>Elderly Workers in Various Sectors</b>	<b>Block</b>			<b>Total</b>
	<b>Araniya</b>	<b>Khurja</b>	<b>Jewar</b>	
<b>Agricultural Workers</b>	45 (30.2)	55 (36.9)	49 (32.9)	149 (28.7)
<b>Cultivators and Farmers</b>	86 (60.1)	37 (25.9)	20 (14.0)	143 (27.5)
<b>Rural Non-Farm Employment (RNFE)</b>	47 (48.0)	30 (30.6)	21 (21.4)	98 (18.8)
<b>Non-Workers</b>	57 (43.8)	46 (35.4)	27 (20.8)	130(25.0)
<b>Total</b>	<b><i>n= 235</i></b> <b><i>(45.2)</i></b>	<b><i>n= 168</i></b> <b><i>(32.3)</i></b>	<b><i>n= 117</i></b> <b><i>(22.5)</i></b>	<b><i>n= 520</i></b> <b><i>(100.0)</i></b>
<b>Pearson-Chi Square</b>	<b>Value</b>	<b>Df</b>	<b>Asymp. Sig. (2-sided)</b>	
	29.949	6	.000***	

**Note:** Bracketed figures denote Percentages to their respective totals  
**Significance Level:** \*\*\* Significance at 1% Level, \*\* Significance at 5% Level, \* Significance at 10 % Level.  
**Source:** Calculations based on Field Survey Conducted from January to April, 2014

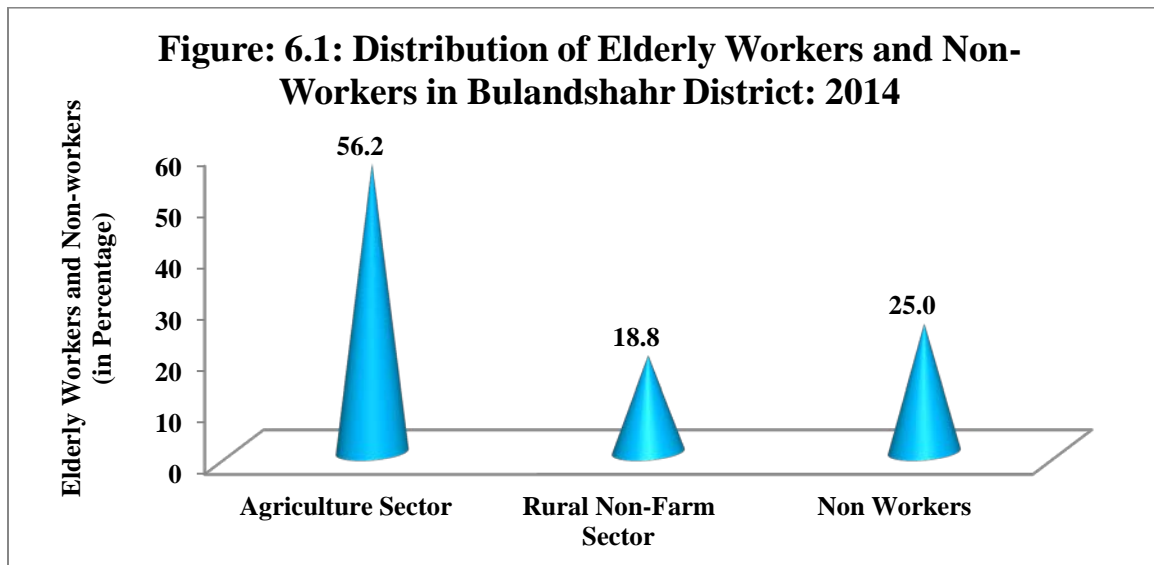
Table 6.1 presents the occupational structure of elderly workers and non-workers in Bulandshahr district. In the Indian context, it has been observed that more than 80 per cent of total workforce is engaged in unorganised or informal sector. Table 6.1 also exhibits the block wise distribution of elderly workers and non-workers in Bulandshahr district. In addition to this, about 36.9 per cent agricultural workers are found in Khurja block followed by 32.9 per cent in Jewar block and only 30.2 per cent agricultural workers are accounted for in Araniya block. This further suggests that cultivators or farmers are the second major category workers after agricultural labourers in Bulandshahr district. It has been also found that about 60.1 per cent elderly workers are found in Araniya block followed by 25.9 percent in Khurja block and only 14.0 per cent elderly workers are observed in Jewar block. Another noticeable observation is that, nearly 18.8 per cent elderly work in the non-farm sector. Lanjouw and Lanjouw (1995) have defined the rural non-farm sector as incorporating all economic activities in rural areas, except agriculture, livestock, fishing and hunting. The RNFE (rural non-farm employment) include activities like handicrafts, mining and quarrying, household and non-household manufacturing, processing, repairs, construction, trade, transport and communication, community and personal services in rural areas. It is interesting to note that, around 48.0 per cent non-farm elderly belong to Araniya block while lower figures have been reported in this category in both Jewar (21.4 per cent) and Khurja (30.6 per



cent) blocks. *Pearson-Chi Square* has also been performed here, it shows that there is highly strong statistically significant association between participation of elderly workers in various sectors and place of residence, significance at 1% Level.

### 6.6: Distribution of Elderly Workers and Non-Workers in Bulandshahr District: 2014

We are living in an increasingly ageing world, with the proportion of the global population aged 60 and over rising dramatically. Unprecedented demographic trends show that by 2050, one in five of the world's population will be 60 or over<sup>8</sup>.



**Source:** Calculations based on Field Survey Conducted from January to April, 2014

In the figure 6.1, the distribution of elderly workers and non-workers has been depicted. Among the elderly workers just about, 56.2 per cent belong to the agriculture sector, while 18.8 per cent elderly work in the non-farm sector. Another observation evident from above figure is that about 25.0 per cent elderly do not participate in any work or productive activity. However, in terms of working status the proportion of rural elderly is higher than their urban counterparts, because majority of them are engaged in unorganized sector, without any prescribed retirement age or benefits. This reinstates the fact that India is an agriculture dominated economy where nearly 70 percent of the population live in rural areas and entirely dependent on agriculture and allied operations. Furthermore, in rural areas majority of elderly work in the unorganised sector as agriculture workers, casual workers, and landless labourers are economically vulnerable.

Consequently, economic destitution, health problems, family constraints and distressed relationships are the major concerns faced by the elderly in Bulandshahr district.

**6.7: Sex Wise Distribution of Elderly Workers and Non-Workers in Bulandshahr District: 2014**

The stagnation in rural agricultural wages and low productivity has forced the male workers to search for employment in non-farm sector. Most important and challenging policy initiatives are making quality employment opportunities available to old-aged workers so that they could remain active in the labour market until normal retirement age. In that sense, the quality of employment and working conditions for the old-aged workers need to be improved.

**(Table: 6.2)**  
**Sex Wise Distribution of Elderly Workers and Non-Workers in Bulandshahr District: 2014**

Sectors	Sex		Total
	Male	Female	
<b>Agriculture Sector</b>	153 (52.4)	139 (47.6)	292 (56.2)
<b>Rural Non-Farm Employment (RNFE)</b>	69 (70.4)	29 (29.6)	98 (18.8)
<b>Non Workers</b>	63 (48.5)	67 (51.5)	130(25.0)
<b>Total</b>	<b>n= 285 (54.8)</b>	<b>n= 235 (45.2)</b>	<b>n=520 (100.0)</b>

**Note:** Bracketed figures denote Percentages to their respective totals  
**Source:** Calculations based on Field Survey Conducted from January to April, 2014

In the table 6.2, the distribution of elderly workers and non-workers by gender has been portrayed. Table 6.2 shows the elderly workers who have participated in agriculture and non-farm sectors by sex. About 52.4 per cent male elderly and about 47.6 per cent female elderly respectively are found to participate in agriculture. Another interesting fact from above table indicates that the proportion of elderly who participate in non-farm sector, are higher for the males, compared to their female counterparts. In this regard it has been found that, about 70.4 per cent males are engaged in non-farm sector, while this proportion is 29.6 per cent among elderly females. From table 6.2 it is also evident that, the share of non-working elderly is the next highest after agriculture. In view of this, about 48.5 per cent of elderly males are non-workers, as against 51.5 per cent of elderly women. This shows that more than half of the elderly women in the study area do not work and therefore are entirely dependent on others for sustenance and survival. A similar condition prevails for the non-working elderly males. It has been evident from

literature that poverty is the prime factor which might be responsible for helplessness in old age. However, in majority cases such dependency is financial in nature. Deprived health is key factor that affects the life style of individuals in old age. The dependency burden is higher for elderly women. The reason for this lies in the socio-structural system that always relegated a secondary position to women imposing on them to lead a dependent status on men- first on father, then husband and then on sons during old age<sup>9</sup>.

### **6.8: Block Wise Distribution of Elderly Workers and Non-Workers in Bulandshahr District: 2014**

In this section, a broad work status of the elderly in the surveyed blocks of Bulandshahr has been presented. It has been also observed that elderly in rural areas continue to work though their number of working hours comes down with advancing of age. However, in rural areas elderly are often discriminated in workforce due to the availability of younger workers. It is important to note that the rural sector is characterised by the predominance of agricultural and allied services.

<b>(Table: 6.3)</b>				
<b>Block Wise Distribution of Elderly Workers and Non-Workers in Bulandshahr District: 2014</b>				
<b>Elderly Workers and Non-Workers</b>	<b>Block</b>			<b>Total</b>
	<b>Araniya</b>	<b>Khurja</b>	<b>Jewar</b>	
<b>Agriculture Sector</b>	131 (44.9)	92 (31.5)	69 (23.6)	292 (56.2)
<b>Rural Non-Farm Employment (RNFE)</b>	47 (48.0)	30 (30.6)	21 (21.4)	98 (18.8)
<b>Non Workers</b>	57 (43.8)	46 (35.4)	27 (20.8)	130 (25.0)
<b>Total</b>	<b>n= 235 (45.2)</b>	<b>n= 168 (32.3)</b>	<b>n= 117 (22.5)</b>	<b>n= 520 (100.0)</b>
Note: Bracketed figures denote Percentages to their respective totals				
Source: Calculations based on Field Survey Conducted from January to April, 2014				

Table 6.3 presents a summary of the block wise distribution of elderly workers and non-workers. It has already been pointed out in the earlier tables that there are multitude of factors might be responsible for elderly to be involved in the labour market. In relation to this, in Araniya block about 44.9 percent elderly are engaged in agricultural sector, this proportion is slightly lower in Khurja Block, while nearly 23.6 per cent of elderly belong to Jewar Block. The sub-section of this table demonstrate the proportion of elderly workers who are working in non-farm sectors. In addition to this, in Araniya block about

48.0 per cent elderly work in non-farm sector followed by 30.6 per cent in Khurja block and just 21.4 per cent elderly are reported from Jewar block. The final section of this table depicts the distribution of elderly non-workers in the study area. In view of this, nearly 25.0 per cent elderly are non-working. In Araniya block almost 43.8 per cent elderly are not working; this share is slightly lower in Khurja block and only 20.8 per cent elderly non-workers are found in Jewar block.

### **6.9: Distribution of Elderly Workers by Selected Background and Socio-Economic Characteristics in Bulandshahr District: 2014**

With increasing population ageing, majority of older people have no choice but to work for longer, in low-paid jobs that do not pay enough to cover even their basic cost of living.

<b>(Table: 6.4)</b>			
<b>Distribution of Elderly Workers by Selected Background and Socio-Economic Characteristics in Bulandshahr District: 2014</b>			
<b>Background/Socio-Economic Characteristics</b>	<b>Agricultural Sector</b>	<b>Rural Non-Farm Employment (RNFE)</b>	<b>Total</b>
<b>Sex</b>			
Male	153 (68.9)	69 (31.1)	222 (56.9)
Female	139 (82.7)	29 (17.3)	168 (43.1)
<i>Total</i>	<i>n= 292 (74.9)</i>	<i>n= 98 (25.1)</i>	<i>n= 390 (100.0)</i>
<b>Age</b>			
60-69	238(72.6)	90 (27.4)	328 (84.1)
70-75	48(85.7)	8 (14.3)	56 (15.4)
75-80	6 (100.0)	0 (0.0)	6 (0.5)
80+	0 (0.0)	0 (0.0)	0 (0.0)
<b>Educational Attainment</b>			
Illiterate	203 (73.8)	72 (26.2)	275 (70.5)
Primary	47 (81.0)	11 (19.0)	58 (14.9)
Middle	27 (87.1)	4 (12.9)	31(7.9)
Secondary	6 (66.7)	3 (33.3)	9 (2.3)
Higher Secondary or above	9 (52.9)	8 (47.1)	17 (4.4)
<b>Marital Status</b>			
Never Married	1 (33.3)	2 (66.7)	3 (0.8)
Currently Married	225 (76.8)	68 (23.2)	293 (75.1)
Widowed	63 (70.8)	26 (29.2)	89 (22.8)
Divorced/Separated	3 (60.0)	2 (40.0)	5 (1.3)
<b>Religion</b>			
Hindu	266 (75.4)	87 (24.6)	353 (90.5)

Muslim	26 (70.3)	11 (29.7)	37(9.5)
<b>Caste</b>			
General Caste	138 (80.7)	33 (19.3)	171 (45.4)
Schedule Caste	125 (70.6)	52 (29.4)	177 (43.8)
OBC	3 (60.0)	2 (40.0)	5 (1.3)
Others	26 (70.3)	11 (29.7)	37 (9.5)
<b>State of Economic Dependency</b>			
Not Dependency on Others	9 (69.2)	4 (30.8)	13 (3.3)
Partially Dependency on Others	35 (79.5)	9 (20.5)	44 (11.3)
Fully Dependency on Others	248 (74.5)	85 (25.5)	333 (85.4)
<b>Work by Choice or Compulsion</b>			
By Choice	15 (93.8)	1 (6.2)	16 (4.1)
Economic Need	275 (74.1)	96 (25.9)	371 (95.1)
Other Compulsion	2 (66.7)	1 (33.3)	3 (0.8)
<b>Worked in last One Year</b>			
Yes, More than 6 months	257 (73.0)	95 (72.0)	352 (90.0)
Yes, 3 to 6 Months	35 (92.1)	3 (7.9)	38 (9.7)
<b>On Whom do you Depend</b>			
Self	43(64.2)	24 (35.8)	67 (17.2)
Son	126 (76.8)	38 (23.2)	164 (42.1)
Son-In-Low	2 (100.0)	0 (0.0)	2 (0.5)
Spouse	120 (77.4)	35(22.6)	155 (39.7)
Others	1 (50.0)	1 (50.0)	2 (0.5)
<b>Note:</b> Bracketed figures denote Percentages to their respective totals			
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014			

Table 6.4 displays the distribution of elderly workers by selected demographic and socio-economic characteristics in Bulandshahr district. In relation to this, the estimates of table 6.4 indicate that the proportion of male elderly workers who are engaged in labour market is higher than their female counterparts. There may be several reasons for such differences. According to age, the work participation of the elderly is four times greater among the young old (60-69) than elderly 70 years and above. Furthermore, in the age group 60-69, around 84.1 per cent elderly are working and nearly 15.1 per cent of elderly workers belong to 70-75 years of age. Majority of elderly are involved in agricultural operations. Another variable that might influence the employment pattern among elderly workers is the poor status of literacy and education, i.e. majority of them are illiterates. It is seen from the above table that a greater proportion of uneducated elderly is engaged in both agricultural and non-farm sector compared to the elderly with higher education; i.e., about 73.8 per cent of illiterate elderly are engaged in the agricultural sector. Another

pattern is also observed with marital status of elderly; i.e. approximately 75.1 per cent currently married and nearly 22.8 per cent widowed elderly are engaged in the labour market. Religion is another indicator that can affect the probability of working among the elderly in Bulandshahr district. In this light, majority of elderly workers in this study belong to Hindu religion and their higher participation in labour market has been observed, compared to the Muslim counterparts. Caste affiliations of the elderly workers indicate that higher proportions of the scheduled caste elderly are involved in the non-farm sector compared to others. The state of economic dependence play a crucial role in determining the decision of elderly to participate in the labour market and results confirm that, elderly with high dependency on others have higher chances to be involved in the labour market compared the partially dependent or not dependent on others categories. Economic compulsion is the chief factor that pushes the elderly into workforce. Another aspect of table 6.4 clearly reflected that about 90.0 per cent of elderly work more than 6 months in a year. In addition, more than seventy per cent of elderly are involved in both

#### **Case Study: 6.1**

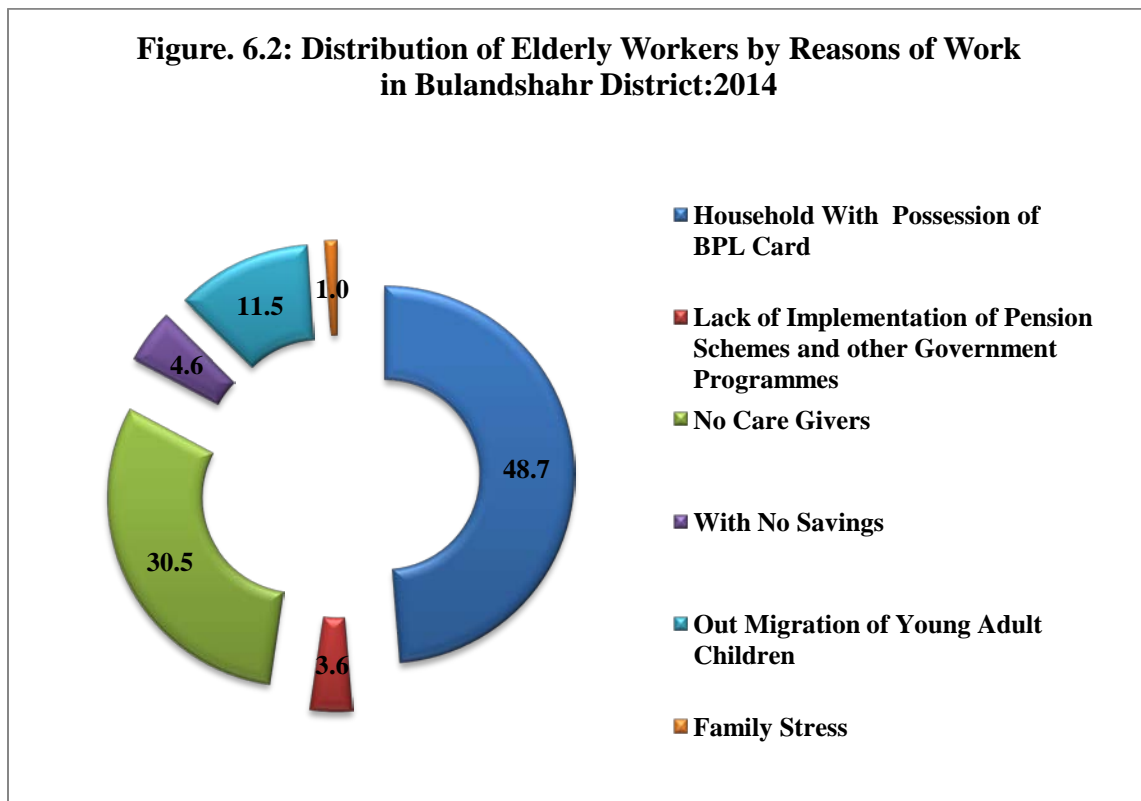
Mr. Vijay Kumar\* is 62 years old. He belongs to the Scheduled Caste community. He and his wife both are daily wage earners. Now with increasing age they are not in a position to move out from house. They have two sons, and they do not support them. In this age both elderlies are confined at home and are leading a life of misery and agony. Their health is not satisfactory. They are expecting support from the Government in the form of the old age pension.

**\*: Name Changed**

farm and non-farm sector in a year. Finally, socio-economic aspects are very important and play crucial roles in determining the work status of elderly in the study area.

### 6.10: Distribution of Elderly Workers by Reasons of Work in Bulandshahr District: 2014

Occupational structure of the Indian economy demonstrates higher work participation among males than their female counterparts. Workers from rural areas are mostly either cultivators or agriculture labourers. Furthermore, in rural areas reasons for working among the elderly mostly arises out of financial constraints. In rural area, that is predominantly agrarian, the elderly continue to participate in farm and non-farm sectors as long as they are physically capable of doing so.



**Source:** Calculations based on Field Survey Conducted from January to April, 2014

Literature based evidences have shown that a higher proportion of the elderly in India are living without any expectation or protection. In the figure 6.2, the distribution of elderly workers by reason of work has been portrayed. It is clear from this figure that about 48.7 per cent of elderly work because they have no choice but to work until ill health or frailty force them to stop working. In addition, poverty is a prime factor that may push the elderly into workforce. It has been shown in above figure that around 30.5 per cent of elderly work because they neither receive support nor care from any person. In the recent past, there has been an increasing concern about the rapid growing elderly participation in

the labour market. These changes raise serious concerns about the potential weakening of Indian family structure. In view of this, about 30.5 per cent of the elderly have to work because of unavailability of care givers. Another fact as revealed from the primary survey is that, while few elderly work in order to contribute to family income or they prefer to work keep active and productive. Another interesting finding indicates that just 11.5 per cent of the elderly work under compulsion i.e. in order to survive. In view of this, major causality behind working elderly is the migration of the adult children i.e. sons and daughters to other places. In addition, the immediate vicinity of Bulandshahr i.e. Meerut, Ghaziabad, Gautam Buddha Nagar and NCR Delhi region provide opportunities for job, education etc to the children of the elderly, instilling the factor of migration. Again, it has been observed that, about 4.6 per cent of elderly work without any savings or without a permanent source of income. On the other hand, nearly 3.3 per cent of elderly reported the lack of implementation of pension schemes and other Government programmes for their sustenance. Lastly, only 1.0 per cent of the elderly have undertaken work due to family conflicts. Last but not the least, the elderly in the study area exhibit a life of enormous poverty and hardship, working for low paid informal sector jobs (farming, street vending or non-farm activities), with no entitlement to pensions or benefits. They have no choice but to continue working into old age<sup>10</sup>.

### **Case Study: 6.2**

*Elderly people in Bulandshahr district have very little choice but to work in order to survive. "Since we have to eat, we have to work. We have no other option" reported a 63-year-old elderly widow from study area. She had a son who had expired. At present she is living with her daughter-in-law. Her health condition is not satisfactory. She feels that regular work in this age has a detrimental impact on her health. Her husband died five years back. She has no agricultural land and survives without pension security from the Government.*



**6.11: Block Wise Distribution of Elderly Workers by Sex and Reasons for Work in Bulandshahr District: 2014**

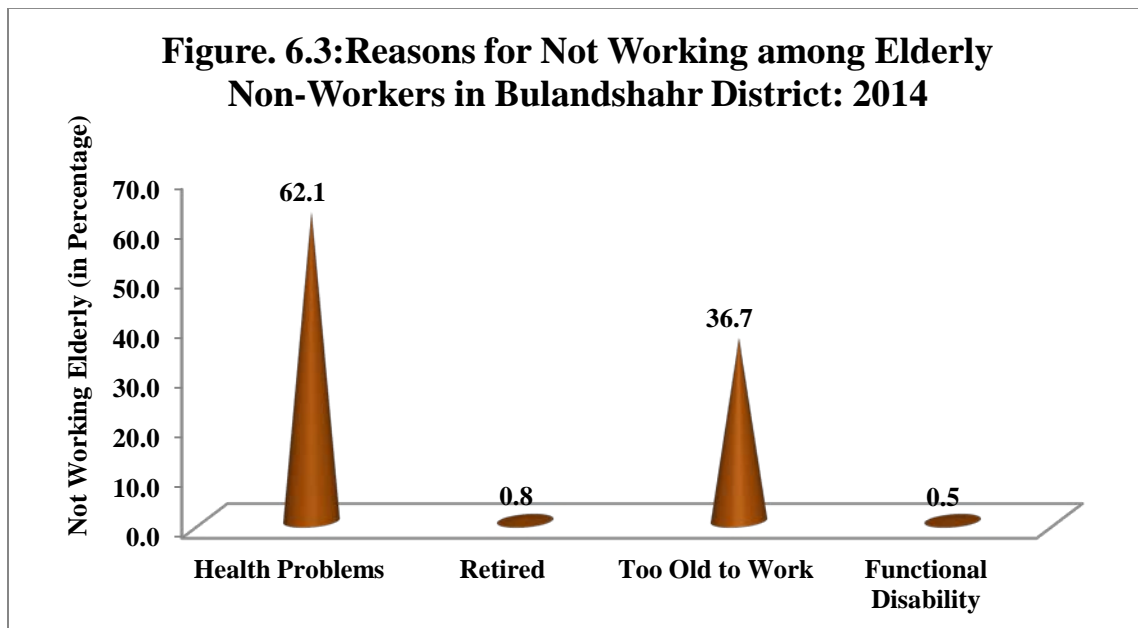
<b>(Table: 6.5)</b>					
<b>Block Wise Distribution of Elderly Workers by Sex and Reasons for Work in Bulandshahr District: 2014</b>					
<b>Reasons of Work</b>	<b>Sex</b>	<b>Block</b>			<b>Total</b>
		<b>Araniya</b>	<b>Khurja</b>	<b>Jewar</b>	
<b>Household with Possession of BPL Card</b>	Male	32 (30.2)	43 (40.6)	31 (29.2)	106 (100.0)
	Female	37 (44.0)	24 (28.6)	23 (27.4)	84 (100.0)
	<b>Total</b>	<b>69 (36.3)</b>	<b>67 (35.3)</b>	<b>54 (28.4)</b>	<b>190 (100.0)</b>
<b>Due to lack of Govt. pension schemes and programs</b>	Male	3 (50.0)	2 (33.3)	1 (16.7)	6 (100.0)
	Female	6 (75.0)	0 (0.0)	2 (25.0)	8 (100.0)
	<b>Total</b>	<b>9 (64.3)</b>	<b>2 (14.3)</b>	<b>3 (21.4)</b>	<b>14 (100.0)</b>
<b>No Care Givers</b>	Male	35 (52.2)	21 (31.3)	11 (16.4)	67 (100.0)
	Female	29 (55.8)	13 (25.0)	10 (19.2)	52 (100.0)
	<b>Total</b>	<b>64 (53.8)</b>	<b>34 (28.6)</b>	<b>21 (17.6)</b>	<b>119 (100.0)</b>
<b>With no Savings</b>	Male	5 (55.6)	3 (33.3)	1 (11.1)	9 (100.0)
	Female	8 (88.9)	0 (0.0)	1 (11.1)	9 (100.0)
	<b>Total</b>	<b>13 (72.2)</b>	<b>3 (16.7)</b>	<b>2 (11.1)</b>	<b>18 (100.0)</b>
<b>Out-Migration of Children</b>	Male	16 (50.0)	12 (37.5)	4 (12.5)	32 (100.0)
	Female	6 (46.2)	3 (23.1)	4 (30.8)	13 (100.0)
	<b>Total</b>	<b>22 (48.9)</b>	<b>15 (33.3)</b>	<b>8 (17.8)</b>	<b>45 (100.0)</b>
<b>Family Stress</b>	Male	1 (50.0)	1 (50.0)	0 (0.0)	2 (100.0)
	Female	0 (0.0)	0 (0.0)	2 (100.0)	2 (100.0)
	<b>Total</b>	<b>1 (25.0)</b>	<b>1 (25.0)</b>	<b>2 (50.0)</b>	<b>4 (100.0)</b>
<b>Total</b>	Male	92 (41.4)	82 (36.9)	48 (21.6)	222 (100.0)
	Female	86 (51.2)	40 (23.8)	42 (25.0)	168 (100.0)
	<b>Total</b>	<b>n= 178 (45.6)</b>	<b>n= 122 (31.3)</b>	<b>n= 90 (23.1)</b>	<b>n= 390 (100.0)</b>
<b>Note:</b> Bracketed figures denote Percentages to their respective totals					
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014					

In table 6.5, the block wise distribution of elderly workers by sex and reasons of work has been explained. In this respect, the block wise analysis shows, poverty and insufficient support from family members to be the major determinants that push elderly into the labour market. Furthermore, out-migration of adult children and family conflicts are other reasons that may be responsible for elderly to engage themselves in the labour market. Alongside the reasons of work, sex differences have also been considered as another eminent factor that determines both socio-economic and health aspects among the elderly. It has been found that in all blocks considerable proportion of both male and

female elderly are involved in the labour market. In rural areas, agriculture is dominant source of livelihood. In this sector there is no set norm of retirement. It has been evident from the above table that a greater amount of elderly are engaged in both farm and rural non-farm sectors.

**6.12: Reasons for Not Working among Elderly Non-Workers in Bulandshahr District: 2014**

Elderly who do not participate in work are mainly engaged in household duties and rearing grand children. In addition, elderly women especially never rest in the last phase of their life cycle. Literature based evidence clearly shows, that women in old-age are valuable in our society.



**Source:** Calculations based on Field Survey Conducted from January to April, 2014

In this study a question has been asked to all elderly who worked in the past but currently are not working. The question pertains to as to why this change. In relation to this, majority of elderly who are not working stated health problems and approximately 62.1 per cent of elderly do not work because they have at least one health problem or other. It is also evident from the above table that about 36.7 per cent elderly do not work because they are too old to work. Poor health is considered as a major obstacle that may influence the work status of elderly. In rural areas, majority of elderly would like to be engaged but, their deprived health conditions in the face of few health interventions often do not

permit them to work. Thus, health plays a decisive role in determining the health status of the elderly.

**6.13: Effect of Work Environment on Health by Sex in Bulandshahr District: 2014**

The rapid demographic transition resulting in an aged society is expected to have serious economic and social repercussions. The focus of the present study is to find out whether elderly people are economically active and their problems and constraints to this effect. Furthermore, recent statistics clarify majority of elderly work in their old age and continue till 80s or above.

<b>(Table: 6.6)</b>			
<b>Effect of Work Environment on Health By Sex: Bulandshahr District: 2014</b>			
<b>Sex of the Elderly</b>	<b>Health Impact</b>		<b>Total</b>
	<b>Yes</b>	<b>No</b>	
<b>Male</b>	<b>181 (81.5)</b>	<b>41 (18.5)</b>	<b>222 (56.9)</b>
<b>Female</b>	<b>151 (89.9)</b>	<b>17 (10.1)</b>	<b>168 (43.1)</b>
<b>Total</b>	<b>n= 332 (85.1)</b>	<b>n= 58 (14.9)</b>	<b>n= 390 (100.00)</b>
<b>Note:</b> Bracketed figures denote Percentages to their respective totals			
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014			

The effect of work environment on health of the elderly workers has been discussed in table 6.6. Furthermore, this analysis provides the distribution of elderly by gender and health impact after participation in the labour market. In relation to this, around 85.1 per cent of the elderly have health grievance after participating in the labour market and nearly, 14.9 per cent of elderly did not complain of any health issue after participating in the labour market. In this sub-section, an attempt is made to analyse and discuss the gender wise distribution of elderly workers and their health impact. It is interesting to note that more than 85 per cent of elderly workers experience physical and mental exhaustion due to participation in the labour market. Gender wise participation of male elderly is quite higher as compared to their female counterparts. Another, observation evident from table 6.6, as far as male and female participation in the labour market is concerned; it is interesting to note that, female elderly had more complaints than their male counterparts. As longevity of elderly has increased, the period of exposure to the risk of diseases has also increased. By and large, in old-age, majority of elderly usually

suffer from at least one common ailment or the other. Participation in arduous work often aggravates the situation.

#### **6.14: Distribution of Elderly Workers by Reason for Work and its Health Impact in Bulandshahr District: 2014**

In the modern era raising the participation level of elderly workers is a key objective of policymakers in both developed and developing world. It is interesting to note that elderly workers and their condition pose a serious challenge to the Indian Government.

<b>(Table:6.7)</b>			
<b>Distribution of Elderly Workers by Reason for Work and its Health Impact in Bulandshahr District: 2014</b>			
<b>Reasons of Work</b>	<b>Health Impact</b>		
	<b>Yes</b>	<b>No</b>	<b>Total</b>
<b>Household with Possession of BPL Card</b>	160 (84.2)	30 (15.8)	190 (48.7)
<b>Lack of Pension Schemes and Social Security</b>	14 (100.00)	0 (0.00)	14 (3.6)
<b>No care givers</b>	104 (87.4)	15 (12.6)	119 (30.5)
<b>With no savings</b>	14 (77.8)	4 (22.2)	18 (4.6)
<b>Out migration of young adult children</b>	36 (80.0)	9 (20.0)	45 (11.5)
<b>Family stress</b>	0 (0.00)	4 (100.00)	4 (1.0)
<b>Total</b>	<b>n= 332 (85.1)</b>	<b>n= 58 (14.9)</b>	<b>n= 390 (100.0)</b>
<b>Note:</b> Bracketed figures denote Percentages to their respective totals			
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014			

Table 6.7 gives the details of the employment behaviour among elderly as to the reasons why they work (in order to explore the major determinants that might be responsible for pushing them into labour market) and the resultant impact on their health. In this respect, about 84.2 per cent of the elderly had a health problem arising out of their work in the labour market. Furthermore, recent statistics display that economic compulsion is the chief determinant that force elderly to engage in the labour market. In this state, poverty is so acute and pervasive among the rural households; even the aged is force to seek gainful employment irrespective of their health outcome. Familial care and support are most probable sources that everyone expects in old age. It has been seen in the study area that, about 30.5 per cent of elderly work because they never received such support from family. Literature based evidences shows; there are varieties of factors that might be

responsible for poor working condition in rural areas. Consequently, depressed work environment is a root of serious health disorders not only for the elderly but to everyone as well.

### 6.15: Distribution of Elderly Workers by Reason for Work and Financial Dependency in Bulandshahr District: 2014

Elderly people in rural areas continue to work though their working hours decline as age advances. On the other hand, it may be argued from Indian literature that poverty is a main reason for elderly persons compulsion to work. It is presumed that the fully dependent elderly live below the poverty line and therefore they need economic support.

(Table:6.8)

<b>Distribution of Elderly Workers by Reason for Work and Financial Dependency in Bulandshahr District: 2014</b>			
<b>Reasons of Work</b>	<b>Financial Dependency</b>		
	<b>No</b>	<b>Yes</b>	<b>Total</b>
<b>Household with Possession of BPL Card</b>	4 (2.1)	186 (97.9)	190 (48.7)
<b>Lack of Pension Schemes and other Social Security Provisions</b>	1 (7.1)	13 (92.9)	14 (3.6)
<b>No care Givers</b>	6 (5.0)	113 (95.0)	119 (30.5)
<b>With no Savings</b>	1 (5.6)	17 (94.4)	18(4.6)
<b>Out migration of Young Adult Children</b>	8 (17.8)	37 (82.2)	45 (11.5)
<b>Family Conflicts</b>	0 (0.0)	4 (100.0)	4 (1.0)
<b>Total</b>	<b>n= 20 (5.1)</b>	<b>n= 370 (94.9)</b>	<b>n= 390 (100.0)</b>
<b>Pearson-Chi Square</b>	<b>Value</b>	<b>Df</b>	<b>Asymp. Sig. (2-sided)</b>
	18.710	5	.002***

**Note:** Bracketed figures denote Percentages to their respective totals  
**Significance Level:** \*\*\* Significance at 1% Level, \*\* Significance at 5% Level, \* Significance at 10 % Level.  
**Source:** Calculations based on Field Survey Conducted from January to April, 2014

Table 6.8, by and large, demonstrates the participation of elderly workers by economic dependency in the labour market. This suggests that, approximately 94.9 per cent elderly work because of their high dependency on others, only 5.1 per cent elderly are working by choice or they wanted to be economically active. It has also been noted that economic vulnerability is the main drive that pushes elderly into the workforce. In this regard, around 48.7 per cent of the elderly workers are involved in the labour market. The table also depicts that about 30.5 per cent elderly work because they do never receive care and

support from family members, especially children. It has already been specified earlier that there is a strong association between migration of young adults and elderly participation in labour market. In relation to this, approximately 11.5 per cent elderly work due to migration of care givers, followed by (3.6 per cent) due to lack of social security, (4.6 per cent) with no savings and just (1.0 per cent) of elderly work due to family conflicts.

*Pearson-Chi Square has also been performed here, it shows that there is highly strong statistically significant association between reasons of work and financial dependency in old-age, significance at 1% Level.*

#### **6.16: Distribution of Elderly Workers in Labour Market by Possession of Property in Bulandshahr District: 2014**

In rural India, even today, most social groups follow customary norms rather than modern statutory law. With respect to property, there is a widespread tradition of joint patrilineal ownership<sup>11</sup>.

<b>(Table: 6.9)</b>			
<b>Distribution of Elderly Workers in Labour Market by Possession of Property in Bulandshahr District: 2014</b>			
<b>Occupational Structure</b>	<b>Possession of Property</b>		<b>Total</b>
	<b>No</b>	<b>Yes</b>	
<b>Agricultural Sector</b>	63 (21.6)	229 (78.4)	292 (74.9)
<b>Rural Non-Farm Employment (RNFE)</b>	33 (33.7)	65 (66.3)	98 (25.1)
<i>Total</i>	<i>n= 96 (24.6)</i>	<i>n= 294 (75.4)</i>	<i>n= 390 (100.0)</i>
<b>Pearson-Chi Square</b>	<b>Value</b>	<b>Df</b>	<b>Asymp. Sig. (2-sided)</b>
	5.788	1	.006**
<b>Note:</b> Bracketed figures denote Percentages to their respective totals			
<b>Significance Level:</b> *** Significance at 1% Level, ** Significance at 5% Level, * Significance at 10 % Level.			
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014			

Table 6.9 shows that distribution of elderly workers in the labour market by property possession. It can be noticed from table 6.9 that about 75.4 per cent elderly are economically active because they have agricultural land or property. Moreover, nearly 24.6 per cent elderly are economically active without agricultural land / property. It is important to note that majority of elderly have agricultural land. However, because of the

high cost of living, they have to maintain agricultural operations. In this regard, elderly in the study area are increasingly giving their agricultural land to the agriculturists on lease basis. Maintenance of agricultural land in the face of financial distress is the other area of concern. Under such circumstances, elderly today are searching for job opportunities outside agricultural operations and nearly 33.7 per cent elderly in the study area are found to work in rural non-farm sector. *Pearson-Chi Square has also been performed here, it shows that there is highly strong statistically significant association between occupational structure and possession of property, significance at 5% Level.*

**6.17: Distribution of Elderly Workers in Agricultural and Rural Non-Farm Employment (RNFE) and its Health Impact in Bulandshahr District: 2014**

One of the chief objectives of this study is to assess the emerging ageing issues in rural Uttar Pradesh. In this respect, higher poverty and inadequate social security measures are major determinants which may be responsible for involvement in both agricultural and rural non-farm sectors by the elderly.

<b>(Table: 6.10)</b>			
<b>Distribution of Elderly Workers in Agricultural and Rural Non-Farm Employment (RNFE) and its Health Impact in Bulandshahr District: 2014</b>			
<b>Occupational Structure</b>	<b>Health Impact</b>		<b>Total</b>
	<b>No</b>	<b>Yes</b>	
<b>Agricultural Sector</b>	49 (16.8)	243 (83.2)	292 (74.9)
<b>Rural Non-Farm Employment (RNFE)</b>	9 (9.2)	89 (90.8)	98 (25.1)
<i>Total</i>	<i>n= 58 (14.9)</i>	<i>n= 332 (85.1)</i>	<i>n= 390 (100.0)</i>
<b>Note:</b> Bracketed figures denote Percentages to their respective totals			
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014			

In order to identify the health impact among elderly workers due to participation in both agricultural and rural non-farm sectors, an analysis has been carried out as represented in table 6.10. In the light of earlier discussion, agrarian relations still carry on the hangover of the old feudalistic order. Furthermore, it has been observed that, around 90.8 per cent of elderly work in rural non-farm sectors while this proportion is slightly lower for the elderly who are engaged in agricultural operations. Moreover, those elderly who are engaged in rural non-farm sectors have expressed highly unsatisfactory health conditions as compared to those who work in the agricultural sector. In addition to this, in both the

sectors almost 85.1 per cent elderly have complained that their health problems have aggravated after participating in the labour market. This further suggests the low levels of earning during prime working age and consequently low levels of saving as one of the important reasons for participation of the elderly in the labour market. Also, this happens at a stage in life of the elderly when the demand for health and medical care is likely to go up, and in turn increases the old age dependency and economic burden of the ageing generation<sup>12</sup>.

#### **6.18: Distribution of Working Elderly by the Need to Work according to Background Characteristics in Bulandshahr District: 2014**

Indian society is predominantly rural in character and there is no formal age of withdrawal or disengagement. People continue to work as long as their health permits.

<b>(Table: 6.11)</b>				
<b>Distribution of Working Elderly by the Need to Work according to Background Characteristics in Bulandshahr District: 2014</b>				
<b>Background Characteristics</b>	<b>By Choice</b>	<b>Economic Compulsion</b>	<b>Other Compulsion</b>	<b>Total</b>
<b>Sex</b>				
Male	9 (4.1)	210 (94.6)	3 (1.4)	222 (100.0)
Female	7 (4.2)	161 (95.8)	0 (0.0)	168 (100.0)
<i>Total</i>	<i>n= 16 (4.1)</i>	<i>n= 371 (95.1)</i>	<i>n= 3 (0.8)</i>	<i>n= 390 (100.0)</i>
<b>Age</b>				
60-69	13 (4.0)	312 (95.1)	3 (0.9)	328 (100.0)
70-75	1 (1.8)	55 (98.2)	0 (0.0)	56 (100.0)
75-80	2 (33.3)	4 (66.7)	0 (0.0)	6 (100.0)
80+				
<b>Living Arrangements</b>				
Son	8 (7.6)	97 (92.4)	0 (0.0)	105 (100.0)
With Daughter	1 (12.5)	7 (87.5)	0 (0.0)	8 (100.0)
With Spouse	7 (3.2)	208 (95.9)	2 (0.9)	217 (100.0)
Alone	0 (0.0)	59 (98.3)	1 (1.7)	60 (100.0)
<b>Caste</b>				
General Caste	14 (8.2)	155 (90.6)	2 (1.2)	171 (100.0)
SC	1 (0.6)	176 (99.4)	0 (0.0)	177 (100.0)
OBC	0 (0.0)	5 (100.0)	0 (0.0)	5 (100.0)
Other Caste	1 (2.7)	35 (94.6)	1 (2.7)	37 (100.0)
<b>Marital Status</b>				
Never Married	0 (0.0)	3 (100.0)	0 (0.0)	3 (100.0)
Currently Married	14 (4.8)	277 (94.5)	2 (0.7)	293 (100.0)
Widowed	2 (2.2)	86 (96.6)	1 (1.1)	89 (100.0)
Divorced/Separated	0 (0.0)	5 (100.0)	0 (0.0)	5 (100.0)
<b>Education Attainment</b>				



Illiterate	6 (2.2)	268 (97.5)	1 (0.4)	275 (100.0)
Primary	4 (6.9)	54 (93.1)	0 (0.0)	58 (100.0)
Middle	4 (12.9)	26 (83.9)	1(3.2)	31 (100.0)
Secondary	0 (0.0)	9 (100.0)	0 (0.0)	9 (100.0)
Higher Secondary or Above	2 (11.8)	14 (82.4)	1 (5.9)	17 (100.0)
<b>Religion</b>				
Hindu	15 (4.2)	336 (95.2)	2 (0.6)	353 (100.0)
Muslim	1 (2.7)	35 (94.6)	1 (2.7)	37 (100.0)
<b>Household Size</b>				
Less than 5 Members	0(0.0)	29 (93.5)	2 (6.5)	31 (100.0)
5 to 8 Members	11 (4.0)	265 (96.0)	0(0.0)	276 (100.0)
More than 8 Members	5(6.0)	77 (92.8)	1 (1.2)	83 (100.0)
<b>Note:</b> Bracketed figures denote Percentages to their respective totals				
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014				

In the recent decades, there has been increasing concern about the rapid growing elderly population in India in relation to estimating the resources needed and preparation for care, support and health security; with particular emphasis on rural settings where elderly are unable to gather their basic necessities. The participation of elderly in the labour market by the need to work varies according to their background and socio-economic characteristics. As noted earlier, for the present study, the Bulandshahr district of Uttar Pradesh was selected. In this section, the background and socio-economic profile by need to work among elderly workers has been discussed. In this regard it has been seen that, over 90 per cent of elderly are forced to work due to economic compulsion. This proves a strong association between the deprived economic situation and need to work among the elderly in the study area.

In some cases elderly want to contribute towards family income and preferred to remain active and productive. Work also gives them a sense of self-esteem and inclusion in family and community life. Marital status also influences the compulsion for work to some extent, as it is higher among the widowed compared to the married elderly. Furthermore, in this period without spousal support it is difficult to manage many things. The changing age structure has several implications for the labour market. There is a considerable difference in the educational background among elderly workers in the rural areas. It is however interesting to note that the poor, illiterate and socially backward sections have to work more due to poverty and economic compulsions instead by choice. Inadequate socio-economic security is a factor in the analysis of labour force participation among the elderly and is important from the point of view of understanding

the intensity of their economic status. In old-age people have limited sources of income, and this is particularly true for the elderly women. Moreover, widowed elderly women are victims of triple disadvantages, i.e. being old, being women in a patriarchal society and being a widow. This can be seen in the light of the rising old-age dependency ratio and increasing financial pressures posed by population ageing, especially when the Government cannot provide an adequate old-age economic security safety net<sup>13</sup>. Higher possibility of large productivity differences within age groups can be often related to health that certainly deteriorates during the old age.

#### **6.19: Role of Remittance in Shaping Economic Security among Elderly in Bulandshahr District: 2014**

Remittances are one of the most positive consequences for out-migrating households that send their members with economic motives. Remittances may be both in kinds and cash. Both internal and international out-migrants send remittances to their home depending upon their salaries at destination<sup>14</sup>.

<b>(Table: 6.12)</b>				
<b>Role of Remittance in Shaping Economic Security among Elderly in Bulandshahr District: 2014</b>				
<b>Type of Remittance</b>	<b>Block</b>			<b>Total</b>
	<b>Araniya</b>	<b>Khurja</b>	<b>Jewar</b>	
<b>Children not Migrated</b>	5(38.5)	2 (15.4)	6(46.2)	13 (2.5)
<b>Remittance not Received (No)</b>	206 (44.8)	155 (33.7)	99 (21.5)	460(88.5)
<b>Remittance Received (Yes)</b>	19 (45.2)	11 (26.2)	12 (28.6)	42 (8.1)
<b>Others (Respondents Not Married)</b>	5 (100.0)	0 (0.0)	0 (0.0)	5 (1.0)
<b>Total</b>	<b>n= 235 (45.2)</b>	<b>n= 168 (32.3)</b>	<b>n= 117 (22.5)</b>	<b>n= 520 (100.0)</b>
<b>Note:</b> Bracketed figures denote Percentages to their respective totals				
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014				

Migration pattern tend to reflect both push and pull factors. Prospects of higher wages, the potential for improved standard of living, and better opportunities for professional and personal development are tested determinants of migration, as is geographical proximity. An attempt has been made in this section to find out whether the elderly receive remittance from his / her migrated children. About 88.5 per cent elderly in the study area did not receive any remittance. In this context, many elderly reported that their sons have their own family and are hence unable to remit any money or support their parents. Rapid urbanisation leads to more elderly people being left behind to fend for

themselves in rural areas when the young migrate to city in search of job opportunities and other purposes. This reflects the higher proportion of elderly in rural areas compared to the urban areas<sup>15</sup>. However, from the present study it has been seen that very few elderly have been receiving remittances, and this speaks of the vulnerability of the elderly in Bulandshahr.

#### 6.20: Block Wise Distribution of Elderly Workers and Non-Workers by Work Status in Bulandshahr District: 2014

In old age, elderly persons generally do not have permanent sources of income. In addition to this, elderly have to participate in labour force activities for their survival. Such situation arises because of the absence of social security, fast changing family norms and out-migration of young adults. At this juncture, in rural areas elderly workers have engaged in low paid occupation without any income security and post retirement benefits.

<b>(Table: 6.13)</b>				
<b>Block Wise Distribution of Elderly Workers and Non-Workers by Work Status in Bulandshahr District: 2014</b>				
<b>Considering Work Status</b>	<b>Block</b>			<b>Total</b>
	<b>Araniya</b>	<b>Khurja</b>	<b>Jewar</b>	
<b>Non Workers</b>	57 (43.8)	46 (35.4)	27 (20.8)	130 (25.0)
<b>Self-Employed</b>	108 (64.3)	39 (23.2)	21 (12.5)	168 (32.3)
<b>Casual Wage Labour</b>	70 (31.5)	83 (37.4)	69 (31.1)	222 (42.7)
<b>Total</b>	<b>N= 235 (45.2)</b>	<b>N= 168 (32.3)</b>	<b>N= 117 (22.5)</b>	<b>N= 520 (100.0)</b>
<b>Pearson-Chi Square</b>	<b>Value</b>	<b>Df</b>	<b>Asymp. Sig. (2-sided)</b>	
	44.131	4	.000***	
<b>Note:</b> Bracketed figures denote Percentages to their respective totals				
<b>Significance Level:</b> *** Significance at 1% Level, ** Significance at 5% Level, * Significance at 10 % Level.				
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014				

Persons who operate their own farm or non-farm enterprises or are engaged independently in a profession on own-account or with one or a few partners are considered to be self-employed. A person casually engaged in others' farm or non-farm enterprises (household and non- household) and receiving wages according to the terms of the daily or periodic work contract is called a casual wage labour. Data provided in table 6.13 represents the block wise distribution of both elderly workers and non-workers.

In addition, about 25.0 of elderly are not working. Another salient feature of table 6.13 indicates that, around 32.3 per cent of elderly are working as self- employed. Approximately, 42.7 per cent of elderly work as casual wage labour both in agriculture and in the non-farm sector. In the sub-section, an attempt is made to find out the block wise distribution of elderly workers and non-workers. Moreover, another noteworthy point that has been observed from the table is that, in all blocks a significant proportion of elderly are engaged in work. Consequently, both elderly workers and non-workers have been victims of high poverty and miserable health conditions. *Pearson-Chi Square has also been performed here, it shows that there is highly strong statistically significant association between considering work status and place of residence, significance at 1% Level.*

#### **6.21: Distribution of Elderly Workers by Participation in Rural Non-Farm Sector in Bulandshahr District: 2014**

For a majority of the rural population in developing countries, farming is the major activity. However, there are relatively few households for which agriculture is the exclusive source of income. Men, women and children in rural areas also undertake a variety of other activities besides farming. Some of these non-farm activities flow directly from agriculture or are closely related to it. These activities are ranging from full-time to temporary wage employment in industry or construction to regular but part time self employment in home-based handicrafts, and trading or other services<sup>16</sup>.

<b>(Table: 6.14)</b>				
<b>Distribution of Elderly Workers by Participation in Rural Non-Farm Sector in Bulandshahr District: 2014</b>				
<b>Rural Non-Farm Employment (RNFE)</b>	<b>Block</b>			<b>Total</b>
	<b>Araniya</b>	<b>Khurja</b>	<b>Jewar</b>	
<b>Construction</b>	17 (54.8)	8 (25.8)	6 (19.4)	31 (31.6)
<b>Transport</b>	3 (25.0)	6 (50.0)	3 (25.0)	12 (12.2)
<b>Others</b>	27 (49.1)	16 (29.1)	12 (21.8)	55 (56.1)
<b>Total</b>	<b>n= 47 (48.0)</b>	<b>n= 30 (30.6)</b>	<b>n= 21 (21.4)</b>	<b>n= 98 (100.0)</b>
<b>Note:</b> Bracketed figures denote Percentages to their respective totals				
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014				

Table 6.14 gives a synoptic view of participation of elderly workers in rural non-farm sectors of the sampled blocks in Bulandshahr district. As noted earlier, in both agricultural and rural non-farm sectors, considerable physical labour is required. In rural society elderly workers are engaged in various activities as both self-employed and casual wage labour. In view of this, about 31.6 per cent elderly are involved in construction; around 56.1 per cent are engaged in others services and just 12.2 per cent of elderly are accounted for in transport sector. Land is an important asset in rural areas. There is a vast differentiation among rural households in terms of land and assets. The concentration of land in the hands of a few households can facilitate the growth of non-agricultural employment if the surplus generated from agriculture is invested in non-agricultural activities in rural areas. Non-availability of agricultural work due to the landlessness and small cultivator households can result in a distress diversification to non-agricultural activity<sup>17</sup>. The presence of elderly workers in rural non-farm sectors is due to lower wage rates in agricultural operations as also unavailability of work throughout a year in the agricultural sector.

#### **6.22: Block Wise Distribution of Elderly Workers by Agricultural Occupations in Bulandshahr District: 2014**

In rural society, the socio-economic affluence of the household depends on the prosperity of agriculture and allied occupation at any particular point of time. Furthermore, in Indian society, elderly's role in agricultural operations, family activities and other economically productive activities are praiseworthy. In rural areas, elderly has massive knowledge about agricultural processes. Therefore, role of elderly in agricultural sector have always been appreciable. Interestingly, sale of agricultural products in the market is one of the most significant assignments of farmers. In this regard, table 6.16 depicts, the block wise distribution of elderly workers both male and female in various occupations related to the agricultural sector in the study area.

**(Table: 6.15)**

<b>Block Wise Distribution of Elderly Workers by Agricultural Occupations in Bulandshahr District: 2014</b>					
<b>Sex</b>	<b>Agricultural Operations</b>	<b>Block</b>			<b>Total</b>
		<b>Araniya</b>	<b>Khurja</b>	<b>Jewar</b>	
<b>Male</b>	Plough	5 (62.5)	3 (37.5)	0 (0.0)	8 (100.0)
	Sowing	17 (41.5)	14 (34.1)	10 (24.4)	41 (100.0)
	Weeding	16 (64.0)	3 (12.0)	6 (24.0)	25 (100.0)
	Harvesting and Reaping	7 (17.1)	26 (63.4)	8 (19.5)	41 (100.0)
	Threshing and Cleaning Grains	9 (39.1)	9 (39.1)	5 (21.7)	23 (100.0)
	Irrigation of Fields	6 (54.5)	2 (18.2)	3 (27.3)	11 (100.0)
	<b>Total</b>	<b>n= 60 (40.3)</b>	<b>n= 57 (38.3)</b>	<b>n= 32 (21.5)</b>	<b>n= 149 (100.0)</b>
<b>Female</b>	Plough	*	*	*	*
	Sowing	20 (52.6)	7 (18.4)	11 (28.9)	38 (100.0)
	Weeding	23 (71.9)	4 (12.5)	5 (15.6)	32 (100.0)
	Harvesting and Reaping	16 (37.2)	16 (37.2)	11 (25.6)	43 (100.0)
	Threshing and Cleaning Grains	18 (64.3)	4 (14.3)	6 (21.4)	28 (100.0)
	Irrigation of Fields	1 (50.0)	0 (0.0)	1 (50.0)	2 (100.0)
	<b>Total</b>	<b>n= 78 (54.5)</b>	<b>n= 31 (21.7)</b>	<b>n= 34 (23.8)</b>	<b>n=143 (100.0)</b>
<b>Total</b>	Plough	5 (62.5)	3 (37.5)	0 (0.0)	8 (100.0)
	Sowing	37 (46.8)	21 (26.6)	21 (26.6)	79 (100.0)
	Weeding	39 (68.4)	7 (12.3)	11 (19.3)	57 (100.0)
	Harvesting and Reaping	23 (27.4)	42 (50.0)	19 (22.6)	84 (100.0)
	Threshing and Cleaning Grains	27 (52.9)	13 (25.3)	11 (21.6)	51 (100.0)
	Irrigation of Fields	7 (53.8)	2 (15.4)	4 (30.8)	13 (100.0)
	<b>Total</b>	<b>n= 138 (47.3)</b>	<b>n= 88 (30.1)</b>	<b>n= 66 (22.6)</b>	<b>n= 292 (100.0)</b>

**Note:** Bracketed figures denote Percentages to their respective totals  
**Source:** Calculations based on Field Survey Conducted from January to April, 2014)  
**Note:** \* Respondent not reported

Agriculture is an important sector of the Indian economy. Majority of rural people are engaged in agricultural activities in various ways depending on the socio-economic requirements of their family. The two main types of employment in this sector are i.e. Self-Employment and Casual Wage Labour. The Indian economy and all its sectors recorded a rapid growth after green revolution although the growth rates of both agricultural and non-farm sectors namely manufacturing and servicing were notably higher than that of the agricultural sector. In view of this, the bulk of Indian labour have been engaged in various agricultural and non-agricultural services. In this respect, the block wise distribution of elderly workers in various agricultural operations is important. It is interesting to note that in all the blocks, harvesting and reaping the crops are the most encouraging activities among elderly workers. Accordingly, in Khurja block about 50.0 per cent of elderly are involved in harvesting and reaping, followed around 27.4 per cent in Araniya block and only 22.6 per cent of elderly are accounted for the same in Jewar block. It has been also evident that, in all blocks the proportion of male elderly is comparatively higher than their female counterparts.

**6.23: Distribution of Elderly Agricultural Workers by Nature of Work Environment in Bulandshahr District: 2014**

<b>(Table: 6.16)</b>			
<b>Distribution of Elderly Agricultural Workers by Nature of Work Environment in Bulandshahr District: 2014</b>			
<b>Agricultural Occupation</b>	<b>Nature of Work Environment</b>		
	<b>Self-Employed</b>	<b>Casual Wage Labour</b>	<b>Total</b>
<b>Plough</b>	6 (75.0)	2 (25.0)	8 (100.0)
<b>Sowing</b>	37 (46.8)	42 (53.2)	79 (100.0)
<b>Weeding</b>	45 (78.9)	12 (21.1)	57 (100.0)
<b>Harvesting and Reaping</b>	18 (21.4)	66 (78.6)	84 (100.0)
<b>Threshing and Cleaning Grains</b>	42 (82.4)	9 (17.6)	51 (100.0)
<b>Irrigation of Fields</b>	7 (53.8)	6 (46.2)	13 (100.0)
<b>Total</b>	<b><i>n</i> = 155 (53.1)</b>	<b><i>n</i> = 137 (46.9)</b>	<b><i>n</i> = 292 (100.0)</b>
<b>Pearson-Chi Square</b>	<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>
	69.434	5	.000***
<b>Note:</b> Bracketed figures denote Percentages to their respective totals <b>Significance Level:</b> *** Significance at 1% Level, ** Significance at 5% Level, * Significance at 10 % Level.			

**Source:** Calculations based on Field Survey Conducted from January to April, 2014

Data in the table 6.16 presents the distribution of elderly workers in various agricultural activities. Agricultural sector is a prime source of income among rural inhabitants. In relation to this, majority of elderly are working as self-employed i.e. about 53.1 per cent of elderly work as self-employed and nearly, 46.9 per cent of elderly work as casual wage labour. The concentration of casual wage labour is mainly in harvesting and reaping the crops and in sowing. Generally, casual wage labour are involved both in agricultural and non-agricultural activities. Various agricultural activities are seasonal and elderly need income throughout the year. Consequently, they look for all possibilities of work. In rural areas, agriculture sector has few limitations as well. Majority of landholders prefer young people instead of the elderly. Discrimination of work and wages are other areas of distress among elderly workers. *Pearson-Chi Square has also been performed here, it shows that there is highly strong statistically significant association between agricultural occupation and work environment, significance at 1% Level.*

#### **6.24: Wage Differentials among Elderly Workers in Bulandshahr District: 2014**

The dominant mode of employment in a traditional rural economy is self-employment and use of family labour in economic enterprises organised at the household level. Wage-employment, though rising fast, is still a small part of the totality. But the proportion of hired workers is very much higher than the average in larger sized farms, and much lower for the small-sized farms<sup>18</sup>.

<b>(Table: 6.17)</b>				
<b>Wage Differentials among Elderly Workers in Bulandshahr District: 2014</b>				
<b>Nature of Wage Rate</b>	<b>Block</b>			<b>Total</b>
	<b>Araniya</b>	<b>Khurja</b>	<b>Jewar</b>	
<b>Self-Employed</b>	104 (61.9)	40 (23.8)	24 (14.3)	168 (100.0)
Wage Rate: 80-130 (₹) Female	40 (38.8)	31 (30.1)	32 (31.1)	103 (100.0)
Wage Rate: 100-170 (₹) Male	34(28.6)	51 (42.9)	34 (28.6)	119 (100.0)
<b>Total</b>	<b>n= 178 (45.6)</b>	<b>n= 122 (31.3)</b>	<b>n= 90 (23.1)</b>	<b>n= 390 (100.0)</b>
<b>Pearson-Chi Square</b>	<b>Value</b>	<b>Df</b>	<b>Asymp. Sig. (2-sided)</b>	
	36.554	6	.000***	
<b>Note:</b> Bracketed figures denote Percentages to their respective totals				
<b>Significance Level:</b> *** Significance at 1% Level, ** Significance at 5% Level, * Significance at 10 % Level.				



**Source:** Calculations based on Field Survey Conducted from January to April, 2014

In table 6.17, the discussion is mainly focused on wage differentials among elderly workers in Bulandshahr district. In view of this, in Indian society wage differentials are influenced by a variety of factors. The lean season is underrepresented, because even weeding is a peak operation for certain crops and regions and for female elderly. Added to this, apart from agricultural operations smaller amount of elderly workers are associated with rural non-farm sectors. In rural areas, seasonal pattern of employment, the seasonal wage variation might be a somewhat more meaningful indicator of demand and supply elasticities in the labour market. In the light of the above, it is evident that the elderly females receive lower wage rates compared to their male counterparts. However, male elderly are associated with many activities. It is also seen that, compared to young workers elderly receive lower wages in both farm and rural non-farm activities. Added to this, young ones perform more consistently than the elderly counterparts. In other words, elderly workers have always been kept or treated as a substitute workforce. Elderly are ready to work in labour market at relatively lower wages mainly because of this substitution. Hence the elderly receive lower wages than their younger counterparts. Reasons for lower wages are given below.

- i. Desperate need to work
- ii. Less opportunity for work and
- iii. cannot commute or migrate

*Pearson-Chi Square has also been performed here, it shows that there is highly strong statistically significant association between nature of wage rate and place of residence, significance at 1% Level.*

**6.25: Multinomial Logistic Regression Estimates of Elderly Workers and Non-Workers with their Background Characteristics: 2014**

<b>(Table 6.18)</b>					
<b><i>Multinomial Regression Analysis:</i></b> Adjusted Value of Elderly Workers and Non-workers by Background Characteristics in Bulandshahr District: 2014					
<b><i>Dependent Variable:</i></b> 1= Elderly Working in Agricultural Sector, 2= Elderly Working in rural Non-Farm Sector, 3= Elderly Not Working					
<b>Covariates</b>		<b>Agricultural Workers</b>		<b>Rural Non-Farm Employment</b>	
		<b>Sig.</b>	<b>Exp (B)</b>	<b>Sig.</b>	<b>Exp (B)</b>
<b>Sex</b>	Male	.151	1.563	.000	4.716***
	Female®				
<b>Age-Group</b>	60-69	.000	78.216***	.000	3031583746***
	69-70	.000	30.658***	.000	387671058.5***
	80+®				
<b>Marital Status</b>	Currently Married	.896	1.047	.079	.446**
	Others®				
<b>Living arrangement</b>	Single	.002	.205***	.028	.270***
	With Spouse	.384	.618	.982	.985
	With Children and others®				
<b>Religion</b>	Hindu	.705	2.251	.429	6.205
	Muslim®				
<b>Caste</b>	General Caste	.024	.510***	.003	.330***
	Other	.413	5.283	.259	11.784
	SC ®				
<b>Education</b>	Illiterate	.333	.716	.996	1.018
	Literate ®				
<b>Household Income</b>	More than 6000	.000	.087***	.010	.148***
	0-4000®				
	Intercept	.339		.000	
<b>Statistics</b>	<b>N</b>	292		98	
	<b>-2 Log Likelihood Ratio</b>	297.796			
	<b>Chi-Square</b>	000***			
	<b>Cox and Snell</b>	.345			
	<b>Negelkarke R Square</b>	.401			
	<b>McFadden</b>	.215			
<i>Notes: Not working is taken a reference category</i>					
<i>® :Reference Category</i>					
<i>Significance Level: *** Significance at 1% Level, ** Significance at 5% Level, * Significance at 10 % Level.</i>					
<i>Source: Calculations based on Field Survey Conducted from January to April, 2014</i>					

**Interpretation:**

Multinomial logistic regression is an extension of logistic regression. Multinomial logistic regression has been employed in the study also on the basis of that response variable has three categories. It is a generalization of binary logistic regression. Multinomial model includes a set of explanatory variables. It can be seen that the model including the two variables and the constants (inter-concepts) reduces the -2Loglikelihood by 297.796 compared with the model that just includes the intercepts. This difference, which is the contribution of the two explanatory variables taken together, is a chi-squared distribution with 22 degrees of freedom and is very highly significant. Here three categories of elderly are taken into consideration as compared to the elderly working in agricultural sector with participation of elderly in rural non-farm sector. The three categories of elderly are elderly working in agricultural sectors (coded as 1), elderly working in rural non-farm employment (RNFE) (coded as 2) and elderly not working (coded as 3). In addition to this, for further analytical purpose, non working elderly are taken as reference category. Table 6.18 represents the multinomial logistic regression between the working elderly and the selected independent variables.

An attempt has been to find out the nature of determinants for both agricultural and non-agricultural workers. In addition to this, in both the sectors male elderly are more likely to work compared to female counterparts. At this point, generally, in old-age elderly participation rate in labour market is higher among male than their female counterparts. The phenomenon of longer life span is contributed by various determinants. In both the categories, controlling all other variables, compared to female, male elderly are found to participate more in the labour market. Age is considered as a crucial determinant that may influence all aspects of well-being among elderly. It is conspicuous to note that, age of the elderly was found to be highly significant. In the both age groups (60-69 and 70-79) elderly have significant higher chances to be involved in the labour market. This review has outlined a number of barriers at individual level which determine the situation of elderly workers. In this model, marital status is another significant variable that has a relationship to work. Multinomial regression results indicate that, compared to not working, currently elderly are more likely to go for work in the agricultural sector. However, in rural non-farm sector, inverse statistical results have been observed. In view

of this, controlling all other variables, there is about .446 per cent less chance of the elderly to be involved in rural non-farm sector.

Living arrangement is vital element deciding elderly well-being. It provides socio-psychological support and for the individual in old-age. It is evident that, controlling for all other variables, in both the models, among single elderly there is less chance to involve in the labour market if proper living arrangements are available. The odds ratio has proved to be statistically significant. It is clear that the odds of with spouse indicate that, those elderly living with spouse participate more in the labour market. In this case however the odds ratio is statistically insignificant. In India, caste is considered as one of the most influential variable for social stratification. In both the models, compared to the scheduled caste, elderly from other backward castes are more likely to go to in the labour market. Likewise, compared to scheduled caste, elderly from general caste are less likely to involve in the labour market. In this respect, the odds are highly statistically significant. As discussed previously, religion is one of the most sensitive social determinants. In both models, Hindu elderly are more likely to involve in the labour market. One most striking outcome of the regression is that, compared to agricultural sector, there are higher chances of elderly to be involved in rural non-farm employment. But the odds ratios are statistically insignificant.

Demographers and policymakers have considered education as one of most important indicator for human development. In both the models, education has showed the expected direction of effects, but in an insufficient manner. With increasing financial burden, higher number of elderly are involved in the labour market. In both models, economically self-sufficient elderly are less likely to participate in the labour market. *All the above mentioned findings illustrate the facts that the socio-economic and cultural correlates are inextricably related to the elderly participating in the labour market. In view of this, gigantic economic vulnerabilities and heavy work strain are the major factors that may affect their quality of health care services and trustworthy care and support.*

## **Conclusion**

The rapidly ageing population in India has witnessed new challenges. The central theme of this chapter has been that poverty is a core function of low economic and inadequate social security among elderly in their old age. In rural society, elderly have a limited resource to access for fulfill their basic necessitates. The Primary data analysis has been revealed that majority of elderly workers face poor working conditions and low wages rates in Bulandshahr district. Furthermore, economic compulsion is the prime factor that has pushed elderly into the labour market. Stagnation of rural agricultural wages, low productivity, seasonality of agricultural operations and competition from the younger workers have forced the elderly workers to search for employment in non-farm sectors as well.

This chapter has shown that elderly workers are facing various kinds of discrimination during their tenure and are one of the most deprived sections. In view of this, lower wage rates and irregularities in work availability are the major inequities among elderly workers. It is also interesting to note that out-migration of young also leaves the elderly alone in the family. It has also be borne in mind that one of the problem in modern family in the care of the old is the longevity of the life which has extended the period of unproductive life of the elderly. Added to this, this phenomenon has increased physical and financial burden of the family. It was concluded that due to extreme economic condition, the elderly have continue to participate in the labour market which eventually aggravate their health conditions.

## Endnotes

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<sup>1</sup> Bagautdinova, N. G., Panasyuk, M. V., Pudovik, E. M., & Gilmanova, A. A. (2014). Multivariate Statistic Analysis of the World Population Ageing. *Mediterranean Journal of Social Sciences*, 5(28), 50

<sup>2</sup> Operational Guidelines (2011). National Programme for Health Care of the Elderly (NPHCE), Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India.

<sup>3</sup> Hanspal, S., & Chadha, N. K. (2006). Economic Aspects of Aging in India. *Journal of Intergenerational Relationships*, 4(1), 81-92.

<sup>4</sup> Alam, M. & Karan, A. (2011). *Elderly Health in India: Dimension, Differentials and Determinants*. New Delhi: BKPAI Working Paper No. 3, United Nations Population Fund (UNFPA).

<sup>5</sup> Audinarayana, N. (2012). *Urban Elderly in India: Care and Support*. New Delhi: B.R. Publishing Corporation.

<sup>6</sup> Help Age International (2009). *Working for life: Making Decent Work and Pensions for Older People*. Help Age International, London.

<sup>7</sup> Madhu, T., & Sreedevi, A. (2013). A Study of Socio Demographic Profile of Geriatric Population in the Field Practice Area of Kurnool Medical College. *International Journal of Research and Development Health*, 1(2), 2321 – 1431.

<sup>8</sup> Help Age International, (2012). *Forgotten Workforce: Older People and their Right to Decent Work*. Help Age International, London.

<sup>9</sup> Singh, C., & Bharati, K. (2013). Ageing in India: Need for a Comprehensive Policy, Working Paper NO: 421, Indian Institute of Management, Bangalore.

<sup>10</sup> Help Age International, (2012). *Forgotten Workforce: Older People and their Right to Decent Work*. Help Age International, London.

<sup>11</sup> Chen, M. (1997). Listening to Widows in Rural India, *Women: A Cultural Review*, 8(3), 311-318.

<sup>12</sup> Selvaraj, S., Karan, A., & Madheswaran, S. (2011). *Elderly Workforce Participation, Wage Differentials and Contribution to Household Income*. New Delhi: BKPAI Working Paper No. 4, United Nations Population Fund (UNFPA).

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- <sup>13</sup>Chou, W.C.G. (2011). Implications of Population Ageing on the Labour Market and Productivity in Taiwan. *Journal of Comparative Social Welfare*, 27(1), 3-15.
- <sup>14</sup> Ahmad, M. (2014). Urban Male Out-Migration from Uttar Pradesh: A Case Study of Bijnor District (Unpublished Doctor of Philosophy). Jawaharlal Nehru University, New Delhi.
- <sup>15</sup> Thakur, et al., (2013). Health Problems of the Elderly a Cross Sectional Study. *Annals of Medical and Health Science Research*, 3(1), 19-25.
- <sup>16</sup> Basant, R., & Kumar, B. L. (1989). Rural Non-Agricultural Activities in India: A Review of Available Evidence. *Social Scientist*, 17(1/2), 13-71.
- <sup>17</sup> Unni, J. (1991). Regional Variations in Rural Non-Agricultural Employment: An Exploratory Analysis. *Economic and Political Weekly*, 26(3), 109-122.
- <sup>18</sup> Bardhan, K. (1977). Rural Employment, Wages and Labour Markets in India: A Survey of Research-III. *Economic and Political Weekly*, 12 (28), 1101-1118.



*Chapter: Seven*

*Utilisation of Health Care Services,  
Emerging Issues and Health Challenges  
of Elderly in Bulandshahr District*





## **Chapter: 7**

# **Utilisation of Health Care Services, Emerging Issues and Health Challenges of Elderly Population in Bulandshahr District**

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### **Overview**

*The primary focus of the chapter is on utilisation of health care services, emerging issues and health challenges among elderly people in Bulandshahr district. Prevalence and incidence of diseases, disability impairment, and factors associated with these conditions are also discussed here. In addition to this, an empirical investigation was conducted on a sample of elderly population in the Bulandshahr district of Uttar Pradesh. The outline of the remaining sections of this chapter is as follows: Section one describes the health status and morbidity profile among the elderly population. Section two examines utilisation of health care services, emerging issues and health challenges of elderly people. The last section of the chapter presents the nature of inter-linkages between workforce participation and health status of elderly workers. Finally, binary logistic analysis has been used in order to measure the net effect of background variables on the response variables. Finally, the main findings have been summarised at the end.*

### **7.1: Introduction**

The worldwide increase in life expectancy, coupled with a decreasing birth rate, has led to population with increased numbers of more than 60 year-olds, in terms of percentage as well as in absolute figures. In general, health is considered to be strongly associated with the socio-economic condition of the population. Elderly health status in India is impacted due to lack of health facilities in rural areas. Large numbers of older people live under poverty resulting in their poor health outcomes. In a country like India, the elderly suffer from dual medical problems of both communicable as well as degenerative diseases. Change in socio-economic status and various health problems adversely affect an individual's way of life during old age. The nature of illness suffered by the household members has been classified broadly on the basis of the World Health Organisation's

International Statistical Classification of Diseases (WHO 1992). The diseases are grouped under four categories, namely, infectious diseases (including respiratory infections, malaria, fever, intestinal infections, jaundice, TB, measles, chicken pox, skin diseases and urinary and genital infections); Non-communicable diseases (such as nutritional and endocrinal, asthma and breathing problems, diabetes, mental and psychological disorders, diseases of nervous system, diseases of circulatory system, digestive disorders, diseases of kidney, aches and pains and old age problems); gynaecological problems and accidents and injuries. Population ageing is now recognised as a global issue of increasing importance, and has many implications for health care and other areas of social policy. There is a current debate about whether increased longevity means an extension of healthy active lives or an extension of morbidity<sup>1</sup>. India's health programme and policies have been focusing on issues like population stabilization, maternal and child health, and disease control. However, current statistics for the elderly in India gives a prelude to a new set of medical, social, and economic problems that could arise if a timely initiative in this direction is not taken by the programme managers and policy makers<sup>2</sup>.

Health status, is defined here as the physical and mental ability to perform work. Poorer health often detracts from productivity and can reduce earnings. Health can also affect preferences; of relevance is its effect on the utility of consumption and leisure<sup>3</sup>. The health condition of elderly depends on the quality of available healthcare, on income and living conditions and on their health status in earlier years, itself the result of a wide range of economic, social, political and cultural conditions. Studies also have found evidences of strong linkages between employment and chronic disease prevalence among the older population in India. Elderly people and residents of rural areas are likely to be especially vulnerable to illness because of the generally contaminated conditions in which they live, and their low levels of awareness of health care services. WHO (2000) has rightly emphasised that the primary goal of a health system should be to provide better health in a responsive manner and with fair financial distribution. Literature on health has consistently shown that the economic status has a direct bearing on the health of general and older population. Individuals from lower economic status are more likely

to suffer from health related inequality (Currie, 1995; Buckley, 2006 & Tellier, 1999). There has been a growing concern that rural residents are confronted with more limited access to health services than their urban counterparts (Coward & Cutler, 1989). Poor elderly and residents of rural areas are likely to be especially vulnerable to illness because of the generally unhealthy conditions in which they live, and their low levels of awareness of preventive care. However, there has been hardly any attempt to analyse the performance of intra-regional health systems, especially those in developing countries such as India, where the disparities in health attainments of different regions are quite stark<sup>4</sup>. Economic dependence and lack of income security have important implications on the health outcomes of the aged. Various studies have shown a strong correlation between income support and health outcomes of the aged<sup>5</sup>. Life expectancy has increased dramatically since the beginning of the century. Vast numbers of older people live in developing countries where health services are not equitably distributed. Moreover, health in old age is associated with health in earlier years of life, from womb to tomb. Intra-uterine growth retardation for example increases the risk of diseases of the circulatory system and diabetes in later life<sup>6</sup>.

## **7.2: Change in the Rank Order of Disease Burden for 15 Leading Causes of Death in the World, 2000-2011**

The burden of disease measured in DALYs quantifies the gap between a population's current health and an ideal situation where everyone lives to old age in full health. DALYs are a common currency by which deaths at different ages and disability may be measured. One DALY can be thought of as one lost year of "healthy" life, and the burden of disease can be thought of as a measurement of the gap between current health status and an ideal situation where everyone lives into old age, free of disease and disability<sup>7</sup>. Due to medical progress, family planning and public health development, birth rates and death-by-elders rates have declined, and the resultant is population ageing at an alarming rate. The World Bank commissioned the first Global Burden of Disease (GBD) study for its World Development Report 1993 (World Bank, 1993) and the study was carried out in collaboration between the Harvard School of Public Health and the World Health Organisation. (Murray & Lopez, 1999).

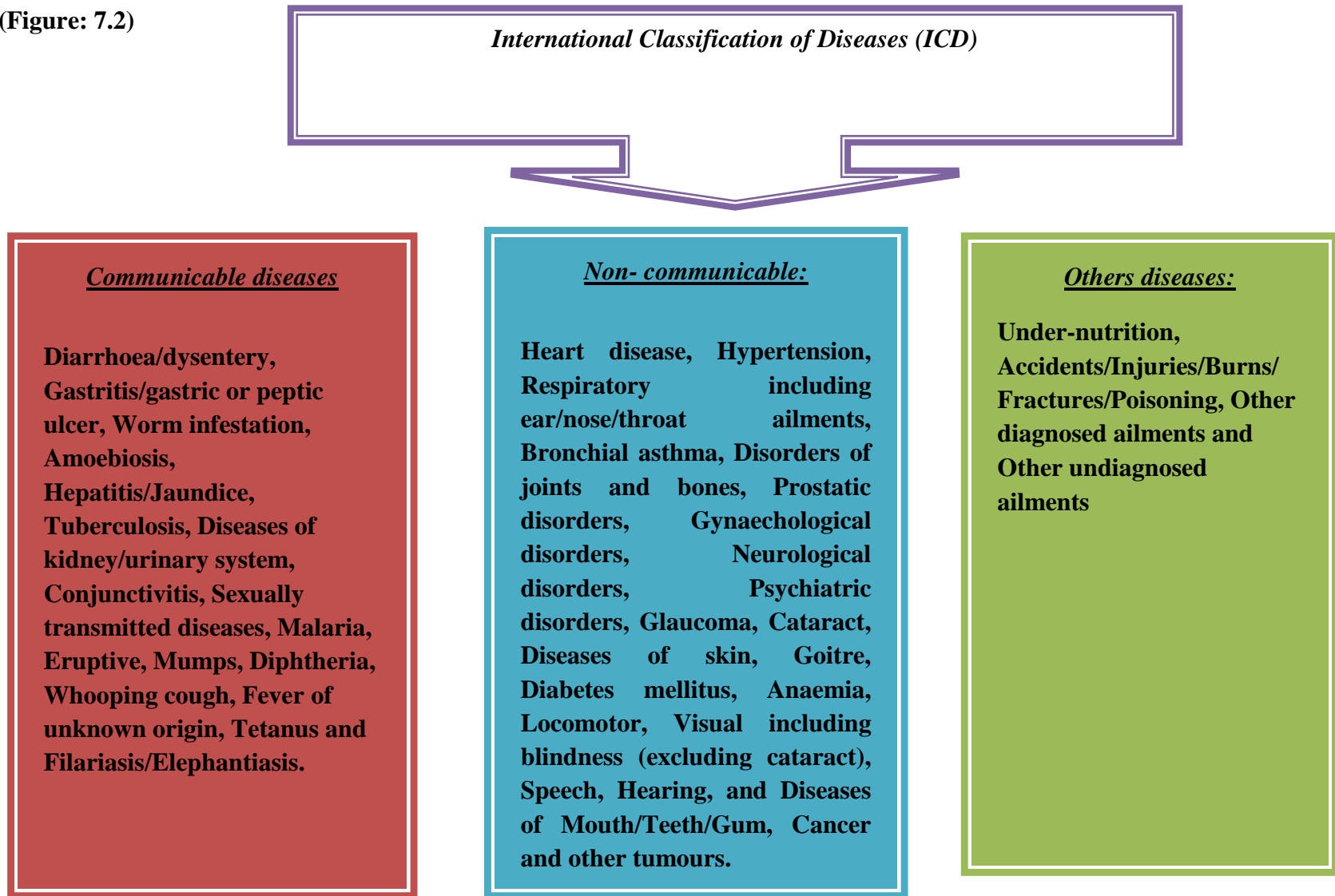
(Figure: 7.1)

Change in 20 Leading Causes of DALYs at Global Level, 2000 to 2011						
WORLD, 2000			WORLD, 2011			
Cause	DALYs*	Rank		Rank	Cause	DALYs*
Lower respiratory infections	213.4	1	→	1	Lower respiratory infections	164.8
Diarrhoeal diseases	173.6	2	→	2	Ischaemic heart disease	159.7
Ischaemic heart disease	142.6	3	→	3	Stroke	135.4
Prematurity	130.5	4	→	4	Diarrhoeal diseases	118.8
Stroke	126.9	5	→	5	Prematurity	110.7
HIV/AIDS	98.0	6	→	6	HIV/AIDS	95.2
Birth asphyxia and birth trauma	94.3	7	→	7	COPD	89.6
COPD	89.8	8	→	8	Road injury	78.8
Malaria	73.1	9	→	9	Birth asphyxia and birth trauma	78.2
Road injury	67.9	10	→	10	Unipolar depressive disorders	75.0
Unipolar depressive disorders	64.0	11	→	11	Congenital anomalies	57.7
Congenital anomalies	59.6	12	→	12	Diabetes mellitus	56.4
Tuberculosis	56.7	13	→	13	Malaria	55.4
Measles	55.7	14	→	14	Back and neck pain	52.7
Iron-deficiency anaemia	47.1	15	→	15	Iron-deficiency anaemia	46.2
Self-harm	46.3	16	→	16	Tuberculosis	42.2
Back and neck pain	43.8	17	→	17	Falls	40.8
Diabetes mellitus	43.6	18	→	18	Self-harm	39.8
Protein-energy malnutrition	40.6	19	→	19	Trachea, bronchus, lung cancers	37.3
Neonatal sepsis and infections	39.7	20	→	20	Cirrhosis of the liver	34.9
Falls	34.4	21	→	21	Protein-energy malnutrition	33.2
Cirrhosis of the liver	32.5	23	→	25	Neonatal sepsis and infections	29.1
Trachea, bronchus, lung cancers	31.0	24	→	46	Measles	14.8

Notes: DALYs\* in Million, Source: Global Health Estimates Technical Paper WHO/HIS/HSI/GHE/2013.4

**7.3: International Classification of Diseases (ICD)**

**(Figure: 7.2)**



To examine the health status of any population, the GBD approach groups all disorders of human health into 3 broad categories:

Group 1: communicable, maternal, perinatal, and nutritional conditions

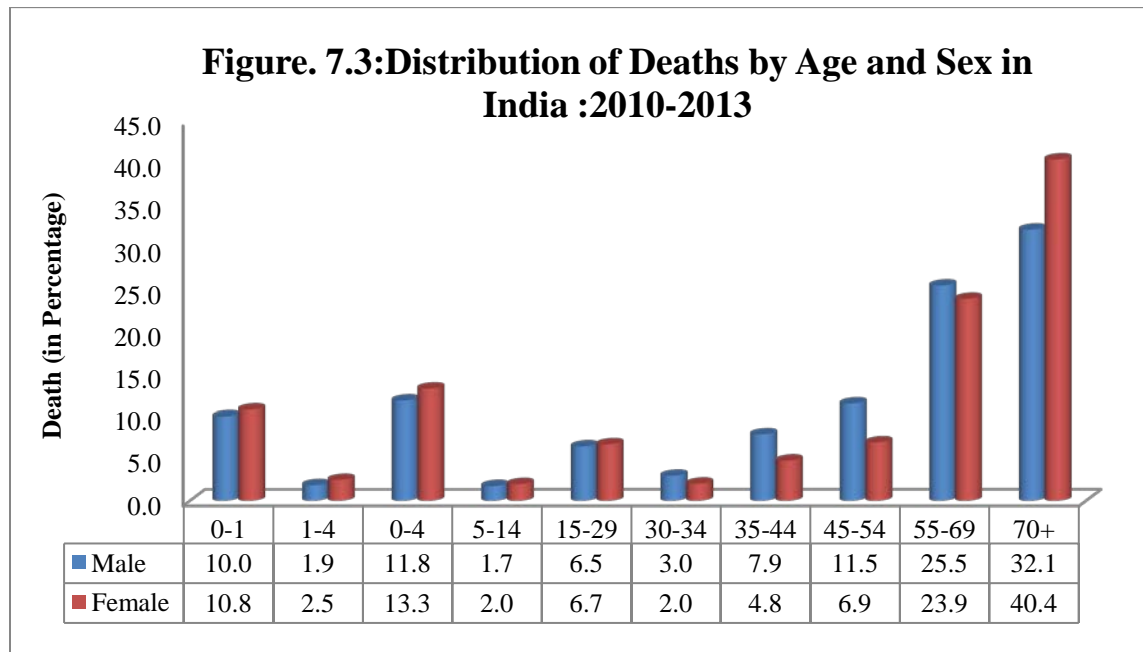
Group 2: non-communicable diseases

Group 3: injuries

At the global setting with the figure of older people projected to be two billion by 2050, the importance of access to healthcare for the over-60s becomes even more vital. At the world level, 85 per cent of persons aged 60 years or over have died from non-communicable diseases in 2008. The percentage by region show that in the more developed regions 92 per cent of persons aged 60 years or over died from non-communicable diseases, while in the less developed regions and least developed countries the percentages were 83 per cent and 74 per cent, respectively (**World Population Ageing, 2013**).

#### 7.4: Distribution of Death by Age and Sex in India: 2010-2013

In recent past various qualitative and quantitative studies have explored the influence of disease pattern among elderly population.



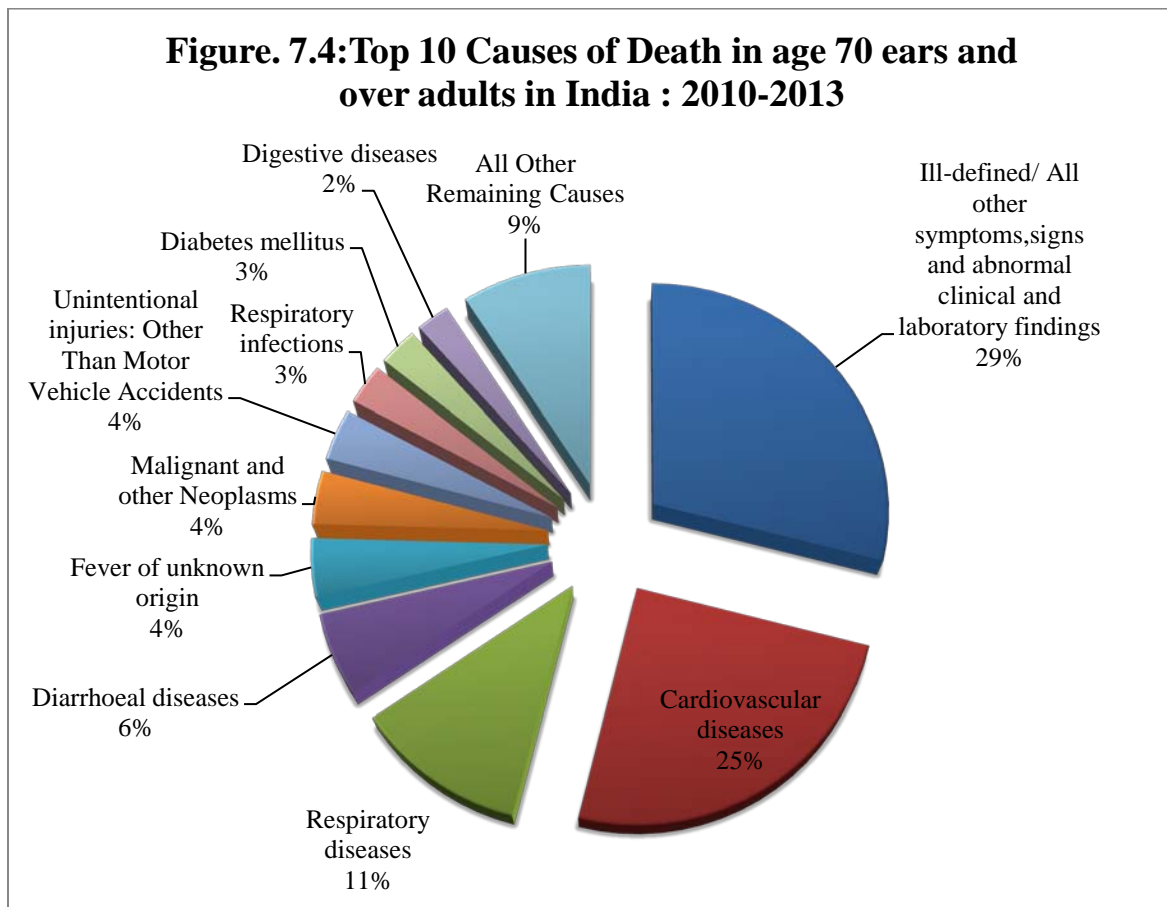
**Source:** Sample Registration System, Causes of Death Series: 2010-2013

Figure 7.3 presents the distribution of death by age and sex in India. The distribution of male and female (70+) deaths in the total cases were reported to be 32.1 per cent and 40.0

per cent respectively. As per the compiled data (SRS), greater number of people have died in the later stages of the entire human life cycle. Despite considerable inquiry, sex wise distribution of death pattern among elderly indicates that, in old age greater number of women died compared to their males counterparts. It is pertinent to note that higher number of people during old ages (70 years and above) get admitted in hospitals at the time of terminal illness than children and younger population.

**7.5: Causes of Death among age 70 Years and above in India 2010-2013**

Mortality has been referred to as ‘the simplest’ of the demographic processes. In comparison to “fertility, nuptiality and migration, it is conceptually and methodologically straightforward in that it happens to everyone and only once to each person”<sup>8</sup>. In addition, death pattern in old-age creates a unique dimension. Though it can affect any phase of human life cycle, it is particularly inevitable in the old age; as the elderly are subjected to it.



**Source:** Calculations based on Sample Registration System, Causes of Death Series: 2010-2013



India occupies a unique place among developing countries not only because of its population size but also due to compound health problems. India reports about 9.5 million deaths a year, which amount to about one in six of total deaths worldwide. Like other developing countries, India is undergoing rapid epidemiological transition and change in the mortality pattern as a result of its socio-economic and demographic changes<sup>9</sup>. The depiction in figure 7.4, presents the causes of death among persons 70 years and above. In addition to this, about 25.0 per cent of deaths take place due to cardiovascular diseases. Another noticeable fact evident from figure 7.4 is that only around 11 per cent of death occurring among the elderly is due to respiratory diseases.

### **7.6: Major Objectives of the Chapter**

The major objectives of the present chapter are the following:

1. To assess the availability, adequacy and utilisation of health care services for the elderly.
2. To analyse the relationships between work force participation, health utilisation and health status and of the elderly population.

#### **7.6.1: Data Source**

Both primary and secondary sources of data have been used for the purpose of analysis in the present chapter. Moreover, secondary level data have been used for a broader overview of the health status of elderly population. Secondary data was collected from both *Census of India and National Sample Survey Organisation (NSSO 71<sup>th</sup> Round, 2014)*. For the collection of primary data, field investigation was the chief source. This study was conducted in the fifteen villages of Bulandshahr district in three blocks. For the purpose of this investigation, samples have been selected from the elderly population 60 years and above. The overall methodology had also been mentioned earlier in the Second Chapter.

#### **7.6.2: Statistical Methods used in Chapter**

As noted earlier, for the present study, elderly workers were counted at the individual level. The focus of the present chapter has been to investigate the health manifestations of the elderly population and its relation with working conditions. To examine the net effect of explanatory variables on dependent variable, which is dichotomous, logistic regression technique (refer to methodology section in Chapter Two) has been used. The selection of

variables for this chapter has been given below. Additionally in this chapter bi-variate analysis as well as Chi-Square test of significance have been also conducted.

### **Dependent Variable**

- ❖ **Case: 1** it takes a value of 1 if an elderly faces the impact on health due to work and 0 otherwise.
- ❖ **Case: 2** it takes a value of 1 if an old person suffering from any illness and 0 otherwise.

For analytical purpose, in both the cases independent variables have been categorised into the following heads.

1. Demographic characteristics of an individual
2. Socio-economic status of an individual
3. Health aspects of an individual
4. Household characteristics of elderly in which they live and;

Demographic variables include age, and sex. Socio-economic variables include household economic status, caste, religion, occupational status, literacy (literate or illiterate), State of economic independence, persons supporting the aged, living arrangement and marital status of the respondents. Health status of the older persons is one of the key components in this study. In addition to this, the most common measure of overall health of elderly persons in this study is self-assessed health solicited by asking the respondents to rate their own health status from poor to excellent. Detailed description of independent variables which have been employed to understand the health aspects of elderly workers in Bulandshahr district is given below.

### **Demographic**

In the ageing of population demographic variables play a crucial role to influence the effect of independent variables on dependent variable.

- ❖ **Age was coded into three categories:** [1] 60-69 (Young Old), [2] 70-79 (Middle Old) and [3] 80+ (Oldest Old)
- ❖ **Sex of respondents was coded into two categories:** [1] Male and [2] Female

### **Socio-Economic**

The entire socio-economic variables that have been selected for analysis include:

- ❖ **Education:** Empirical studies have revealed the fact that educated elderly usually enjoy better status in life compared to the less educated. For further analytical purpose education was grouped into two categories: [2] illiterate and [2] literate
- ❖ **Religion:** The primary investigation had revealed that the study area was predominantly Hindu dominated, though Muslim population has been also reported. For further analytical purposes, religion has grouped into two categories: [1] Hindu and [2] Muslim.
- ❖ **Caste:** The share of scheduled caste and scheduled tribe population is used as the indicator of social composition. Majority of older persons in these communities have been found to be socio-economic deprived and are destitutes that have affected their living practices. Ethnicity was grouped into two categories: [1] General Caste, [2] Others [3] and Scheduled Caste
- ❖ **Marital Status:** The marital status of the elderly includes: currently married, never married, widowed and divorced/separated. For further investigation marital status of elderly population was grouped into two categories: [1] Currently Married and [2] Others.

### **Household Characteristics**


In the present study household characteristic has been also used to determine the status of elderly persons in the family.

- ❖ **Household Size:** In the modern era, couples prefer to live in nuclear families rather than joint families. In rural areas, people still prefer the joint family structure. Furthermore, the modern day life style or migration of youth towards cities has affected the elderly in rural areas. For further investigation; household size was grouped into three categories: [1] Less than five members [2] five to eight members and [3] more than eight members in the household.

### **7.7: Disability of Elderly Population in India, Uttar Pradesh and Bulandshar District: 2011**

The process of aging led by fertility decline and reinforced by increasing longevity has raised several health concerns.<sup>10</sup> The elderly because of the process of ageing usually suffer from both chronic and geriatric diseases.

As a consequence, old age is associated with multiple illnesses that might result in various disabilities. Chronic morbidities and disabling conditions adversely affect the quality of life of the elderly. Poor health is a cause for concern among the aged as illness episodes have the potential to cause economic shocks, leading to financial dependency, loss of autonomy, reduced contacts and loneliness. Meanwhile, society has to deal with difficult issues like increasing demands on social and medical care as well as growing cost of providing prolonged health care services to the chronically ill and disabled elderly<sup>11</sup>. Previous research findings reveal that elderly mostly from rural areas are more vulnerable to poor health compared to those in urban areas. A review of past studies on ageing in India guides us to the fact that level of health care utilisation is substantially lower among widowed elderly compared to the married. In the International Classification of Functioning, Disability and Health (ICF) developed by the World Health Organization, the social and personal consequences of medical conditions and the influence of the environment are considered as important components of disability<sup>12</sup>. Table 7.1 depicts the prevalence of disability among the elderly.

	<b>Picture: 7.1</b>	
		
	<b>Source:</b> Field Survey Conducted from January to April, 2014	

(Table: 7.1)

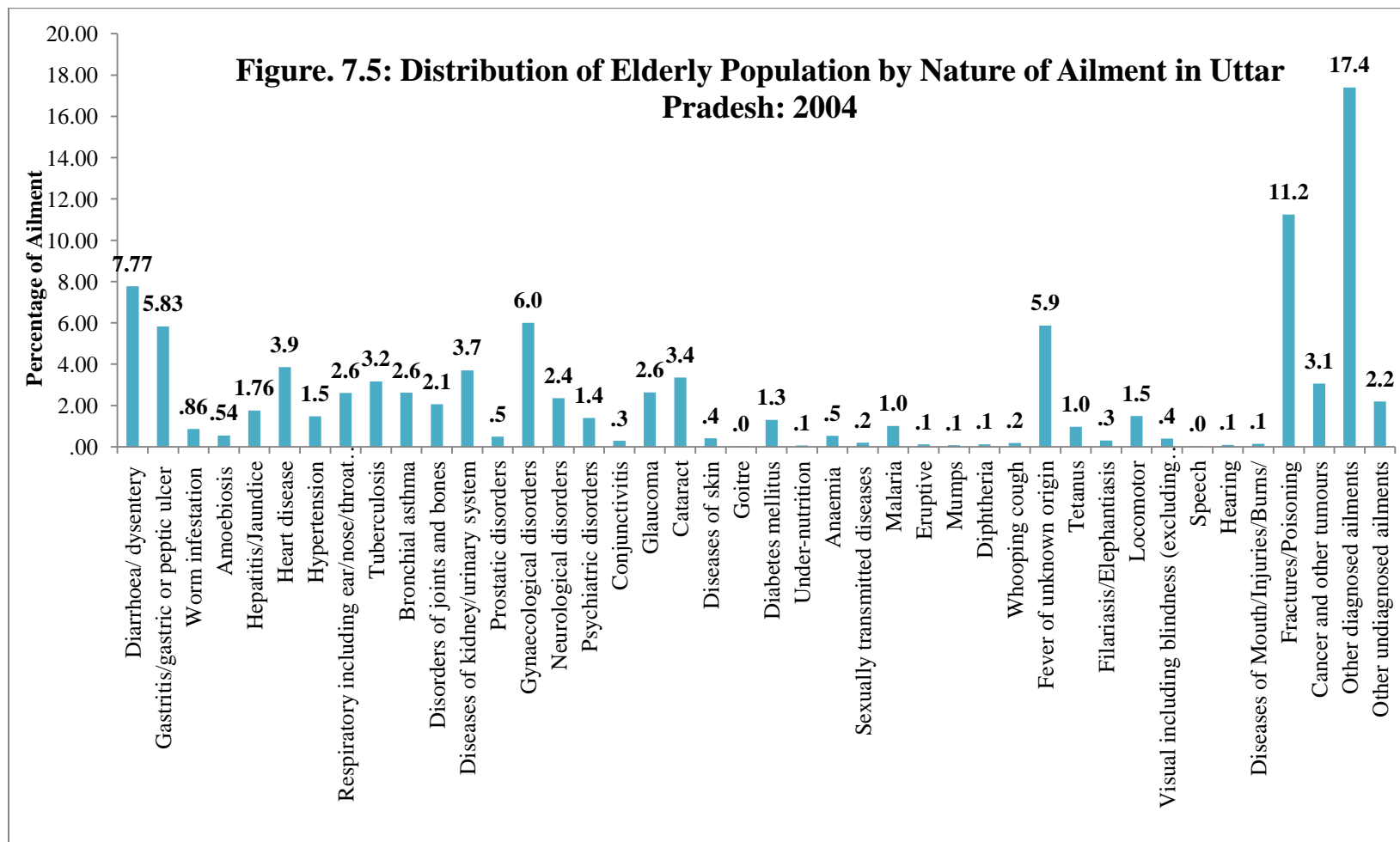
**Disability of Elderly Population in India, Uttar Pradesh and Bulandshar District: 2011**

Place of Residence		Total Number of Disabled Persons			In seeing			In Hearing			In Speech		
		T	M	F	T	M	F	T	M	F	T	M	F
<b>India</b>	Total	20.1	18.1	22.5	27.0	24.1	30.2	20.2	18.9	21.5	10.2	10.0	10.4
	Rural	22.0	19.8	24.8	30.7	27.5	34.2	22.5	21.2	24.0	10.2	10.0	10.5
	Urban	15.6	14.4	17.2	18.6	16.7	20.8	15.4	14.4	16.5	10.1	10.1	10.1
<b>Uttar Pradesh</b>	Total	15.9	14.9	17.2	22.5	21.2	23.9	14.2	13.9	14.6	9.5	9.5	9.4
	Rural	16.9	15.7	18.3	24.4	23.0	25.9	15.5	15.2	15.8	9.7	9.7	9.7
	Urban	12.7	12.0	13.7	16.5	15.6	17.5	10.7	10.4	11.1	8.7	8.9	8.5
<b>Bulandsahr District</b>	Total	20.9	17.4	25.7	40.2	35.4	45.3	21.4	19.2	23.9	9.5	8.1	11.6
	Rural	21.8	17.9	27.1	43.3	38.0	48.9	23.3	20.9	26.0	9.5	8.2	11.3
	Urban	18.2	15.7	21.5	32.1	29.1	35.6	16.7	14.9	18.8	9.5	7.7	12.1
Cont'd		In Movement			Mental Retardation			Mental Illness			Multiple Disability		
		T	M	F	T	M	F	T	M	F	T	M	F
<b>India</b>	Total	25.0	22.2	29.6	6.0	5.4	6.8	12.7	10.6	15.4	30.1	24.9	36.4
	Rural	25.9	22.9	30.8	6.1	5.5	7.0	12.8	10.8	15.3	32.7	27.1	39.4
	Urban	22.4	20.2	26.1	5.7	5.1	6.4	12.5	10.2	15.6	22.2	18.5	26.9
<b>Uttar Pradesh</b>	Total	20.0	17.7	24.4	6.0	5.4	7.0	8.9	7.8	10.8	28.2	22.9	35.5
	Rural	20.2	17.9	24.7	6.1	5.4	7.2	9.1	7.9	11.2	29.7	24.2	37.4
	Urban	19.0	16.8	23.0	5.7	5.3	6.3	8.3	7.6	9.5	22.4	18.2	28.3
<b>Bulandsahr District</b>	Total	17.5	14.3	23.0	4.9	3.8	6.9	8.3	6.9	10.7	33.8	25.3	44.6
	Rural	17.2	13.9	23.1	4.8	3.5	7.2	8.8	7.3	11.3	34.8	26.6	45.5
	Urban	18.4	15.8	22.7	5.1	4.7	5.8	6.8	5.6	8.9	30.4	21.0	41.6
<b>Source:</b> Calculations based on Census of India, 2011													
<b>Note:</b> *T; Total (Person), M; Male, F; Female													

The longevity of the individuals in India is gradually increasing with the improving standard of public health care and living of standard as well. As per Census (2011) findings, in rural India, the prevalence of disability among elderly is much higher (22.0 per cent) as compared to the urban counterpart (15.6 per cent). It has already been discussed that in old-age there are multiple types of disabilities that might affect the state of health among elderly in India. In this regard, around 27.0 per cent of elderly are suffering from in seeing disability followed by 20.2 per cent in hearing, 10.2 per cent in speech, 25.0 per cent in movement, 6.0 per cent mental retardation, 12.7 per cent mental illness and 31.1 per cent elderly persons are suffering from multiple disabilities. The subsection of table 7.1 portrays the prevalence of disability among elderly in Uttar Pradesh. it has been revealed from table 7.1 that, about 22.2 per cent of the elderly are suffering from seeing disability, followed by 14.2 per cent in Hearing, 9.5 per cent in speech, 20.0 per cent in movement, 6.0 per cent mental retardation, 8.9 per cent mental illness and only, 28.2 per cent elderly are suffering from multiple disability. The next part of the table has shown the distribution of elderly who are suffering from different types of disability in Bulandshahr district. In this regard, approximately 40.2 per cent of elderly are suffering from in seeing disability, while 21.4 per cent suffering from in hearing disability followed by 9.5 per cent in speech, 17.5 per cent in movement, 4.9 per cent mental retardation, 8.3 per cent mental illness and 33.8 per cent elderly are suffering from multiple disabilities.

Most of the studies with a few exceptions have also confirmed that disability tends to be more among women elderly, and the data reflected in Table 7.1 is no exception to this. Thus it can be also seen in the above table that the proportions of disability is greater among the elderly women than their male counterparts. It has been evident from literature that, the availability of health care facilities and rate of their utilisation is comparatively poorer in rural than urban areas. In addition to this, the prevalence of disability among elderly is much higher in rural areas than their urban counterparts. It has been further suggested that urban areas provide better access to health care, availability of logistic support in the form of transportation, less dependence on physical effort to complete certain tasks and better financial support in the form of retirement benefits. On the other hand elderly in rural areas are unable to seek these supports and health care facilities.

**7.8: Distribution of Elderly Population by Nature of Ailment in Uttar Pradesh: 2004**



Source: NSSO 60th Round: Jan-Jun 2004

Generally, health status of persons is closely associated with their age; especially this is true in the case of elderly persons among whom current age and disease are synonymous. Such situation mainly arises because of weakening in the functions of human organs with age and thereby, such elderly would fall prey to one or the other disease (**Audinarayana, 2012, pp. 156-157**). An attempt is made in this section, to understand the disease pattern among elderly population in Uttar Pradesh. As discussed earlier, a key to addressing the possible growth in life expectancy enforce the process of living long. In addition to this, elderly are more vulnerable to disease because of decreased physiological capabilities and safeguard mechanisms. In the Indian context, it has been observed that majority of rural elderly persons are living in high vulnerability conditions with multiple illnesses. The figure 7.5 shows that there has been a significant increase in the share of both communicable and non-communicable diseases among elderly population. In the rural context, elderly are more susceptible and highly vulnerable. Old-age generally is associated with multiple concerns. Health status is a major indicator in shaping the quality of life among the elderly, particularly, in rural areas. In view of this, both utilisation of health care services and health care financing are chief obstacles among elderly persons. Majority of Indian states are suffering from poor health care services. This has been true in case of a state like Uttar Pradesh, where health care services are negligible; in rural areas the situation is worse.

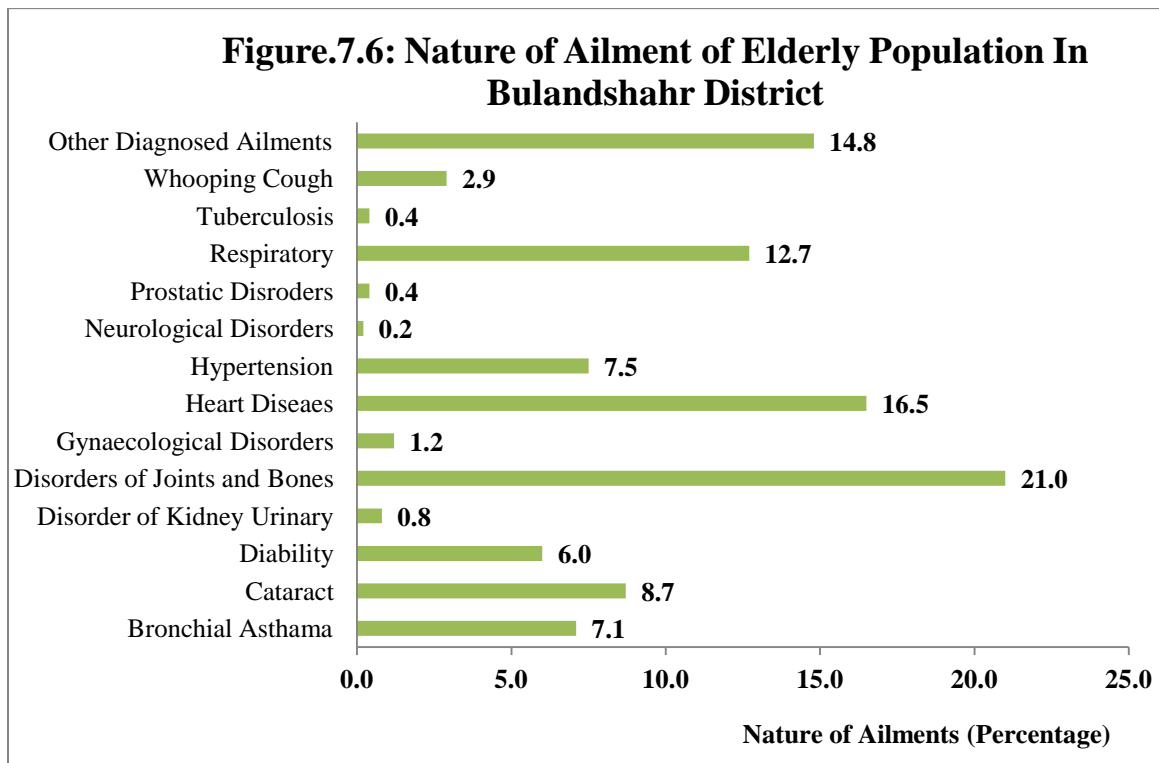
With reference to the elderly population, lack of social support, breaking up Joint family system and changing life styles are the growing concerns particularly in the rural areas. It is interesting to note that, in Uttar Pradesh the incidence and prevalence of chronic as well non-chronic diseases is noticeably high among elderly. Moreover, diarrhoea, heart diseases, tuberculosis, bronchial asthma are common features among the elderly in Uttar Pradesh, while diseases like blood pressure, disorder of joints and bones, cataract and disability were also reported by a sizeable division of the elderly population. Furthermore, another noteworthy point that has been observed from the figure 7.5 is that the health problems tend to increase with advancing age and health disorders become more aggravated due to poor economic status, social deprivation and malnutrition or malnourishment. Lastly, it is evident that, in old-age majority of elderly are suffering



from more than one combination of diseases. The poor health conditions of elderly reflect a great demand for geriatric services.

### 7.9: Nature of Ailment among Elderly Population in Bulandshahr District: 2014

A cross sectional study is conducted among elderly persons above 60 years in Bulandshahr district of Uttar Pradesh. Health care of the elderly is a major concern of a society as old people are more prone to morbidity than young age groups. It is often claimed that ageing is accompanied by multiple illness and physical ailments. Besides physical illness, the aged are more likely to be victims of poor mental health which arises from senility, neurosis and the extent of life satisfaction. Health status of the aged, therefore, should occupy a central place in any study of the elderly in India. The aged populations in the rural areas in particular, have serious health problems<sup>13</sup>.



**Source:** Calculations based on Field Survey Conducted from January to April, 2014

Figure 7.6 shows that prevalence of health problems (disease) among elderly population in the study area i.e Bulandshahr. It can be seen that the most prevailing illness among the elderly was disorder of joints and bones followed by heart diseases, respiratory, cataract, hypertension, bronchial asthma, diabetes and disorders of various disabilities. Furthermore, majority of the elderly persons suffer from multiple illnesses. The

prevalence of illness is increasing with age. They have multiple symptoms due to decline in the functioning of various body functions, bones from the scaffold on which are strung and contained all other structures and organs of the body. Joints provide mobility wherever they are situated. Bones are an active tissue, always changing. It is quite evident from figure 7.6 that about 21.0 per cent of elderly are suffering from disorder of joints and bones. Heart diseases was the second most prevalent disease of interviewed respondents, about 16.5 per cent elderly are reported as heart patients. However, respiratory disease is the most common health disorder among elderly in the study area. In this regard, about 12.7 per cent elderly experienced respiratory problems. It was found that the elderly men in the study area are addicted to smoking “bidis” and sometimes also consume local alcohol. This may result in respiratory problems as the elderly have already entered a fragile age group. Some of the other reported morbidities from the field include the following:

***Cataract:*** *A condition in which the lens of the eye gradually becomes hard and opaque.*

In this study nearly 8.7 per cent elderly in the sampled population are suffering from cataract. Usually majority of people in the old age suffer from cataract.

***Hypertension:*** *Arterial blood pressure that is higher than the usual range for gender and age. Also called high blood pressure, hyperpiesia.* **Baliga, et al. (2013)** have explained the Hypertension is the commonest cardiovascular disorder, posing a major public health challenge to elderly population residing in regions undergoing and socio-economic epidemiological transition. In the light of above discussion, almost 7.5 per cent of elderly are suffering from hypertension in the study area.

***Asthma:*** *A lung condition characterized by narrowing of the bronchial tubes, in which the muscles go into spasm and the person has difficulty breathing.*

***Bronchial Asthma:*** *A Type of asthma mainly caused by an allergen or by exertion.*

Particularly, 7.1 per cent elderly respondents reported they suffer from asthmatic problem.

Disability is another health disorder which affects physical performance of elderly population. In this context, about 6.0 per cent elderly respondents are found to experience at least one disability during the investigation. It has also been evident from figure 7.6 that diseases pertaining to kidney and urinary tract, neurological, prostatic, tuberculosis,

whooping cough and gynecological disorder also exist among the elderly respondents but the incidences of these have been low. Figure 7.6 also depicts that a significant difference exists between communicable and non-communicable diseases among older adults. Health problems in elderly women are predominantly associated with hormonal changes, before and during the menopause. Osteoporosis, a result of increased bone loss after menopause, often leads to bone fragility and an increase in the risk of bone fracture during old age. Another interesting observation from figure 7.6, around 2.9 per cent of elderly are suffering from whooping cough.

#### **Case Study: 7.1**

Veer Singh\* is 75 years old. He has five children. All of them are married and earn well. He has five bighas of agricultural land. He is still working as an agricultural worker. His sons have migrated to cities and have established themselves there. Currently he is suffering from multiple illnesses. Despite, poor health conditions he is forced to work continuously. This case study reveals that poor economic conditions lead to fragile health conditions of the elderly which ultimately leads to a sub-standard quality of life.

\*: Name Changed

Proportionally the ratio of this disease has been lower than that of other diseases but heavy whooping cough is a serious cause of tuberculosis and other diseases. Thus it has been found that the elderly in the study area suffer from the burden of a host of diseases of which diseases pertaining to the joints and bones; heart diseases and respiratory problems are the major ones.

### 7.10: Disease Profile among Elderly Workers and Non-Workers according to Sex in Bulandshahr District: 2014

“Indian life expectancy has been increasing steadily over the last several decades. Among the elderly, the focus is not only on reducing disease related morbidity and mortality, but on promoting optimal health and ensuring disability-free years”<sup>14</sup>. In this section an attempt has been made to study the disease pattern among elderly workers and non-workers in Bulandshahr district

<b>(Table:7.2)</b>						
<b>Disease Profile among Elderly Workers and Non-Workers according to Sex in Bulandshahr District: 2014</b>						
<b>Disease Profile</b>	<b>Elderly Workers</b>			<b>Elderly Non-Workers</b>		
	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>Bronchial Asthama</b>	20 (69.0)	9 (31.0)	29 (7.4)	4 (50.0)	4 (50.0)	8 (6.2)
<b>Cataract</b>	14 (46.7)	16 (53.3)	30 (7.7)	3 (20.0)	12 (80.0)	15 (11.5)
<b>Disability</b>	8 (53.3)	7 (46.7)	15 (3.8)	8(50.0)	8 (50.0)	16 (12.3)
<b>Disorder of Kidney and Urinary</b>	2 (100.0)	0 (0.0)	2 (0.5)	2(100.0)	0 (0.0)	2 (1.5)
<b>Disorders of Joints and Bones</b>	46 (52.3)	42 (47.7)	88 (22.6)	8 (38.1)	13 (61.9)	21 (16.2)
<b>Gynaecological Disorders</b>	0 (0.0)	6 (100.0)	6 (1.5)	*		
<b>Heart Diseases</b>	53 (85.5)	9 (14.5)	62 (15.9)	22(91.7)	2 (8.3)	24 (18.5)
<b>Hypertension</b>	14 (43.8)	18 (56.2)	32 (8.2)	4 (57.1)	3 (42.9)	7 (5.4)
<b>Neurological Disorders</b>	0 (0.0)	1 (100.0)	1 (0.3)	*		
<b>Prostatic Disorders</b>	2 (100.0)	0 (0.0)	2(0.5)	*		
<b>Respiratory</b>	30 (60.0)	20 (40.0)	50 (12.8)	7 (43.8)	9 (56.2)	16 (12.3)
<b>Tuberculosis</b>	0 (0.0)	2 (100.0)	2 (0.5)	*		
<b>Whooping Cough</b>	6 (60.0)	4 (40.0)	10 (2.6)	1 (20.0)	4 (80.0)	5 (3.8)
<b>Other Diagnosed Ailments</b>	27 (44.3)	34 (55.7)	61 (15.6)	4 (25.0)	12 (75.0)	16 (12.3)
<b>Total</b>	<b><i>n = 222</i></b> <b><i>(56.9)</i></b>	<b><i>n=168</i></b> <b><i>(43.1)</i></b>	<b><i>n= 390</i></b> <b><i>(100.0)</i></b>	<b><i>n= 63</i></b> <b><i>(48.5)</i></b>	<b><i>n= 67</i></b> <b><i>(51.5)</i></b>	<b><i>n= 130</i></b> <b><i>(100.0)</i></b>
<b>Pearson-Chi Square</b>	Value	Df	Asymp. Sig. (2-sided)	Value	Df	Asymp. Sig. (2-sided)
	45.886	13	.000***	31.357	9	.000***
*Case not Reported						
<b>Note:</b> Bracketed Figures Denote Percentages to their Respective Totals						
<b>Significance Level:</b> *** Significance at 1% Level, ** Significance at 5% Level, * Significance at 10 % Level.						
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014						

In table, 7.2, the disease profile of elderly workers and elderly non-workers have been described. In the earlier sections, the differentials in disease pattern have been discussed.

In this regard, major factors instigating health problems in the study area are lack of proper food, stress and strain, and lack of proper treatment, ignorance and neglect by the family members. The elderly with higher morbidities are found to have greater stress and disabilities. They have multiple symptoms due to decline in various body functions. There is another noticeable phenomenon which is evident from table 7.2. Here, an attempt is made to examine the disease profile among elderly non-workers. In this respect, the most common disease mentioned by the elderly workers is disorder of joints and bones followed by, heart problems, respiratory disorder, hypertension, cataract and disability. Informants concurred that, mostly non-worker elderly are suffering from both heart diseases and disorder of joints and bones and hence are not capable of any physical work. Cataract is the most prominent disorder among elderly women in both categories. It may happen because in rural areas women are generally involved in cooking process where they use traditional methods. Indoor Air Pollution (IAP) is caused by the use of solid biomass fuels. Majority of the households use cow dung, crop residue or fuel wood as their main cooking fuels. Cardio-vascular diseases, respiratory diseases and eye problems, which are often attributed to IAP, are the health disorders common to rural villages and Bulandshahr is no exception to this. Elderly people with poor socio-economic status reported greater prevalence of both communicable and non-communicable diseases in the study area.

*Results of Pearson-Chi Square has also been performed here, it shows that there is highly strong statistically significant association between sex and disease pattern, in both cases i.e. elderly workers and non-workers, significance at 1% Level.*

#### **7.11: Self Rated Health (SRH) Status among Elderly Workers and Non-Workers by State of Economic Dependency in Bulandshahr District: 2014**

In recent past, there has been an increasing trend in health issues related to ageing populations. Health status is an important factor that has a significant impact on the quality of life of elderly population. Self-rated health is one of the most common indicators of health research, which has also been recommended by the World Health Organization for health monitoring and the method has been tested for its reliability. Self-rated health has been widely used as a single item measure of health or overall health status of individuals/ population<sup>15</sup>. Several earlier studies have shown that self-reported

health among elderly men and women is a valid measure of the respondent's objective health status, an important predictor of survival in old age and a strong predictor of healthy longevity. It has been observed earlier that the high prevalence of diseases among the elderly makes them the neediest in terms of remedial cure. In old age people suffer from multiple disorders. Although, medical treatment is necessary for individuals especially in old age when functional ability of body gets restricted and demand of medical care gets amplified. Morbidity pattern among elderly has an important influence on their physical functioning and psychological well-being. In this regard, self-rated health (SRH) status is a measure which reflects a good account of functional ability, life satisfaction and familial factors and is also sensitive to variations in objective health.

	<b>Picture: 7.2</b>	
		
<b>Source:</b> Field Survey Conducted from January to April, 2014		

<b>(Table: 7.3)</b>								
<b>Self Rated Health Status among Elderly Workers and Non-Workers by State of Economic Dependency in Bulandshahr District: 2014</b>								
<b>Self Reported Health Status</b>	<b>State of Economic Dependency</b>							
	<b>Elderly Workers</b>				<b>Elderly Non-Workers</b>			
	<b>Not Dependent on Others</b>	<b>Partially Dependent on Others</b>	<b>Fully Dependent on Others</b>	<b>Total</b>	<b>Not Dependent on Others</b>	<b>Partially Dependent on Others</b>	<b>Fully Dependent on Others</b>	<b>Total</b>
<b>Excellent/Very Good</b>	1 (50.0)	0 (0.0)	1 (50.0)	2 (0.5)	*			
<b>Good/Fair</b>	8 (11.8)	16 (23.5)	44 (67.5)	68 (17.4)	5 (19.2)	4 (15.4)	17 (65.4)	26 (20.)
<b>Poor</b>	4 (1.2)	28 (8.8)	288 (90.0)	320 (82.1)	10 (9.6)	12 (11.5)	82 (78.8)	104(80.0)
<b>Total</b>	<b>n= 13 (3.3)</b>	<b>n= 44 (11.3)</b>	<b>n=333 (85.5)</b>	<b>n= 390 (100.0)</b>	<b>n= 15 (11.5)</b>	<b>n= 16 (12.3)</b>	<b>n= 99 (76.2)</b>	<b>n= 130 (100.0)</b>
<b>Note:</b> Bracketed Figures Denote Percentages to their Respective Totals								
* respondents are not reported								
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014								

Table 7.3 depicts the self rated health (SRH) among elderly according to state of economic dependency in Bulandshahr district. It shows that as dependency increases, the perception about self- health among the elderly becomes poorer. The table 7.3 shows that the majority of elderly are interested in work. In this regard, both elderly workers and non-workers depend on someone to fulfill their requirements. About 76.2 per cent of non-workers are found to be suffering from poor health condition due to economic dependency. Furthermore, almost 90.0 per cent of elderly workers are totally dependent on others. This economic dependency may be responsible for their deprived health conditions. As a general finding the elderly respondents who work have better health conditions due to their purchasing power. Nevertheless, literature based evidence shows, in India about 70 per cent elderly are forced to work whether their health conditions permit or not. This study also reveals that, economic dependency is the chief cause that influenced the health condition of both elderly workers and non-workers.

### **7.12: Determinants of Health Service Utilisation**

Health service availability is defined as the presence of service within a specific geographic area or defined population. In rural India, Primary Health Centre and Sub Centres are catering to the health needs of the people. However, they neither have geriatric wards nor specialists. Apart from these, Government hospitals at district headquarters, with moderate infrastructure and specialized medical professional cater for the health services. Depending on severity of the health problem rural people visit these hospitals. Separate ward is provided for the services of the elderly<sup>16</sup>. There are several factors which influence the decision of the aged to seek treatment - both at the personal and institutional level. At the personal level factors which are most important are economic status of the person, level of economic and other dependence on family members and nature of the disease itself.

#### **7.12.1: Availability and Accessibility of Health Facilities**

Health problems are the major concern of a society as elderly are more prone to suffer from ill health than younger age groups. In order to describe health condition of elderly in the Indian context, utilisation of healthcare services is often considered as an important process indicator of healthcare systems. The unequal distribution of healthcare across a population may not always be due to differences in morbidity or the need for healthcare; rather it may often be the outcome of unequal access to healthcare by various segments of the population<sup>17</sup>.

### **7.13: Sex Wise Distribution of Elderly Workers and Non-Workers by using different Source of Treatment for Common illness in Bulandshahr District: 2014**

Health is now viewed more as a holistic concept because of the limitation of the functionalist perspective to consider illness or sickness within the monolithic and homogeneous social structure whose participants act under the influence of exterior defined values.



<b>(Table:7.4)</b>						
<b>Sex Wise Distribution of Elderly Workers and Non-Workers by using different Source of Treatment for Common illness in Bulandshahr District: 2014</b>						
<b>Source of Treatment</b>	<b>Elderly Workers</b>			<b>Elderly Non-Workers</b>		
	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>Home Remedies</b>	40 (57.1)	30 (42.9)	70 (17.9)	6 (24.0)	19 (76.0)	25 (19.2)
<b>Government Hospital/ Dispensaries</b>	119 (52.9)	106 (47.1)	225 (57.7)	44 (53.0)	39 (47.0)	83 (63.8)
<b>Private Practitioner</b>	42 (57.5)	31 (42.5)	73 (18.7)	7 (58.3)	5 (41.7)	12 (9.2)
<b>Private Hospital</b>	6 (85.7)	1 (14.3)	7 (1.8)	5 (71.4)	2 (28.6)	7 (5.4)
<b>Quack</b>	15 (100.0)	0 (0.0)	15 (3.8)	1 (33.3)	2 (66.7)	3 (2.3)
<b>Total</b>	<b>n= 222</b> <b>(56.9)</b>	<b>n= 168</b> <b>(43.1)</b>	<b>n= 390</b> <b>(100.0)</b>	<b>n= 63</b> <b>(48.5)</b>	<b>n= 67</b> <b>(51.5)</b>	<b>n= 130</b> <b>(100.0)</b>
<b>Pearson-Chi Square</b>	<b>Value</b>	<b>Df</b>	<b>Asymp. Sig. (2-sided)</b>	<b>Value</b>	<b>Df</b>	<b>Asymp. Sig. (2-sided)</b>
	15.224	4	.004***	8.899	4	.064**
<b>Note:</b> Bracketed Figures Denote Percentages to their Respective Totals						
<b>Significance Level:</b> *** Significance at 1% Level, ** Significance at 5% Level, * Significance at 10 % Level.						
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014						

Information provided in table 7.4 demonstrates that the distribution of elderly workers and non-workers by source of treatment during chronic illness. Furthermore, approximately, 57.7 per cent elderly sought treatment from Government hospitals followed by 17.9 per cent from home remedies, 18.7 per cent from private practitioners and only, 14.3 per cent of elderly workers receive treatment from private hospitals. The sub-section of table 7.4 reveals the treatment seeking behaviour of elderly non workers. In this respect, about 63.8 per cent of elderly visited Government hospitals for treatment during their illness, 19.2 per cent practised home remedies, 9.2 per cent received the same from private practitioners, 5.4 per cent from private hospitals and just, 2.3 per cent of elderly preferred the quacks for their treatment. In addition to this, affordable treatment and free of cost medicines are easily available at the Government centres. Government hospitals, dispensaries, Public Health Centre (PHC) and Sub-Centre (SC) are the prime sources of public treatment in Bulandshahr district. Private hospitals, private practitioners and quacks are the additional most utilised sources. Information given in table 7.4 also

shows that male elderly are suffering more than their female counterparts. *Results of Pearson-Chi Square has also been performed here, it shows that there is highly strong statistically significant association between sex and treatment they sought during their common illness, significance at 5% Level.*

#### **7.14: Sex Wise Distribution among Elderly Workers and Non-Workers by Sources of Treatment for Chronic illness in Bulandshahr District: 2014**

The decision to seek treatment is followed by the decision regarding the source of treatment. The main sources utilized for treatment by the aged, depends upon the availability of the source, the degree of physical and economic accessibility or constraints, and local opinion regarding the effectiveness of the source. Several types of sources could be identified as being used by the aged like public dispensaries and hospitals, private clinics and private nursing homes and hospitals. In rural areas a higher dependency is seen on public health facilities as compared to private health facilities, while the situation is vice versa in urban areas.<sup>18</sup>

<b>(Table:7.5)</b>						
<b>Sex Wise Distribution among Elderly Workers and Non-Workers by Sources of Treatment for Chronic illness in Bulandshahr District: 2014</b>						
<b>Source of Treatment</b>	<b>Elderly Workers</b>			<b>Elderly Non-Workers</b>		
	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>Government Hospital/Dispensaries</b>	131 (56.7)	100 (43.3)	231 (59.2)	30 (41.7)	42 (58.3)	72 (55.4)
<b>Private Practitioner</b>	2 (40.0)	3 (60.0)	5 (1.3)	2 (40.0)	3 (60.0)	5 (3.8)
<b>Private Hospital</b>	89 (57.8)	65 (42.2)	154 (39.5)	31 (58.8)	22 (41.5)	53 (40.8)
<b>Total</b>	<b>n= 222</b> <b>(56.9)</b>	<b>n= 168</b> <b>(43.1)</b>	<b>n= 390</b> <b>(100.0)</b>	<b>n= 63</b> <b>(48.5)</b>	<b>n= 67</b> <b>(51.5)</b>	<b>n= 130</b> <b>(100.0)</b>

**Note:** Bracketed Figures Denote Percentages to their Respective Totals  
**Source:** Calculations based on Field Survey Conducted from January to April, 2014

Selected information on the treatment behaviour among elderly workers and non-workers is given in table 7.5. For healthy ageing, source of treatment or medical services is a great necessity. In this analysis both elderly workers and non-workers in the study area, are found to frequent Government hospitals and dispensaries for their treatment for chronic illness. In addition to this, more than 50 per cent elderly have chosen Government

agencies over other sources of treatment. Therefore, a small amount of elderly went to private practitioners, followed by private hospitals. Furthermore, about 39.5 per cent elderly workers and nearly, 40.8 per cent of non-working elderly visited private hospitals for treatment during their chronic illness. Another significant aspect as revealed by table 7.5 is the gender differentials in treatment behaviour among elderly. In view of this, in both cases elderly females are more likely to visit private practitioners. In the light of the above observation, the utilisation of health care services plays a crucial role in shaping the health of the elderly workers and non-workers in Bulandshahr district. Furthermore, it has been felt necessary during the field investigation that the State Government should introduce and implement health policies and schemes, particularly for the elderly.

**7.15: Block Wise Distribution of Elderly by Reasons for not Receiving Treatment in Bulandshahr District: 2014**

As noted earlier, for healthy ageing proper medical diagnosis followed by treatment is an essential element. Majority of elderly in rural areas are unable to receive such medical conveniences. In this regard, there are a variety of factors that may be responsible i.e. for the elderly for not availing appropriate medical treatment.

<b>(Table:7.6)</b>				
<b>Block Wise Distribution of Elderly by Reasons for not Receiving Treatment in Bulandshahr District: 2014</b>				
<b>Reasons for not Receiving Treatment</b>	<b>Block</b>			<b>Total</b>
	<b>Araniya</b>	<b>Khurja</b>	<b>Jewar</b>	
<b>Condition Improved</b>	1 (100.0)	0 (0.0)	0 (0.0)	1 (0.2)
<b>No Medical Facility Available in Neighborhood</b>	6 (17.6)	12 (35.3)	16 (47.1)	34 (6.5)
<b>Facility Available but Lack of Faith</b>	40 (59.7)	17 (25.4)	10 (14.9)	67 (12.9)
<b>Long Time Waiting</b>	28 (58.3)	13 (27.1)	7 (14.6)	48 (9.2)
<b>Financial Reasons</b>	159 (43.4)	125 (34.2)	82 (22.4)	366 (70.4)
<b>Ailment not Considered</b>	1 (25.0)	1 (25.0)	2 (50.0)	4 (0.8)
<b>Total</b>	<b>n= 235 (45.2)</b>	<b>n= 168 (32.2)</b>	<b>n= 117 (22.5)</b>	<b>n= 520 (100.0)</b>
Pearson-Chi Square	<b>Value</b>	<b>Df</b>	<b>Asymp. Sig. (2-sided)</b>	
	27.939	10	.002***	
<b>Note:</b> Bracketed Figures Denote Percentages to their Respective Totals				
<b>Significance Level:</b> *** Significance at 1% Level, ** Significance at 5% Level, * Significance at 10 % Level.				
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014				

The reasons that can be responsible for not receiving / availing proper medical diagnosis are shown in table 7.6. Due to deprived economic condition the elderly are not able to seek any treatment during their illness. In addition to this, block wise analysis shows that the majority of elderly in the study area are unable to receive any medical treatment because they cannot afford expensive medical care. Further results suggest that due to economic vulnerability, around 70.4 per cent of elderly are not availing any medical treatment. It has also been indicated that, about 12.9 per cent of elderly did not seek medical treatment due to lack of faith on modern medical facilities, followed by 9.2 per cent elderly are disturbed due to long waiting hours for meeting the health professional and nearly, 6.5 per cent of elderly reported that medical facilities are too far from their residence. Another interesting result as is evident from table 7.6 is that in all blocks distressed economic situation among elderly is a prime cause for not receiving proper medical diagnosis during ill health. *Pearson-Chi Square has also been performed here, it shows that there is highly strong statistically significant association between block (place of residence) and reasons for receiving medical treatment, significance at 1% Level.*

#### **7.16: Sex Wise Distribution of Elderly Workers and Non-Workers by Reasons for Not Receiving any Treatment in Bulandshahr District: 2014**

Health is considered to be strongly associated with the socio-economic condition of the population. Health condition of elderly population in the study area clearly specifies that the poor have a relatively worse health status as compared to the economically sound. It can be also observed from literature economic burden results in lower association with medical diagnosis.

(Table: 7.7)

<b>Sex Wise Distribution of Elderly Workers and Non-Workers by Reasons for not Receiving any Treatment in Bulandshahr District: 2014</b>						
<b>Reasons for not Receiving Treatment</b>	<b>Elderly Workers</b>			<b>Elderly Non-Workers</b>		
	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>Condition Improved</b>	0 (0.0)	1 (100.0)	1 (0.3)	*	*	*
<b>Unavailability of Medical Facility in Neighborhood</b>	14 (63.6)	8 (36.4)	22 (5.6)	7 (58.3)	5 (41.7)	12 (9.2)
<b>Lack of Faith</b>	33 (67.3)	16 (32.7)	49 (12.6)	7 (38.9)	11 (61.1)	18 (13.8)
<b>Long Time Waiting</b>	16 (57.1)	12 (42.9)	28 (7.2)	7 (35.0)	13 (65.0)	20 (15.4)
<b>Financial Reasons</b>	159 (55.0)	130 (45.0)	289 (74.1)	39 (50.6)	38 (49.4)	77 (59.2)
<b>Ailment not Considered</b>	0 (0.0)	1 (100.0)	1 (0.3)	3 (100.0)	0 (0.0)	3 (2.3)
<b>Total</b>	<b><i>n= 222</i></b> <b><i>(56.9)</i></b>	<b><i>n= 168</i></b> <b><i>(43.1)</i></b>	<b><i>n= 390</i></b> <b><i>(100.0)</i></b>	<b><i>n= 63</i></b> <b><i>(48.5)</i></b>	<b><i>n= 67</i></b> <b><i>(51.5)</i></b>	<b><i>n= 130</i></b> <b><i>(100.0)</i></b>
<b>Note:</b> Bracketed Figures Denote Percentages to their Respective Totals *: respondents are not reported <b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014						

It is evident from the previous discussions that the elderly persons become weak or frail during their old age and thereby need an even greater health intervention. Data given in the table 7.7 show that, approximately 74.1 per cent of elderly workers did not receive proper medical treatment because they were unable to afford the costly medical expenses followed by 12.6 per cent elderly reported that have no faith in modern treatment, 7.2 per cent said that long waiting period was barrier, while only 5.6 per cent of elderly continues without treatment because no medical facility was available in the neighborhood. Another conspicuous observation as evident from table 7.7 is that the similar reasons have also been stated by elderly non-workers. In view of this, due to economic distress about 59.2 per cent of elderly non-workers did not receive medical treatment followed by around 15.4 per cent of elderly suffering from long waiting, 13.8 per cent of elderly rejected modern methods for treatment while, nearly 9.2 per cent of elderly were unable to travel long distance for medical treatment. Results also suggest that, both male and female elderly were suffering multiple illnesses in old-age. Furthermore, financial constraints appear to be an important reason for not seeking treatment; this could be due to the fact that most of the elderly may be financially dependent on others. Consequently, the

reasons of poor health may be also due to the uncooperative family behaviour, lack of care givers and support as well as deprived socio-economic status of individuals and family.

**7.17: Block-wise Distribution of Care Givers during ill Health for Elderly Workers and Non-Workers in Bulandshahr District: 2014**

A large proportion of the elderly are retired from their occupations and are surviving on their savings. In rural areas in particular, elderly and their families usually depend on agriculture as their main source of income. Old people's health status in India is impacted due to lack of health facilities in rural areas. Large number of elderly faces extreme poverty resulting in their poor health.

<b>(Table:7.8)</b>						
<b>Block-wise Distribution of Care Givers during ill Health for Elderly Workers and Non-Workers in Bulandshahr District: 2014</b>						
	<b>(Elderly Workers)</b>			<b>(Elderly Non-Workers)</b>		
	<b>Araniya</b>	<b>Khurja</b>	<b>Jewar</b>	<b>Araniya</b>	<b>Khurja</b>	<b>Jewar</b>
<b>Nobody</b>	4 (20.0)	8 (40.0)	8 (40.0)	1 (25.0)	2 (50.0)	1 (25.0)
<b>Spouse</b>	118 (44.5)	80 (30.2)	67 (25.3)	15 (25.0)	26 (43.3)	19 (31.7)
<b>Son</b>	24 (40.0)	26 (43.3)	10 (16.7)	21 (61.8)	9 (26.5)	4 (11.8)
<b>Daughter-in-Low</b>	22 (64.7)	7 (20.6)	5 (14.7)	17 (63.0)	7 (25.9)	3 (11.1)
<b>Daughter</b>	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
<b>Grand Children</b>	1 (50.0)	1 (50.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
<b>Others</b>	8 (100.0)	0 (0.0)	0 (0.0)	3 (100.0)	0 (0.0)	0 (0.0)
<b>Total</b>	<b><i>n= 178</i></b> <b><i>(45.6)</i></b>	<b><i>n= 122</i></b> <b><i>(31.3)</i></b>	<b><i>n= 90</i></b> <b><i>(23.1)</i></b>	<b><i>n= 57</i></b> <b><i>(43.8)</i></b>	<b><i>n= 46</i></b> <b><i>(35.4)</i></b>	<b><i>n= 27</i></b> <b><i>(20.8)</i></b>
<b>Pearson-Chi Square</b>	Value	Df	Asymp. Sig. (2-sided)	Value	Df	Asymp. Sig. (2-sided)
	27.249	12	.007**	26.183	10	.004***
<b>Note:</b> Bracketed Figures Denote Percentages to their Respective Totals						
<b>Significance Level:</b> *** Significance at 1% Level, ** Significance at 5% Level, * Significance at 10 % Level.						
*: respondents are not reported						
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014						

The physiological decay resulting in ageing is the outcome of physical changes and individual experiences because of the decline in the normal functioning of the body resulting in poor mobility, vision, hearing, inability to eat and digest food properly, a decline in memory, the inability to control certain physiological functions and various chronic conditions. Table 7.8, portrays the different care givers for the elderly respondents during their illness. In case of elderly workers in all blocks, spouses were the major care givers during ill health condition. In this regard, sons were the second most trusted alternatives of care during ill health. It was also found that in case of the non-working elderly respondents in all blocks, again spouses were the foremost source of care giving during the illness period. As mentioned earlier, in old age period majority of elderly usually trust their partners. During field investigation, majority of elderly respondents were also highly supportive of this fact. On the other hand, availability of sons and their support during old age is also important for the elderly. In contemporary times recession in social values and attitudes often results in the deprivation of the elderly from receiving the support and care from their own offspring. Thus, they have become the most vulnerable sufferers in the society especially the elderly women. *Pearson-Chi Square has also been performed here, it shows that there is highly strong statistically significant association between block (place of residence) and care givers. In both model, care givers have significant association with elderly workers and non-workers.*

#### **7.18: Distribution of Elderly Workers and Non-Workers by Treatment Behaviour in Bulandshahr District: 2014**

In this section an attempt has been made to investigate the usage of traditional and modern treatment methods by elderly workers and non workers in the sampled blocks of Bulandshahr. The reporting period of illness is 365 days prior to the date of survey. The past demographic events have been witness that the geriatric health care gets little attention in India. Consequently, elderly health status in India is impacted due to lack of health facilities in rural areas.

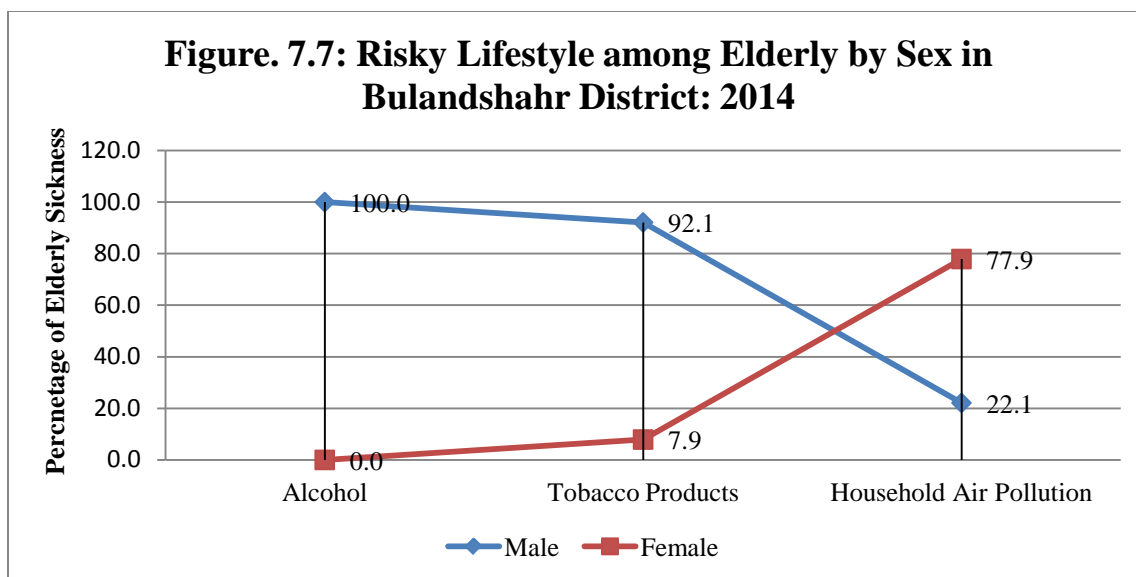
<b>(Table: 7.9)</b>						
<b>Distribution of Elderly Workers and Non-Workers by Treatment Behaviour in Bulandshahr District: 2014</b>						
<b>Block</b>	<b>Elderly Workers</b>			<b>Elderly Non-Workers</b>		
	<b>Traditional Methods</b>	<b>Modern Methods</b>	<b>Total</b>	<b>Traditional Methods</b>	<b>Modern Methods</b>	<b>Total</b>
<b>Araniya</b>	67 (37.6)	111 (62.4)	178 (45.6)	24 (42.1)	33 (57.9)	57 (43.8)
<b>Khurja</b>	14 (11.5)	108 (88.5)	122 (31.3)	4 (8.7)	42 (91.3)	46 (35.4)
<b>Jewar</b>	4 (4.4)	86 (95.6)	99 (23.1)	0 (0.0)	27 (100.0)	27 (20.8)
<b>Total</b>	<b>n= 85 (21.8)</b>	<b>n= 305 (78.2)</b>	<b>n= 390 (100.0)</b>	<b>n= 28 (21.5)</b>	<b>n= 102 (78.5)</b>	<b>n= 130 (100)</b>
<b>Pearson-Chi Square</b>	Value	Df	Asymp. Sig. (2-sided)	Value	Df	Asymp. Sig. (2-sided)
	49.739	2	.000***	26.168	2	.000***
<p><b>Note:</b> Bracketed figures denote Percentages to their respective totals</p> <p><b>Significance Level:</b> *** Significance at 1% Level, ** Significance at 5% Level, * Significance at 10 % Level.</p> <p><b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014</p>						

The distribution of elderly workers and non-workers by their treatment behaviour has been presented in the table 7.9. In the present analysis, more than 75 per cent of both elderly workers and non-workers have preferred modern methods of treatment instead of traditional methods. In view of this, around 20 per cent of elderly have used the traditional methods for treatment during their illness. An attempt has also been made to analyse the block wise distribution of elderly workers and non-workers by their treatment behaviour. As stated earlier, in relation to elderly workers, in all blocks modern methods was the highly approachable source for treatment whether for the elderly workers or that for the non-workers.

### **7.19: Risky Lifestyle among Elderly by Sex in Bulandshahr District: 2014**

Generally, the three risk factors that account for the most sickness in Bulandshahr district are risk of using alcohol, household air pollution from solid fuels, and usage of tobacco products.





**Source:** Calculations based on Field Survey Conducted from January to April, 2014

In order to assess the risk factors of sickness among elderly population questions were asked regarding substance abuse and indoor air pollution to the respondents as exhibited in Figure 7.7. Incidence of sickness among elderly often gets instigated by habits and practices not conducive at later ages. For instance substance abuse like smoking ‘bidi’ and drinking ‘country liquor’ or alcohol may aggravate their disease burden. A salient feature emanating from figure 7.7 is that, usage of tobacco products may determine the risk of sickness. In relation to this, extensive literature based evidences shows that tobacco products are the chief root of both oral and lung cancer. It was observed from Fig. 7.7 that 92.1 per cent of male elderly is suffering sickness and were also habituated to smoking tobacco products. Moreover, household air pollution can be another indicator that can affect the risk of sickness among elderly population. In relation to this, around 77.9 per cent of elderly women were suffering sickness and they were also exposed to household air pollution.

It is important to note that, only 22.1 per cent of male elderly are suffering from household air pollution as against a higher proportion of women as stated above. Eyes and Lungs diseases are most prevalent health disorder due to household air pollution. The above results confirm that, elderly women are more associated with household chores compared to their male counterparts’ and hence may be more at risk to bronchial diseases.

**7.20: Block Wise Distribution of Elderly by Risk Factors of Sickness among Elderly Workers and Non Workers in Bulandshahr District: 2014**

The economic and social well-being of elderly has been strongly associated to their health and living conditions. In examining this, the fact that runs foremost is that the increasing amount of the elderly population means an additional claim for health and medical facilities.

<b>(Table: 7.10)</b>					
<b>Block Wise Distribution of Elderly by Risk Factors of Sickness among Elderly Workers in Bulandshahr District: 2014</b>					
<b>Sex</b>	<b>Block</b>	<b>Risk Factors of Sickness</b>			
		<b>Alcohol</b>	<b>Tobacco Products</b>	<b>Household Air Pollution</b>	<b>Total</b>
<b>Male</b>	Araniya	19 (20.7)	60 (65.2)	13 (14.1)	92 (100.0)
	Khurja	8 (9.8)	57 (69.5)	17 (20.7)	82 (100.0)
	Jewar	7 (14.6)	32 (66.7)	9 (18.8)	48 (100.0)
	<b>Total</b>	<b>n=34 (15.3)</b>	<b>n=149 (67.1)</b>	<b>n=39 (17.6)</b>	<b>n=222 (100.0)</b>
<b>Female</b>	Araniya	*	5 (5.8)	81 (94.2)	86 (100.0)
	Khurja	*	1 (2.5)	39 (97.5)	40 (100.0)
	Jewar	*	3 (7.1)	39 (92.9)	42 (100.0)
	<b>Total</b>	<b>*</b>	<b>n=9 (5.4)</b>	<b>n=159 (94.6)</b>	<b>n=168 (100.0)</b>
<b>Total</b>	Araniya	19 (10.7)	65 (36.5)	94 (52.8)	178 (100.0)
	Khurja	8 (6.6)	58 (47.5)	56 (45.9)	122 (100.0)
	Jewar	7 (7.8)	35 (38.9)	48 (53.3)	90 (100.0)
	<b>Total</b>	<b>n=34 (8.7)</b>	<b>n=158 (40.5)</b>	<b>n=198 (50.0)</b>	<b>n=390 (100.0)</b>
<b>Note:</b> Bracketed figures denote Percentages to their respective totals					
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014					
<b>*:</b> Respondent not Reported					

In the context of increasing life expectancy, it has been important to inspect whether the elderly benefited from the health care services or not. In table 7.10, the block wise distribution of elderly workers and non-workers by risk of sickness has been presented. The major thrust of this table is to identify the probable risk factors of sickness among elderly population. In the context of elderly workers, in all blocks, tobacco products are the major causes that produce risk of falling sick. As discussed earlier, elderly women suffer more from household air pollution. In view of this, male elderly are more prone to suffering from increased use of both tobacco and alcohol products. In subsequent sections

risk factors of sickness among elderly non-workers has also been discussed in the table 7.11.

<b>(Table: 7.11)</b>					
<b>Block Wise Distribution of Elderly by Risk Factors of Sickness among Non workers in Bulandshahr District: 2014</b>					
<b>Sex</b>	<b>Block</b>	<b>Risk Factors of Sickness</b>			
		<b>Alcohol</b>	<b>Tobacco Products</b>	<b>Household Air Pollution</b>	<b>Total</b>
<b>Male</b>	Araniya	2 (8.0)	15 (60.0)	8 (32.0)	25 (100.0)
	Khurja	0 (0.0)	13 (56.5)	10 (43.5)	23 (100.0)
	Jewar	1 (6.7)	9 (60.0)	5 (33.3)	15 (100.0)
	<b>Total</b>	<b><i>n=3 (4.8)</i></b>	<b><i>n=37 (58.7)</i></b>	<b><i>n=23 (36.5)</i></b>	<b><i>n=63 (100.0)</i></b>
<b>Female</b>	Araniya	*	2 (6.2)	30 (93.8)	32 (100.0)
	Khurja	*	3 (13.0)	20 (87.0)	23 (100.0)
	Jewar	*	2 (16.7)	10 (83.3)	12 (100.0)
	<b>Total</b>	<b>*</b>	<b><i>n=7 (10.4)</i></b>	<b><i>n=60 (89.0)</i></b>	<b><i>n=67 (100.0)</i></b>
<b>Total</b>	Araniya	2 (3.5)	17 (29.8)	38 (66.7)	57 (100.0)
	Khurja	0 (0.0)	16 (34.8)	30 (65.2)	46 (100.0)
	Jewar	1 (3.7)	11 (40.7)	15 (55.6)	27 (100.0)
	<b>Total</b>	<b><i>n=3 (2.3)</i></b>	<b><i>n=44 (33.8)</i></b>	<b><i>n=83 (63.8)</i></b>	<b><i>n=130 (100.0)</i></b>
<b>Note:</b> Bracketed figures denote Percentages to their respective totals					
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014					
<b>*:</b> Respondent not Reported					

As discussed earlier, loneliness, poverty and social exclusion are important social determinants and risk factors for ill health among elderly persons. It has already been specified earlier that risk factors of sickness play a crucial role to determine the health condition of elderly in rural areas. Furthermore, Table 7.11 shows that about 2.3 per cent of elderly non workers are suffering from sickness and are also habituated to alcohol consumption. In addition to this, kidney and liver infections are the most ubiquitous health disorders which get aggravated due to alcohol consumption. The sub-segment of table 7.11 reveals that, around 33.8 per cent of elderly non workers are suffering from sickness and are also used to tobacco smoking and approximately 63.8 per cent of elderly are suffering and are also exposed to excessive household air pollution. Further

observation has suggested from sub-section of table 7.11, the block wise distribution indicates that, majority of elderly had health complaints after using these sources of substance abuse.

**7.21: Self Rated Health (SRH) Status of Elderly Workers and Non-Workers by Sex in Bulandshahr District: 2014**

<b>(Table: 7.12)</b>					
<b>Self Rated Health (SRH) Status of Elderly Workers by Sex in Bulandshahr District: 2014</b>					
<b>Sex</b>	<b>Block</b>	<b>Self Rated Health (SRH)</b>			<b>Total</b>
		<b>Excellent / Very Good</b>	<b>Good / Fair</b>	<b>Poor</b>	
<b>Male</b>	Araniya	4 (4.3)	14 (15.2)	74 (80.4)	92 (100.0)
	Khurja	0 (0.0)	15 (18.3)	67 (81.7)	80 (100.0)
	Jewar	2 (4.2)	12 (25.0)	34 (70.8)	48 (100.0)
	<b>Total</b>	<b>n=6 (2.7)</b>	<b>n=41 (18.5)</b>	<b>n=175 (78.8)</b>	<b>n=222 (100.0)</b>
<b>Female</b>	Araniya	6 (7.0)	13 (15.1)	67 (77.9)	86 (100.0)
	Khurja	2 (5.0)	6 (15.0)	32 (80.0)	40 (100.0)
	Jewar	1 (2.4)	8 (19.0)	33 (78.6)	42 (100.0)
	<b>Total</b>	<b>n=9 (5.4)</b>	<b>n=27 (16.1)</b>	<b>n=132 (78.6)</b>	<b>n=168 (100.0)</b>
<b>Total</b>	Araniya	10 (5.6)	27 (15.2)	141 (79.2)	178 (100.0)
	Khurja	2 (1.6)	21 (17.2)	99 (81.1)	122 (100.0)
	Jewar	3 (3.3)	20 (22.2)	67 (74.4)	90 (100.0)
	<b>Total</b>	<b>n=15 (3.8)</b>	<b>n=68 (17.4)</b>	<b>n=307 (78.7)</b>	<b>n=390 (100.0)</b>
<b>Note:</b> Bracketed figures denote Percentages to their respective totals					
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014					

Table 7.12 presents self rated health status (SRH) of elderly workers in Bulandshahr district. Traditional Indian society is predominantly rural in character and there is no formal age at which one has to withdraw or disengage from work. People have continued to work even in old age as long as their health setting permits them. One of the generally used measures of elderly is the self rated condition (relative or current). In this respect, a three point scale for measuring the current health status among elderly has been done as follows: ‘excellent/very good; next ‘good/fair’ and lastly ‘poor’. Self rated health status (SRH) among elderly workers have revealed that, majority of elderly workers are

suffering from poor health conditions. In contrast to this, few elderly workers also have excellent health condition. Consequently, lower availability of health care service, lack of proper medical awareness and inadequate income security are the major obstruction for elderly workers in Bulandshahr district. In the table 7.12, self rated health (SRH) status of elderly non-workers has also been portrayed. In this respect, vast majority of the population of India are rural dwellers and they live in a state of poor economic condition marked by increasing landlessness, falling real income and a rising number of people below poverty line. There are various direct and indirect ways through which poverty can result in low utilisation of health care facilities.

**(Table: 7.13)**  
**Self Rated Health (SRH) Status of Elderly Non-Workers by Sex in Bulandshshar District: 2014**

Sex	Block	Self Rated Health (SRH)			Total
		Excellent / Very Good	Good / Fair	Poor	
Male	Araniya	1(4.0)	1 (4.0)	23 (92.0)	25 (100.0)
	Khurja	0 (0.0)	6 (26.1)	17 (73.9)	23 (100.0)
	Jewar	1 (6.7)	5 (33.3)	9 (60.0)	15 (100.0)
	<b>Total</b>	<b>n=2 (3.2)</b>	<b>n=12 (19.0)</b>	<b>n=4 (77.8)</b>	<b>n=63 (100.0)</b>
Female	Araniya	0 (0.0)	5 (15.6)	27 (84.4)	32 (100.0)
	Khurja	0 (0.0)	5 (21.7)	18 (78.3)	23 (100.0)
	Jewar	0 (0.0)	4 (33.3)	8 (66.7)	12 (100.0)
	<b>Total</b>	<b>n=0 (0.0)</b>	<b>n=14 (20.9)</b>	<b>n=5 (79.1)</b>	<b>n=67 (100.0)</b>
Total	Araniya	1 (1.8)	6 (10.5)	50 (87.7)	57 (100.0)
	Khurja	0 (0.0)	11 (23.9)	35 (76.1)	46 (100.0)
	Jewar	1 (3.7)	9 (33.3)	17 (63.0)	27 (100.0)
	<b>Total</b>	<b>n=2 (1.5)</b>	<b>n=26 (20.0)</b>	<b>N= 102 (78.5)</b>	<b>n=130 (100.0)</b>

**Note:** Bracketed figures denote Percentages to their respective totals  
**Source:** Calculations based on Field Survey Conducted from January to April, 2014

Data in the table 7.13 reveal that, the health status of elderly non-workers is quite similar to the elderly workers. In view of this, poor health is the chief determinant for withdrawal from labour market. They were quite serious about their health issues. Often majority of elderly non- workers have an insufficient amount of resources to access the quality of health care facility. Consequently, at one point of time, biological factors have worked together or equally without any favoritism like; rich or poor, developed or under-developed.

**7.22: Elderly Workers and Non-Workers for Activities of Daily Living (ADL) by Sex in Bulandshahr District: 2014**

The notion of functionality for the elderly involves the ability to perform self-care, self-maintenance and physical activity. Such notions involve a process of progressivity that leads to impaired or loss of physical functioning among the aged, or the disablement process. The concepts and measures of activities of daily living (ADL) and instrumental activities of daily living (IADL) have emerged as the most common approaches in empirical assessments of functionality among the elderly and are considered to fit in with the ICF framework<sup>19</sup>.

**(Table: 7.14)**

<b>Elderly Workers and Non-Workers for Activities of Daily Living (ADL) by Sex in Bulandshahr District: 2014</b>							
<b>ADL</b>	<b>Sub-Themes of Activity of Daily Living (ADL)</b>	<b>Elderly Workers</b>			<b>Elderly Non-Workers</b>		
		<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>Feeding</b>	No Problem	200 (56.7)	153 (43.3)	353 (90.5)	38 (45.2)	46 (54.8)	84 (64.6)
	Independent but slow or clumsy	22 (59.5)	15 (40.5)	37 (9.5)	25(54.3)	21 (45.7)	46 (35.4)
<b>Dressing</b>	No Problem	196 (56.3)	152 (43.7)	348 (89.2)	35 (43.8)	45 (56.2)	80 (61.5)
	Independent but slow or clumsy	26 (61.9)	16 (38.1)	42 (10.8)	28 (56.0)	22 (44.0)	50 (38.5)
<b>Bathing</b>	No Problem	197 (56.4)	152 (43.6)	349 (89.5)	34 (43.0)	45 (57.0)	79 (60.8)
	Bathes self with assistance	25 (61.0)	16 (39.0)	41 (10.5)	29 (56.9)	22 (43.1)	51 (39.2)
<b>Medicine</b>	Remembers Without Help	82 (55.0)	67 (45.0)	149 (38.2)	30 (48.4)	32 (51.6)	62 (47.7)
	Remembers if does is kept in a special place	140 (58.1)	101 (41.9)	241 (61.8)	33 (48.5)	35 (51.5)	68 (52.3)
<b>Mobility</b>	Same as Usual	159 (56.6)	122 (43.4)	281 (72.1)	37 (47.4)	41(52.6)	78 (60.0)
	Independent but Slow	63 (57.8)	46 (42.2)	109 (27.9)	26(50.0)	26 (50.0)	52 (40.0)
<b>Shopping</b>	No Problem	157 (58.6)	111 (41.4)	268 (68.7)	35 (53.8)	30 (46.2)	65 (50.0)
	Forget items or by Unnecessary items	24(51.1)	23 (48.9)	47 (12.1)	4 (21.1)	15 (78.9)	19 (14.6)
	Need to be accompanied While shopping	41 (54.7)	34 (45.3)	75 (19.2)	24 (52.2)	22 (47.8)	46 (35.4)

**Note:** Bracketed figures denote Percentages to their respective totals

**Source:** Calculations based on Field Survey Conducted from January to April, 2014

All elderly respondents in the present study have been asked to state who physically assists or helps them for certain day-to-day tasks. Data given in table 7.14 show the distribution of elderly workers and non-workers by basic activities of daily living. In old-age ADL functioning is a significant predictor in performing daily activities by the elderly. In old-age physical functions deteriorate and this is influenced by several factors. In view of this, in the present analysis it was found that majority of elderly

workers were able to execute their daily activities. Similarly, elderly non-workers also performed properly their daily activities. However it was also found that both elderly workers and non workers have faced several difficulties in performing some activities that involved mobility like shopping for their basic necessities.

### 7.23: Disease Profile of Elderly Workers by Nature of Workforce in Bulandshahr District: 2014

As discussed earlier, the changes in fertility and mortality with life expectancy have shaped the current demographic structure around the globe. In Indian context, population ageing is the result of medical advancement.

<b>(Table 7.15)</b>			
<b>Disease Profile of Elderly Workers by Nature of Workforce in Bulandshahr District: 2014</b>			
<b>Disease Profile</b>	<b>Nature of Workforce</b>		
	<b>Self-Employment</b>	<b>Casual Wage Labour</b>	<b>Total</b>
<b>Bronchial Asthama</b>	15 (51.7)	14 (48.3)	29 (7.4)
<b>Cataract</b>	7 (23.3)	23 (76.7)	30 (7.7)
<b>Disability</b>	4 (26.7)	11 (73.3)	15 (3.8)
<b>Disorder of Kidney and Urinary</b>	0 (0.0)	2 (100.0)	2 (0.5)
<b>Disorders of Joints and Bones</b>	43 (48.9)	45 (51.1)	88 (22.6)
<b>Gynaecological Disorders</b>	2 (33.3)	4 (66.7)	6 (1.5)
<b>Heart Diseases</b>	24 (38.7)	38 (61.3)	62 (15.9)
<b>Hypertension</b>	15 (46.9)	17 (53.1)	32 (8.2)
<b>Neurological Disorders</b>	1 (100.0)	0 (0.0)	1 (0.3)
<b>Prostatic Disorders</b>	2 (100.0)	0 (0.0)	2(0.5)
<b>Respiratory</b>	18 (36.0)	32 (64.0)	50 (12.8)
<b>Tuberculosis</b>	2 (100.0)	0 (0.0)	2 (0.5)
<b>Whooping Cough</b>	4 (40.0)	6 (60.0)	10 (2.6)
<b>Other Diagnosed Ailments</b>	31 (50.8)	30 (49.2)	61 (15.6)
<b>Total</b>	<b><i>n = 168 (43.1)</i></b>	<b><i>n=222 (56.9)</i></b>	<b><i>n= 390 (100.0)</i></b>
<b>Note:</b> Bracketed Figures Denote Percentages to their Respective Totals			
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014			

In table 7.15, an effort is made to analyse and interpret the disease profile among elderly workers by nature of workforce in Bulandshahr district. However, one significant thing to be noted here is that both self-employed and casual wage elderly workers usually suffer from various diseases. From table 7.15, it is evident that, by and large majority of elderly workers might be facing serious health disorders. Furthermore, approximately, 51.7 per

cent of self-employed elderly were suffering from bronchial asthma followed by disorders of joint and bones (48.9 per cent) and hypertension (46.9 per cent). Yet again from table 7.15, it is absolutely evident that among casual wage labour about 76.7 per cent elderly were suffering from cataract followed by disability (73.3 per cent), heart diseases (61.3 per cent) and disorders of joint and bones (51.1 per cent). In view of this, in old-age elderly are suffering from multiple disease disorders. It was argued from literature based evidences that, elderly participation in labour market often aggravates their health disorders.

#### **7.24: Region Wise Distribution of Elderly Population by Own Perception about Change in State of Health in Uttar Pradesh: 2014-15**

Physiological decay in old age is not always identical in all age group. Old age is usually accompanied by a decline in physical fitness and increasing experience of body aches and pains<sup>20</sup>.

<b>(Table: 7.16)</b>						
<b>Region Wise Distribution of Elderly Population by Own Perception about Change in State of Health in Uttar Pradesh: 2014-15</b>						
NSSO Region	Sex	Own Perception about Change in State of Health				
		Compared to Previous Year: Much Better	Somewhat Better	Nearly the Same	Somewhat Worse	Worse
Northern Upper Ganga Plains	Male	8.3	9.2	45.8	22.1	14.7
	Female	3.5	3.6	67.8	22.4	2.6
	Total	5.8	6.3	57.2	22.3	8.4
Central	Male	4.3	7.7	67.7	17.0	3.3
	Female	1.5	6.7	67.8	17.6	6.4
	Total	2.8	7.2	67.7	17.3	5.0
Eastern	Male	2.6	17.2	58.6	19.1	2.5
	Female	2.6	10.9	65.0	17.4	4.1
	Total	2.6	14.4	61.5	18.4	3.2
Southern	Male	0.3	2.8	58.5	18.8	19.6
	Female	2.8	0.8	60.8	21.3	14.3
	Total	1.4	2.0	59.5	19.8	17.4
Southern Upper Ganga Plains	Male	1.2	10.2	60.8	20.4	7.4
	Female	1.8	11.8	59.9	14.4	12.1
	Total	1.5	11.0	60.3	17.4	9.8
Total	Male	3.1	11.7	60.1	19.1	6.1
	Female	2.2	8.5	64.8	17.6	6.8
	Total	2.7	10.2	62.4	18.4	6.4

**Source:** Computed from the Unit Level Data of NSS 71th Round: 2014-15



Table 7.16 presents the distribution of elderly by own perception about change in state of health in Uttar Pradesh. This study is based on the unit level data from the NSSO, 71st Round of 2014-15. It is important to note that, majority of elderly are disappointed about their change in state of health. Nearly 60 per cent elderly are unable to scale their health status compared to which they had last time. From Table 7.16 it is also evident that, about 18.4 per cent elderly have complained that their present health conditions are somewhat worse. This result clarifies the low utilisation and unavailability of health care services in Uttar Pradesh. Another interesting inspection indicates that, nearly 6.4 per cent of elderly have reported that their health conditions have worsened compared to the previous year. Sub-segment of table 7.16 specifies that, a smaller amount of elderly had experienced better health condition compared to previous year. Furthermore, similar trends are observed in all the regions of Uttar Pradesh.

**Picture: 7.3**



**Source:** Field Survey Conducted from January to April, 2014

**7.25: Logistic Regression Estimates: Adjusted Value of Elderly Workers and Non-Workers by Background Characteristics in Bulandshahr District: 2014**

After studying the pattern of morbidity in Uttar Pradesh at large and Bulandshahr in particular among both working and non-working elderly, it now becomes imperative to analyse the relationship of illness with a set of socio-economic characteristics with the help of the logistic regression.

<b>(Table: 7.17)</b>			
<b>Logistic Regression Estimates: Adjusted Value of Elderly Workers and Non-Workers by Background Characteristics in Bulandshahr District: 2014</b>			
<b><i>Dependent Variable:</i></b> it takes a value of 1 if an old person suffering from any illness and 0 otherwise			
	<b>Covariates</b>	<b>Significance</b>	<b>Exp (B)</b>
<b>Sex</b>	Male®		
	Female	.028***	.525
<b>Age</b>	60-69®	.244	
	69-70	.217	1.588
	80+	.200	2.128
<b>Marital Status</b>	Currently Married®		
	Others	.273	.724
<b>Religion</b>	Hindu®		
	Muslim	.086**	5.714
<b>Caste</b>	General Caste®	.044***	
	Other	.027***	.147
	SC	.342	1.322
<b>Education</b>	Illiterate ®		
	Literate		
<b>Households Income</b>	More than 4000®		
	0-4000	.559	1.427
<b>Households Size</b>	0-4 Members ®	.300	
	5-8 Members	.782	.880
	More than 8 Members	.443	1.505
	<b>Constant</b>	.026	5.363
<b>Statistics</b>	<b>N</b>	520	
	<b>Chi- Square</b>	.057**	
	<b>-2 Log Likelihood Ratio</b>	416.911	
	<b>Cox &amp; Snell Square</b>	.036	
	<b>Hosmer and Lemeshow</b>	.199	
	<b>Negelkarke R Square</b>	.064	
<b>Significance Level:</b> *** Significance at 1% Level, ** Significance at 5% Level, * Significance at 10 % Level.			
<b>Source:</b> Calculations based on Field Survey Conducted from January to April, 2014			

**Interpretation:**

Health status is an important factor that has a significant impact on the quality of life of elderly population. There is a growing body of evidence that older people are at risk for multiple, co morbid conditions, and health-care seeking will probably also increase in future. In addition, assorted factors which are very important are the level of autonomy accorded to the elderly persons in taking decision in the family. This is especially true for women. They have little say in the family, and even if they are suffering from an ailment the decision to seek treatment rests not with them but with their spouse or son/daughter; son-in-law/daughter-in-law. The logistic regression model states that, after controlling all other factors, elderly females are less likely to be a victim of poor health. In view of this, elderly women have .525 times less chance to be infected by any illness during their old-age. When the age-group is concerned it is found that with the advancing of age the probability of falling ill is more; although this variable has not been found statistically significant in the present logistic model. Marital status has played a significant role in determining the condition of elderly. In this model, compared to currently married elderly the other category has more probability to falling ill. In addition to this, elderly in the other category have about, .724 times more chances to suffer from sickness. It has also pertinent to note that in old-age spousal and support from children are essential pre-requisites for elderly persons. Also, widowed elderly are economically and socially vulnerable due to the loss of support from their husbands. Education is one of the core demographic variables that determine the quality of life and standard of living of an individual. It has been observed from above model that controlling all other factors, the probability of suffering any health disorders or illness, has been higher for the illiterate elderly. Household monthly income though demonstrated a positive net effect on their health the results did not turn up to be statistical significant. In view of this, controlling all other factors, the probability of suffering any health disorders or illnesses, households with lower income indicates that higher chance to be infected with any illness i.e. elderly have 1.427 times more chance to become victims of poor health disorders or illnesses. It is also interesting to note from table 7.17 that, controlling all other factors, the probability of suffering from any illnesses is higher in small sized households as compared to households having 5 to 8 members.

**7.26: Logistic Regression Estimates: Adjusted Value of Elderly Workers by Background Characteristics in Bulandshahr District: 2014**

The bi-variate analysis was not sufficient to give conclusive information about what are the associated characteristics of elderly workers in Bulandshahr district. Furthermore, a collation of the factors that have determined the health condition of elderly workers had to be investigated through another logistic regression model.

<b>(Table: 7.18)</b>			
<b>Logistic Regression Estimates: Adjusted Value of Elderly Workers by Background Characteristics in Bulandshahr District: 2014</b>			
<i>Logistic Regression Estimates:</i> Adjusted Value of Elderly Workers by Background Characteristics in Bulandshahr District			
<i>Dependent Variable:</i> it Takes a Value of 1 if an Elderly Acquired Health Impact due to Work and 0 Otherwise.			
	<b>Covariates</b>	<b>Significance Level</b>	<b>Exp (B)</b>
<b>Sex</b>	Male®		
	Female	.126	1.736
<b>Age</b>	60-69®	.404	
	69-70	.440	.736
	80+	.243	.173
<b>Marital Status</b>	Currently Married®		
	Others	.383	1.575
<b>Living Arrangement</b>	Single®	.182	
	With Spouse	.418	1.354
	With Children and others	.074**	3.052
<b>Religion</b>	Hindu®		
	Muslim	.091**	6.965
<b>Caste</b>	General Caste®	.221	
	Other	.199	.272
	SC	.306	1.427
<b>Education</b>	Illiterate®	.042***	
	Primary	.880	1.069
	Middle	.035***	.359
	Secondary or Above	.241	2.304
<b>Households Size</b>	0-4 Members ®	.061**	
	5-8 Members	.028***	3.350
	More than 8 Members	.209	2.112
	<b>Constant</b>	.885	1.111
<b>Statistics</b>	<b>N</b>	390	
	<b>-2 Log Likelihood Ratio</b>	298.696	
	<b>Cox &amp;Snell R Square</b>	.072	
	<b>Negelkarke R Square</b>	.127	
	<b>Chi-Square</b>	.071**	

**Significance Level:** \*\*\* Significance at 1% Level, \*\* Significance at 5% Level, \* Significance at 10 % Level.

**Source:** Calculations based on Field Survey Conducted from January to April, 2014

### **Interpretation:**

The results suggest that the elderly who are active in regular wage labour and even in self-employment are suffering from severe health related diseases; as a result of poor economic constraints by their financial condition; and hence they receive lower medical attention. In general, the socio-economic determinants of health of the elderly indicate that the elderly who have better living conditions and are economically independent have better health outcomes while those belonging to lower income/consumption groups, widows and those who are economically dependent, report poor health status. In the entire model, as expected, gender played a crucial role in determining the health impact due to the participation of elderly in the labour market. It can be experienced that controlling all other factors, elderly female workers are more likely to be a victims of poor health. In view of this, elderly women workers have 1.7 times more chance to be infected by any illness due to participation in labour market. This result reflects that elderly women are less strong than their male counterparts. Age is considered to be a critical variable that might reflect the health situation among the elderly. It is evident from the above model that as age advances among elderly workers inverse relationship is observed. In addition to this, age of the elderly workers showed the unexpected direction of effects, but in an insignificant manner.

For education, the results indicate that a greater proportion of uneducated elderly are engaged as casual wage labour compared to the elderly with higher education. In this regression model, as education increases greater proportion of elderly workers face health interruption during or after participation in the labour market. By considering the marital status and impact on health due to work, it may be observed that controlling all other factors, elderly who are living with other members experienced worse health condition due to work as compared to currently married elderly. In contrast, the living arrangement of elderly provides them psychological and emotional support. Living with a spouse has a strong positive impact on elderly's health. However, in this model, controlling all other factors elderly without spouse have 1.3 time more chance to be in poorer health due to

work. Similarly, the odds ratio increase to 3.052 times more when elderly are found living with children and other members. The elderly workers by religion indicate that Muslims have greater negative impact due to participation in labour market. In the light of this, controlling all other factors, Muslim elderly workers have 6.965 time more chance to acquire health distraction due to work. Likewise, elderly belonging to the most backward castes have shown higher odds of concern.

## **Conclusion**

An attempt to explore both working and non-working status and their linkages with disease prevalence, related medical care and expenditure among the elderly in Bulandshahr district have been the central themes of this chapter. The results reveal serious health problems among both elderly workers and non-workers. Furthermore, the health problems experienced by individuals determine the type of health care that they seek. This study has highlighted that the elderly suffer from multiple morbidities, which they often attribute to the ageing process. Despite the rapid growth of the older population in Bulandshahr district, health care needs of the older population as a group are not systematically dealt with in the primary health care system. Palliative health services for older people are less available. Especially, in rural areas the service was found negligible.

In Bulandshahr district, most of the elderly live in the rural areas and the access to the health care facilities is meagre. The analysis reveals that socio-economic condition of the elderly has an impact on their health status. It is observed that there is a significant relation between age and health status of the elderly. As age increases health deteriorates, and elderly perceive poor health. The analysis confirms that economic status is an important factor affecting the health care utilisation. In the study region, the nearest hospital or healthcare centre is often very far away and poor transport systems can mean older people have no means of getting to hospital or other health care service. Such conditions are same in most places. By and large, elderly respondents in rural areas reported that their income cannot pay for basic services such as doctor's fee/ surgeon's fee, medicines, diagnostic tests, personal medical appliances and other medical charges like; ambulance. The results also demonstrate that, both self-employed and casual wage

labour elderly are suffering from multiple disease disorders. This ensues greater proportion of elderly workers usually work in extremely unhygienic environment. Similarly, it has been found that a greater proportion of both working and not-working elderly with chronic diseases if at all, then they seek modern treatment. Overall, the results suggest that, it needs to be understood how far economic independence and social security are linked with health and employment of the elderly. There is a growing need for interventions to ensure the health of this vulnerable group and to create a policy to meet the care and needs of the elderly workers and non-workers.

**Picture: 7.4**



**Source:** Field Survey Conducted from January to April, 2014

## Endnotes

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<sup>1</sup> Sherlock, P. L., (2000). Population Ageing in Developed and Developing Regions: Implications for Health Policy. *Social Science & Medicine* 51, 887-895.

<sup>2</sup> Narapureddy, et al., (2012). Socio-Demographic Profile and Health Care Seeking Behaviour of Rural Geriatric Population of Allahabad District of UP: A Cross Sectional Study. *International Journal of Medical Science and Public Health*, 1( 2),

<sup>3</sup> Dwyer, D.S., & Mitchell, O. S. (1999). Health Problems as Determinants of Retirement: Are Self-Rated Measures Endogenous? *Journal of Health Economics*, 173–193.

<sup>4</sup> Sankar, D., & Kathuria, V. (2004). Health System Performance in Rural India Efficiency Estimates across States. *Economic and Political Weekly*, 1427-1433.

<sup>5</sup> Tripathi, T. (2014). Unhealthy, Insecure, and Dependent Elders. *Economic & Political Weekly*, XLIX, (29), 1-7

<sup>6</sup> Banerjee, A., & Nikumb, V.K. (2013). Health Problems among the Elderly: A Cross-Sectional Study. *Annals of Medical and Health Sciences Research*, 3(1), 19-25.

<sup>7</sup> World Health Organization. (2009). *Global Health Risks: Mortality and Burden of Disease Attributable to Selected Major Risks*. World Health Organization.

<sup>8</sup> Reid, A., & Boomen, V.D. (2015). The Faces of Death: Regional Differentiation in Cause-Specific Mortality in the Past. *The History of the Family*, 20(3), 309-319.

<sup>9</sup> Koli, R., Goli, S., & Doshi, R. (2014). Epidemiological transition in urban population of Maharashtra. *Advances in Epidemiology*, ID 328102, 1-12.

<sup>10</sup> Agrawal, G., & Keshri K. (2014). Morbidity Patterns and Health Care Seeking Behavior among Older Widows in India. 9(4): e94295. Doi: 10.1371/journal.pone.0094295.

<sup>11</sup> Rajan, S, I., & Sreerupa., (2008). Diseases, Disability and Healthcare Utilisation among the Aged. In Rajan, S, I., Risseeuw, C., and Perera, M., ed. (Ch.3, 54-55) *Institutional Provisions and Care for the Aged: Perspectives from Asia and Europe*, Anthem Press.

<sup>12</sup> Thomas, T., & Srinivasan, K. (2010). Prevalence of Health Related Disability among Community Dwelling Urban Elderly from Middle Socio-Economic Strata in Bangaluru, India. *Indian Journal Medical Research*, 131, 515-521.



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- <sup>13</sup> Rajan, S. I. (2008). *Social Security for the Elderly: Experiences from South Asia*. New Delhi: Routledge Taylor & Francis Group, 67-68.
- <sup>14</sup> Thomas, T., & Srinivasan, K. (2010). Prevalence of Health Related Disability among Community Dwelling Urban Elderly from Middle Socio-Economic Strata in Bangaluru, India. *Indian Journal Medical Research*, 131, 515-521.
- <sup>15</sup> Das, B. M., & Roy, S. K. (2014). Socio-Demographic Correlates of Self-Rated Health among Santals of Rural West Bengal India. *Eurasian Journal of Anthropology*, 5(1), 1-13.
- <sup>16</sup> Vankayalapati, V., (2008). *Problems of Rural Aged: A Sociological Perspective*. New Delhi: Kalpaz Publications, 86-87.
- <sup>17</sup> Mukherjee, S., & Levesque, J. F., (2010). Changing Inequalities in Utilisation of Inpatient Care in Rural India: Evidence from the NSS. *Economic & Political Weekly*, xlv (46), 1-6
- <sup>18</sup> Srivastava, A., (2004). *Ageing and Health Care Needs in India: A Comparative Study of Uttar Pradesh and Tamil Nadu (Unpublished PhD Thesis)*. Jawaharlal Nehru University, New Delhi.
- <sup>19</sup> Alam, et al., (2012). *Report on the Status of Elderly in Select States of India*. New Delhi: BKPAI, United Nations Population Fund (India).
- <sup>20</sup> Joshi, K., Kumar, R., & Avasthi, A. (2003). Morbidity Profile and its Relationship with Disability and Psychological Distress among Elderly people in Northern India. *International Journal of Epidemiology*, (32), 978-987.



*Chapter: Eight*

*Summary and Conclusions*



## Chapter: 8

### Summary and Conclusions

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#### 8.1: Summary of Findings

Population ageing is one of the most significant episodes of the 21st century. One in eight people in the world are aged 60 or over. As long as fertility rates continue to decline and life expectancy continues to rise, older people will steadily increase as a proportion of the population. While population ageing is a global phenomenon, it is progressing fastest in developing countries including those with a youth bulge like India. The aim of the present research work is to comprehend the exposition of the health problems among elderly workers in Bulandshahr district. Thus, the present research work has delved into the health status of elderly workers in Bulandshahr district.

This study has been divided into **eight chapters**. In **Chapter One** that is the **‘Introduction’**, the rationale behind ageing i.e. worldwide increase in life expectancy, coupled with a decreasing birth rate, that has led to population with increased numbers of elderly in both relative and absolute terms have been pointed out. It has thrown some light on the worldwide fact sheet of older person. Population ageing have first been experienced by European countries followed by, North and South America, Africa and Japan. Currently China has a big segment of population is in older age groups.

In the Indian scenario, as per 2011 Census, the population of older persons was 104 million constituting 8.6 per cent of the total population. By 2026, the population of elderly is expected to reach 173 million constituting 12.4 per cent of the total population. Generally speaking, in Uttar Pradesh a large number of elderly people have to work as casual wage workers or are self-employed indicating lack of option to depart from labour force. This may be attributed to non-availability of inadequate support system, acute poverty and chronic vulnerabilities as probable determinants that might push elderly into the labour market. Hence, this study attempts to probe into all these with particular focus on Bulandshahr district.

**Chapter 2** deals with **‘Amplification, Methodological Aspects and Data Base Surveillances’**. The review of various literatures in this chapter reveals that during the last few decades, the processes of population ageing have become a grave cause of

attention around the globe. This area of research earned worldwide attention especially older persons who are posed with multiple disorders. This study therefore has been structured to explore the health status of elderly workers in rural Uttar Pradesh. Enormous literature based evidence validate that, the situation of elderly workers have serious implications both for the planners and policy makers. It is important to note that, latest Census statistics reveals that over 70 per cent of Indian elderly work for fulfillment of their basic requirements. Another salient feature of this result is that, even elderly above 80 are also engaged in labour force in the Indian situation. As stated earlier, this study has been organized in a rural setting where basic health facilities and accessibility to these services are negligible. Furthermore, old age is a period when individuals experience multifaceted problems and health constraint being the overarching one. Most of the studies on ageing, either quantitative or qualitative, have concentrated on both socio-economic and health aspects of the elderly therefore. Hence, health plays a crucial role whether the elderly are engaged in work or not because, old age is a period when elderly are suffering from multiple health issues and disabilities. In this context, univariate, bivariate, chi-square test of significance, binary logistic regression and multinomial regression have been employed to investigate the health aspects among elderly workers in Bulandshahr district. Besides quantitative approach, qualitative apparatus has also been used whenever required. Overall, the present study tries to capture the elements which are accountable for serious health problems among elderly workers in the study area.

**Chapter: 3 entitled “Demographic and Background Attributes of Elderly Population in India, Uttar Pradesh and Bulandshahr District”** has revealed that Uttar Pradesh is the most populous state of India and its population has been increasing very rapidly thereby posing various challenges to the Government and policymakers, such as poverty, unemployment, underemployment, provision of basic amenities and facilities as well as low level of education. Furthermore, according to the latest results from Census of India (2011) in Uttar Pradesh the absolute number of elderly has been reported highest among all states and union territories. The salient features of this chapter have been illustrated below.

- A United Nations report has predicted that India will have 198 million 'old' (60+) people in 2030 and 326 million in 2050. Currently, there could be around 100 million 'senior citizens' in India.
- In the developing countries, one in every 12 persons is now elderly; the ratio is expected to become one in five by 2050, equalling to that in the developed countries.
- The growth in ageing population in India has been faster compared to other developing countries.
- The aged population in India and Uttar Pradesh is increasing both in terms of absolute numbers as well as in terms of proportion to the total population. However, it is conspicuous to note that the proportion of elderly population was always higher in rural areas than in urban areas.
- As against 5.6 per cent of elderly people in 1961, the proportion has gone up to 8.58 per cent in 2011. For males the rise was more modest from 5.5 per cent to 8.2 per cent, while for females there had been a steep rise from 5.8 per cent to 8.9 per cent during the six Census decades from 1961 to 2011. In Uttar Pradesh, the proportion of elderly people aged 60+ has increased from 6.22 per cent in 1961 to 7.73 per cent in 2011. Consequently, within each age group the elderly population is expected to grow significantly in the coming decades.
- It is also astonishing to note that in Uttar Pradesh; the Index of Aging indicates that about 17.25 per cent elderly were found for every 100 children in 2001, which increased to 4.4 per cent more in 2011. Furthermore, according to place of residence, in Bulandshahr district, the index of ageing (2001) was highest in urban areas compared to rural areas. Similarly, 2011 statistics indicates, index of aging was observed highest in rural areas compared to urban areas.
- In Uttar Pradesh, old age dependency ratio was 14.42 percent in 2001 which dipped to 13.85 percent in 2011 which reveals about 0.57 point decline in this period. Poverty, low level of education and less opportunity to work are the major factors going hand-in-hand with high old age dependency in rural areas. In Bulandshahr district, Census figures of these two decades have indicated that, old age dependency ratio is higher among the females than their male counterparts.

**Chapter: 4 entitled “Profile of Elderly Working Population in India, Uttar Pradesh and Bulandshahr District”** illustrate that elderly workers are most deprived and vulnerable sections of the rural community. In added to this, work profile of elderly workers usually depends on a multitude of factors. The detailed examination of this chapter has been done as under:

- The recent demographic trends have shown population ageing has become a more acute phenomenon over the years.
- In India, it is widely acknowledged that among the elderly about 8.99 per cent were main workers, while 8.46 per cent were marginal workers.
- Data from the 2011 Census shows that, around 11.81 per cent of the elderly reported that they have worked as main workers, while nearly 9.31 per cent elderly reported that they have worked as marginal workers. It is notable that fairly high percentages of elderly in the 80+ old age group are still working.
- Female work participation rates (WPRs) in India have historically been significantly lower than their male counterparts.
- The workforce participation among elderly in Uttar Pradesh mostly pertains to agriculture and allied activities. Consequently, in these sectors elderly work till their physical capacity allows them to do so.
- The share of marriage related out-migration is higher at the inter-state level, followed by inter-district and intra-district levels. This was mostly due to system of exogamy in marriage and for joining the breadwinner at the place of destination.
- The male out-migrants in the productive age groups from Uttar Pradesh moved to various states of India and constituted a substantial proportion of the total male in-migrants in different states. Moreover, there is dearth of employment and other economic and social opportunities in the urban areas of the Uttar Pradesh. Therefore, these have emerged as the leading contributors to out-migration from the state.
- The out-migration of young adults has a backwash effect on the rural elderly left behind, who suffer from loneliness and economic insecurity. Lack of poor socio-economic support base and out-migration of young adults have forced the elderly

to get involved in the labour market. It was observed that income insecurity and physical separation from children have placed considerable psychological burden on the elderly in rural Uttar Pradesh and the study area in particular.

- Elderly are economically active, presumably because they are engaged in sectors for which there is no specific age of retirement.

**Chapter: 5 entitled “Aged Fraternity in Rural Society: An Introduction to the Elderly in Bulandshahr District”** reveals that elderly population are the most vulnerable and susceptible sections in our society. The elderly in this study reside in the rural areas where around 70 per cent of the population lives. In view of this, this chapter has focussed on the basic attributes and characteristics of elderly population. A detailed investigation attempted in this chapter has been given as under:

- Large socio-economic differentials in fertility and mortality with increasing life expectancy are commonly being experienced in all population. In view of this, notable differences are seen across the states in India. Education is one the most important components of human development. It is evident from literature that the standard of education in developed world is far higher compared to the developing nations. However, in this research work, the level of education among elderly workers has been found to be very low. Low levels of literacy and education is inextricably linked with poverty and poor standard of living among the elderly as seen in the study area.
- In old age, marital status of the elderly envisages significant aspect in the context of care and support. Male elderly are more likely to die before their wives because of the higher male mortality in later ages and the fact that men tend to marry younger wives. Elderly widows are the most vulnerable and deprived sections of the society and their position in a patriarchal society make them even more vulnerable as they have insignificant rights. In this research it has been deciphered that, widows are more in number as compared to the widower. At the same time, it is indeed interesting to note that, about 70 per cent of the sample elderly are currently married. It is indeed true that it is the marital status that determines ones position within the family as well as the status in society. However the study has also brought forth that among the elderly are those who are most deprived, are the



- widowed women, and those who are single and divorced/separated. In this regard, financial issues, poor standard of living with economic pressure force them to seek work.
- Religion is also considered as a significant determinant to influence the quality of life of the elderly. Various studies have revealed that, different religious groups have different levels of socio-economic development. In India, information on religion is routinely collected through various data agencies. The present work entails that, elderly Hindu is the dominant group in the study area.
  - Caste is another component that influences the standard of living of the elderly. Caste system has been an inherent characteristic of the Indian society since thousands of years. Information on caste reveals that people from general/upper caste are generally socio-economically more developed compared to scheduled caste, scheduled tribes and other backward castes. This view can be substantiated by the fact that more than 90 per cent of scheduled caste elderly are working due to economic compulsion. However a higher proportion of the elderly scheduled castes were found to work in the non-farm sector.
  - Living arrangement also plays a significant role in the process of well-being of the elderly. Living arrangement in terms of familial association, both extent as well as quality of engagement within these networks with regard to care and support of the elderly, has been also attempted to be studied in this chapter. In rural areas, the youth still has some respect and value system for their elderly parents while in urban areas, modern life style, nuclear family set-up and changing occupational structure are the probable factors determining the living pattern of the elderly. Added to this, out-migration of youth and family conflicts are other major factors. In this study 13.1 per cent of elderly are found living alone. The proportion of living alone is significantly less among elderly aged 80 or above. The proportion of elderly living alone is more among Hindus than Muslims. Comparatively higher proportion of illiterate elderly is living alone.
  - It has been observed that the large number of elderly is economically susceptible. Reduction in family size could be prime cause of this vulnerability. In this study, more than 80 per cent of elderly are economically dependent on others for the

fulfilment of their basic needs and desires. Furthermore, majority of the elderly are found to need help for daily routine work. Deprived income leading to financial insecurity and higher dependency among elderly are the chief causes for their defencelessness. Added to this, majority of elderly are forced to work, whether their health permits or not.

**Chapter: 6 entitled “Nature of Work and Problems Faced by the Elderly Workers in Bulandshahr District”** has been devoted to the process of labour force participation among elderly workers in Bulandshahr district. In this study, majority of elderly workers have been found working under miserable conditions. Majority of them have been tending to work in the informal sector where there is no provision of regular income. The salient highlights of this chapter have been given below:

- It has been interesting to examine the nature of work and problems faced by the elderly workers in the study area. Both agricultural and rural non-farm sector were covered in the study area and these involved arduous and strenuous work. Due to economic compulsion large number of elderly was found to participate in labour market. But, fragility and susceptibility have made them precarious to health disorders. Poverty and inadequate support systems at the individual and state levels are the major push factors for the existence of elderly in the labour market. More importantly, family conflicts and out-migration of youth towards cities are significantly linked with the decision of elderly to participate in labour market.
- Health is vital indicator which determines the well-being of the elderly. Health is considered to be significantly associated with the standard of living and socio-economic status of population. In old-age, healthy life style is influenced by a variety of factors. In this study it was found that health problems have been the major barriers for the elderly for not participating in the labour market. It was also evident that, ‘too old to work’ is another reason to determine the work participation of the elderly.
- There has also been a significant increase in the share of elderly workers. In view of this, in India, about 70 per cent of elderly are economically active. More prominently, majority of them get engaged in the informal sector, where specific

age of retirement and post retirement benefits are totally absent. In this study, more than 90 per cent of elderly were found working due to economic compulsion. In relation to this, around 42.7 per cent of elderly worked as casual wage labour, while, about 32.3 per cent of elderly were self-employed. The concentration of elderly workers in rural non-farm sectors reflects lower wage rates in agricultural operations or non-availability of work throughout the year. In both the sectors, it has been found that the elderly receive lower wages than their younger counterparts. Reasons for lower wages are given below.

- i. Desperate need to work
  - ii. Less opportunity of finding work and
  - iii. Inability to commute or migrate
- In this study, participation in labour market by dependency status shows that, work participation rate is high among elderly who are fully dependent on others for fulfilling their basic requirements. It was also argued that, financial dependencies among the elderly workers make their health problems even more complex and difficult.

**Chapter: 7 entitled “Utilisation of Health Care Services, Emerging Issues and Health Challenges of Elderly Population in Bulandshahr District”** demonstrated that, with age the elderly people tend to suffer more and females tend to show a lower probability of falling ill. Financial barrier is the prime cause for not getting proper medical attention. In addition to this, both elderly workers and non-workers are financially dependent on others for fulfillment of their medical requirements. Major finding of this chapter has been given below.

- It is evident from literature that, the availability of health care facilities and rates of their utilisation are worse in rural than urban areas. The prevalence of disability among elderly has been found to be much higher in rural areas than their urban counterparts. It is often claimed that ageing is accompanied by multiple disabilities and acute physical ailments. In relation to this, the most common diseases mentioned by the elderly workers are disorder of joints and bones followed by, heart problems, respiratory disorders, hypertension, cataract and

- disability. Field based investigations revealed that that, mostly non-working elderly suffered from both heart diseases and disorder of joints and bones.
- Another conspicuous fact is that, as dependency increases, the perception of self-rated good health among the elderly decline. Evidently, financial burden is major barrier for not utilising the health care apparatus. It has been observed in this study that, both elderly workers and non-workers preferred modern methods of treatment instead of traditional methods. It is revealed that a significant proportion of elderly believed that in old-age, spousal support is a necessity while taking care of one's health. On the other hand, availability of sons and their care during old age is also necessary for the elderly.
  - The economic and social well-being of elderly has been strongly attributed to their health and living conditions. In this study, elderly women were found to suffer more from household air pollution while, male elderly are more prone to suffer more from their usage of tobacco and alcohol products. Lastly, it is evident that, in old-age majority of elderly are suffering from more than one disease. The poor health conditions of elderly are making a great demand for geriatric services. Hence, there is an urgent call for a community based health care system to protect the well-being of the elderly population. Moreover, sex wise results reveal that, elderly women in the study area suffer more from multiple disorders compared to their male counterparts. This point out to the negligence faced by women in a patriarchal set up; where elderly women are subjected to multiple discriminations.

## **8.2: Conclusions and Policy Imperatives**

The present research work has been an attempt to study the health status of elderly workers in Bulandshahr district. Rapidly increasing elderly population in India pose a serious challenge to the overall available public health services. Due to physiological and biochemical changes in the elderly, increased incidence of diseases is observed.

The demographic transition is part of the global trend towards longer life expectancy and lower fertility and the resulting shift towards population structures dominated by old people rather than young. Growing old is strongly associated with greater incidence of disability and related discrimination in the labour market. Women are subject to multiple

discrimination throughout their lifespan that makes them highly vulnerable. The analysis reveals that, most men spend their final years with a wife to care for them, but women commonly spend their later years without a partner. In such circumstances, women are perceived to be economically and socially vulnerable. Due to enormous economic compulsion, a large number of elderly have to engage them in economically gainful work that is beyond their physical capacity. The rural areas of the country are dominated by poor conditions of work where higher elderly labour force participation is worrisome. The majority of elderly workers face poor conditions of work and low wages in the informal sector. When all individual characteristics are taken into account, age still has a strong effect on labour force participation. It is clearly evident that, agricultural operations still continue to be the primary source of employment in India, especially in rural areas. In this study, majority of elderly workers are either self-employed or are engaged as casual workers. This study not only attempted to unravel the major areas of concern among elderly workers but also tried to probe into their economic and health disorders that are important roots of deprivation in old-age. Elderly workers who are working in deplorable conditions are highly affected by such deprivations.

Evidence also suggests that, loneliness, poverty and social exclusion are important social determinants and risk factors of ill health among elderly persons. Consequently, lower availability of health care services, lack of proper medical awareness and inadequate income security are the major obstructions for elderly workers in Bulandshahr district. Participation in labour market of elderly workers involves various health disorders. It is evident from earlier discussion, old-age is period of multiple physical vulnerabilities. There are certain health disorders which are specific to age and work profile. Furthermore, certain health illnesses are aggravated after one point of time. It is important to note that, poor socio-economic condition affects the health care services and their utilisation in rural areas. In relation to this, both male and female elderly are suffering multiple health vulnerabilities. Added to this, concerns of the elderly women in particular are quite different as compared to their male counterparts. In rural society, major areas of concerns for elderly women are:

- Low educational background
- high economic dependency

- Vary high prevalence of widowhood.

In addition, poverty, death of spouse and usurption of power by daughter-in-law are found to be major determinants. One fact that emerges from the above findings is that, deterioration of traditional family system and gradual decline in decision-making power in the family are grave roots of elderly to get involved in the labour market. Apart from these observations, majority of determinants that may be responsible for poor health outcome among elderly has also been discussed in this examination. Clearly, due to out-migration of young adults, increasing dependency rate among elders, increasing trend of non-communicable disease pattern specifies that the elderly needs more care givers to provide care. Palliative care is a necessary human right and should be the core of basic health service. In addition, availability of health care services and their utilisation have been found to be on the lower side in Bulandshahr district.

The extent of utilisation of health care services depends upon the availability and accessibility of services provided; wherein the quality of care offered by the health facilities also becomes a determining feature. One of the major reasons for not visiting Government health institutions is the quality of health care services or facilities that are not up to the mark in the study area. There is an urgent need to protect and secure both the institutions and families to provide care and support to the elderly. Thus, both socio-economic and health protection is linked to the contingencies that effect the elderly. In this framework, socio-economic protection seeks to deal with deprivations as well as the risk of vulnerabilities. Furthermore, the sources of vulnerability in old-age such as poverty, disability, unemployment, higher dependency and social exclusion need to be dealt with urgently with different and appropriate schemes of financing. Overall, it is evident that, the practice of healthy life style behaviour is significantly poor among elderly workers / respondents in the study area.

### **Policy Imperatives**

As already mentioned, in India, the family still provides support to overwhelming majority of the elderly. The policies addressing the elderly should go beyond acknowledging the family support and take concrete measures to facilitate and reinforce the continuation of this system. Given this, it has become the need of the hour to immediately set up social security policies for elderly workers. It should be noted that the

Government has a plethora of laws and schemes to improve the basic social security in the crucial areas like that of the health professionals, pension security, and both institutional and non-institutional support. Despite all efforts to evolve, the current outreach of Government socio-economic protection among rural elderly is quite limited. In rural India, family is the chief basic social institution to provide care and support to the elderly. In this process, nuclearisation of family and outmigration of young adults are major factors that break the norm of this very basic social institution. In this respect, there is an urgent need to facilitate and fortify the mechanism of the community support system.

Finally, it can be stated that a multi-pronged strategy is needed to address the plethora of problems faced by the elderly in India. On one hand their economic condition has to be secured through various pension schemes as existing in different ageing nations/countries like Japan; on the other hand their health issues have to be addressed adequately. Health care expenditure should be entirely free for poorer sections of the senior citizens and highly subsidized for senior citizens who are pensioners or have some economic resource base. Moreover subsidies should also exist on expenditure on basic resources needed by the elderly for securing a quality life. Apart from the family, efforts should be placed on enhancing the community life for the elderly, as psychological support is an imperative for healthy living in the later ages. Moreover the existing Government schemes and new schemes targeted towards the elderly should be implemented properly. Surveillance and monitoring is required to this effect. Finally, at every level, including the Government, Non-Government, Community and Individual; efforts have to be placed to cater to the needs of this most vulnerable and helpless section of Indian population. Such efforts should also involve People's Participation, as people are the best judge of any social problem existing in our society. These efforts would certainly ameliorate the condition of the Indian elderly and make the country a senior citizen friendly one in years to come.

## Appendix (A)

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### Bibliography

#### A.1: Books

- ❖ Alam, M. (2006). *Ageing in India: Socioeconomic and Health Dimensions*. New Delhi: Academic Foundation.
- ❖ Audinarayana, N. (2012). *Urban Elderly in India: Care and Support*. New Delhi: B.R. Publishing Corporation.
- ❖ Audinarayana, N. (2012). *Rural Elderly in India: Perspective and Issues*. New Delhi: B.R. Publishing Corporation.
- ❖ Bali, A.P. (ed). (1999). *Understanding Greying People of India*. New Delhi: Inter-India Publication.
- ❖ Bhinde, A., & Kanitkar, T. (2010). *Principal of Population Studies*. Mumbai: Himalaya Publishing House.
- ❖ Bose, A.B., & Gangrade, K.D. (ed). (1988). *Aging in India: problems and potentialities*. Citizenship Development Society, New Delhi: Abhinav Publications.
- ❖ Bose, A. (2000). *Growing Old in India*. New Delhi: B.R. Publishing Corporation.
- ❖ Chakraborti, R.D. (2004). *The Greying of India*. New Delhi: Sage Publication.
- ❖ Chen, M. A. (1998). *Widows in India*. New Delhi: Sage Publication.
- ❖ Cox, P. R. (1976). *Demography*. Cambridge University Press: Cambridge.
- ❖ Dandekar, K. (1996). *The Elderly in India*. New Delhi: Sage Publications.
- ❖ Giri, V.M. (2013). *Status of Elderly Women in India: A Review*. New Delhi: Gyan Publishing House.
- ❖ Giridhar, G. (ed). (2014). *Population Ageing in India*. New Delhi: Cambridge University Press.
- ❖ Joshi, A.K. (2006). *Older Persons in India*. New Delhi: Serials Publication.
- ❖ Kohli, A.S (1996). *Social Situation of the in India*. New Delhi: Anmol Publication.



- ❖ Liebig, P.S., & Rajan, S.I. (2005). *An Aging in India Perspectives, Prospects and Policies*. New Delhi: Rawat Publications.
- ❖ Mahadevan, K., & Krishnan, P. (1992). *The Elderly Population in Developed and Developing World*. New Delhi: B.R. Publishing Corporation.
- ❖ Mukherjee, M., & Bhattacharya, S. (2008). *Perception of the Elderly*. New Delhi: Global Vision Publishing House.
- ❖ Muthukrishnaveni, S. (2010). *Living Arrangements and Health Conditions of Elderly in Rural India*. New Delhi: Serials Publications.
- ❖ Premi, M. K. (1980). *Urban Out-Migration: A Study of its Nature, Causes and Consequences*. New Delhi: Sterling Publishers.
- ❖ ....., (2006). *Population of India: In the New Millennium: Census 2001*. New Delhi: National Book Trust.
- ❖ ....., (2009). *India's Changing Population Profile*. New Delhi: National Book Trust.
- ❖ Rajan, S.I., & Mishra, U.S (1999). *India's Elderly Burden or Challenge*. New Delhi: Sage Publication.
- ❖ Rajan, S. I. (2006). *Population Ageing and Health in India*. New Delhi: Cehat Publications.
- ❖ ....., (2008). *Social Security for the Elderly: Experiences from South Asia*. New Delhi: Routledge (Taylor & Francis Group).
- ❖ Rajan, S. I. (ed). (2013). *India Migration Report 2013: Social Costs of Migration*. New Delhi: Routledge (Taylor & Francis Group).
- ❖ Rosset, E. (1964). *Aging Process of Population*, New York: Pergamon Press Book.
- ❖ Singh, K. (2007). *Quantitative Social Research Methods*. New Delhi: Sage publications.
- ❖ Simmons, L. (1945). *The Role of the Aged in Primitive Society*. New Haven Connecticut: Yale University Press.
- ❖ Singleton, R. A., & Straits, B.C. (1999). *Approaches to Social Research*. New York: Oxford University press.

- ❖ Srivastava, V. (2010). *Women Ageing: Social Work Intervention*. New Delhi: Rawat Publications.
- ❖ Venkateswarlu V. (2008). *Problems of Aged Rural Area*. New Delhi: Kalpaz Publication.
- ❖ Victor, C.R. (1987). *Old Age in Modern Society: A Textbook in Social Gerontology*. New York: Croon Helm in Association with Methuen.

## **A.2: Journals**

- ❖ Abraham, V. (2009). Employment Growth in Rural India: Distress driven. *Economic and Political Weekly*, XLIV (16), 97-104.
- ❖ Alam, M. (2009). Ageing, Socio-Economic Disparities and Health Outcomes: Some Evidence from Rural India. *Indian Journal for Human Development*, 3(1): 47-76.
- ❖ Alam, M., & Mitra, A. (2012). Labour Market Vulnerabilities and Health Outcomes: Older Workers in India. *Journal of Population Ageing*, 5(4), 241-256.
- ❖ Amanda, S. B., Luptak, M., & Hurtado, M. (2009). Supporting the Labor Force Participation of Older Adults: An International Survey of Policy Options. *Journal of Gerontological Social Work*, 52(6), 584-599.
- ❖ Balagopal, G. (2009). Access to Health Care among Poor Elderly Women in India: how far do Policies Respond to Women's Realities. *Gender & Development*, 17(3), 481-491.
- ❖ Barth, M. C. (2000). An Aging Workforce in an Increasingly Global World. *Journal of Aging and Social Policy*, 11(2-3), 83-88.
- ❖ Barrett, A.E., & Turner, R.J. (2005). Family Structure and Mental Health: The Mediating Effects of Socio-Economic Status, Family Process, and Social Stress. *Journal of Health and Social Behaviour*, (46), 156-169.
- ❖ Bhagat, R.B., & Unisa, S. (2006). Ageing and Dependency in India. *Asian Population Studies*, 2(2), 201-214.
- ❖ Bhagat, R.B., & Das, K. K. (2008). Levels, Trends and Structure of Workforce in India: Census Based Study 1981-2001. *International Institute for Population Sciences*, Mumbai.

- ❖ Bhat, A.K., & Dhruvarajan, R. (2001). Ageing in India: Drifting Intergenerational Relations, Challenges and Options. *Ageing and society*, 21: 621-640.
- ❖ Brijesh, C. P. (2003). Policymaking for Diversity among the Aged in India. *Journal of Aging & Social Policy*, 15(4), 49-79.
- ❖ Chang, T. P. (1992). Implication of Changing Family Structure on Old age Support in the ESCAP Region. *Asia Pacific Population Journal*, (7), 49-66.
- ❖ Chesnais, J.C. (1990). Demographic Transition Patterns and Their Impact on the Age Structure. *Population and Development Review*, 16(2), 327-336.
- ❖ Coward, R.T., & Cutler, S.J. (1989). Informal and Formal Health Care Systems for the Elderly. *Health Services Research* 23(6), 785-806.
- ❖ Currie, J. (1995). Socio-Economic Status and Child Health: Does Public Health Insurance Narrow the Gap. *The Scandinavian Journal of Economics*, 97(4): 603-620.
- ❖ Dandekar, K. (1993). The Aged, their Problems and Social Intervention in Maharashtra. *Economic and Political Weekly*, 27(23), 1188-94.
- ❖ Daniels, N. (1985). Family Responsibility Initiatives and Justice between Age Groups. *Law, Medicine and Health Care*, 13, 153-159.
- ❖ Dillip, T.R. (2001). The Burden of ill Health among the Elderly in Kerala. *Research and Development Journals*, Help Age India, 7(2), 7-11
- ❖ Dutta, S. (2012). Population Ageing and Feminization in Assam. *Indian Journal of Gerontology*, 26(2), 171-192.
- ❖ Ellis, R.P., Alam, M., & Gupta, I. (2000). Health Insurance in India: Prognosis and Prospectus. *Economic and Political Weekly*, 1-11.
- ❖ Gokhale, D. (2003). Towards a Policy for Aging in India. *Journal of Aging & Social Policy*, 15(2-3), 213-234.
- ❖ Gulati, L., & Rajan, S. I. (1999). The Added Years: Elderly in India and Kerala. *Economic and Political Weekly*, 34(44) 46-51.
- ❖ Gupta, R. (2009). Systems Perspective: Understanding Care Giving of the Elderly in India. *Health Care for Women International*, 30(12), 1040-1054.
- ❖ Hanspal, S., & Chadha, N. K. (2006). Economic Aspects of Aging in India. *Journal of Intergenerational Relationships*, 4(1), 81-92.

- ❖ Himangshu, (2011). Employment Trends in India: A re-examination. *Economic and Political Weekly*, XLVI (37), 43-59.
- ❖ Husain, Z., & Ghosh, S. (2010). Economic Independence, Family Support and Perceived Health Status of Elderly: Recent Evidence from India. *Asia-Pacific Population Journal*, 25(1): 47-77.
- ❖ Hussain, Z., & Ghosh, S. (2011). Is Health Status of Elderly Worsening in India? A Comparison of Successive Rounds of National Sample Survey Data. *Journal of Biosocial science*, 43, 211-231.
- ❖ James, K.S. (2011). India's demographic change: Opportunities and challenges. *Science*, 333, 576.
- ❖ Jamuna, D. (2003). Issues of Elder Care and Elder Abuse in the Indian Context. *Journal of Aging & Social Policy*, 15(2-3), 125-142.
- ❖ Kaul, N, (2009). Elderly Single Women and Urban Property: When a Room of One's Own Becomes a Curse. *Gender & Development*, 17(3), 493-502.
- ❖ Kalavar, J.M., & Jamuna, D. (2011). Aging of Indian Women in India: The Experience of Older Women in Formal Care Homes. *Journal of Women & Aging*, 23(3), 203-215.
- ❖ Kumar, S.V. (2003). Economic Security for the Elderly in India: An Overview. *Journal of Aging & Social Policy*, 15, (2/3), 45-65.
- ❖ Mari Bhat, P.N. (1992). Changing Demography of Elderly in India. *Current Science*, 63(8), 440-8.
- ❖ Mason, K. O. (1992). Family Change and Support of the Elderly in Asia: what do we know? *Asia Pacific Population Journal*, 7, 13-32.
- ❖ Mohanty, S., Gangil, O. P., & Kumar, S. (2012). Instrumental Activities of Daily Living and Subjective Wellbeing in Elderly Persons Living in Community. *Indian Journal of Gerontology*, 26(2), 193-206.
- ❖ Nasir, Z.M., Ali, S.M., & Chaudhry, M.A. (2001). Labour Market Participation of the Elderly. *The Pakistan Development Review*, 39(4), 1075-1086.
- ❖ Paltasingh, T., & Tyagi, R. (2012). Demographic Transition and Population Ageing: Building an Inclusive Culture. *Journal of Social Change*, 42(3), 391–409.

- ❖ Pandey, S.M. (1973). Determinants of Urban-Rural Worker Participation Rates in India: An Exploratory Analysis. *Indian Journal of Industrial Relations*, 9(2), 209-225.
- ❖ Pandey, M.K., & Jha, A.K. (2012). Widowhood and Health of Elderly in India: Examining the Role of Economic Factors using Structural Equation Modeling. *International Review of Applied Economics*, 26(1), 111-124.
- ❖ Pang, L., Brauw, A.D., & Rozelle, S. (2004). Working until You Drop: The Elderly of Rural China. *The China Journal*, 52, 73-94.
- ❖ Penny, V. S. (2012). Gender, Poverty and Old-Age Livelihoods in Urban South India in an Era of Globalisation. *Oxford Development Studies*, 40(3), 324-340.
- ❖ Phang, H. (2011). Issues and Challenges Facing Population Ageing in Korea: Productivity, Economic Growth, and Old-Age Income Security. *Journal of Comparative Social Welfare*, 27(1), 51-62.
- ❖ Population Reference Bureau. (2012). India's aging population: Today's Research on Aging. *Program and Policy Implications*, 25: 1-6.
- ❖ Rajan, S.I. (1994). China's One Child Policy: Implication for Population Aging. *Economic and Political Weekly*, 29(38), 2502-06.
- ❖ ..... (2001). Social Assistance for Poor Elderly: How Effective. *Economic and Political Weekly*, 36(8), 613-17.
- ❖ ..... (2006). Population Ageing and Health in India. *Hongkong Journal of Gerontology*, 9(2), 20-28.
- ❖ Rajan, S.I., & Mishra, U. S. (1995). Defining Old Age: An Indian Assessment. *Journal of United Nations Institute on Aging*, 5(4), 31-35.
- ❖ Rajan, S.I., & Kumar, S. (2003). Living Arrangement among India Elderly: New Evidences from National Family Health Survey. *Economic and Political Weekly*, 38 (1), 75-80.
- ❖ Rajan, S.I., Sarma, P.S., & Mishra, U.S. (2003). Demography of Indian Aging, 2001-2051. *Journal of Aging & Social Policy*, 15(2-3), 11-30.
- ❖ Ravishankar, A.K. (2010). Population Ageing Progress in India, Ageing and Society. *The Indian Journal of Gerontology*, 20(3-4), 17-32.

- ❖ Sarmistha, P., & Robert, P. (2011). Understanding Poverty among the Elderly in India: Implications for Social Pension Policy. *Journal of Development Studies*, 47(7), 1017-1037.
- ❖ Sreerupa, & Rajan, S.I. (2010). Gender and Widowhood: Disparity in Health Status and Health Care Utilization among the Aged in India. *Journal of Ethnic and Cultural Diversity in Social Work*, 19(4), 287-304.
- ❖ Silva, I.D. (2005). Family Transition in South Asia: Provision of Social Services and Social Protection. *Asia Pacific Population Journal*, 20, 15-45.
- ❖ Singh, D.P., & Yesudian, P.P. (2009). Elderly Women Workers in India. *Research & Development Journal*, 15 (2), 8-12.
- ❖ Singh, G., & Ashraf, S.W.A. (2012). Spatial Variation in Level of Agricultural Development in Bulandshahr District of Western Uttar Pradesh (India). *International Journal of Development and Sustainability*, 1 (1), 47-56.
- ❖ Strauss, J., & Thomas, D. (1998). Health, Nutrition, and Economic Development. *Journal of Economic Literature*, 36, 766-817.
- ❖ Uhlenberg, P. (1992). Population Aging and Social Policy. *Annual Review of Sociology*, 18, 449-474.
- ❖ Zouba, N., Boulay, B., Bremond, F., & Thonnat, M. (2008). Monitoring activities of daily living (ADLs) of elderly based on 3D key human postures. In *Cognitive Vision* (pp. 37-50). Springer Berlin Heidelberg.

### **A.3: Working and Discussion Papers**

- ❖ Adriaan, K., and Vermeulen, F. 2005: *Labour Force Participation of the Elderly in Europe: The Importance of Being Healthy*. Discussion Paper No. 1887, Institute for the Study of Labor (IZA), Bonn, Germany.
- ❖ Alam, M. & Karan, A. (2011). *Elderly Health in India: Dimension, Differentials and Determinants*. New Delhi: BKPAI Working Paper No. 3, United Nations Population Fund (UNFPA).
- ❖ Bond, J. (et.al) (1998). *The Dynamic Effects of Health on the Labour Force Transitions of Older Workers*. NBER Working Paper no. 6777, National Bureau of Economic Research, Cambridge, Massachusetts Avenue.

- ❖ Lanjouw, J. O., & Lanjouw, P. (1995). *Rural Non-Farm Employment: A Study Policy Research*. Working Paper No 1463, World Bank, Washington.
- ❖ Panigrahi, A. (2009). *Determinants of Living Arrangements of Elderly in Orissa: An Analysis*. ISEC Working Paper Series (228).
- ❖ Raju, S., S. (2011). *Studies on Ageing in India: A Review*. New Delhi: (BKPAI) Working Paper No. 2, United Nations Population Fund (UNFPA).
- ❖ Sathyanarayana, K.M., Kumar, S., & James, K.S. (2012). *Living Arrangements of Elderly in India: Policy and Programmatic Implications*. New Delhi: BKPAI Working Paper No. 7, United Nations Population Fund (UNFPA).
- ❖ Selvaraj, S., Karan, A., & Madheswaran, S. (2011). *Elderly Workforce Participation, Wage Differentials and Contribution to Household Income*. New Delhi: BKPAI Working Paper No. 4, United Nations Population Fund (UNFPA).
- ❖ Subaiya, L., & Bansod, D.W. (2011). *Demographics of Population Ageing in India: Trends and Differentials*. New Delhi, BKPAI Working Paper No. 1, United Nations Population Fund (UNFPA).
- ❖ Williamson, J. B., & McNamara, T. K. (2001). *Why Some Workers Remain in the Labour Force Beyond the Typical Age of Retirement?* Working Paper CRR WP 2001–09. Chestnut Hill: Centre for Retirement Research.

#### **A.4: International and National Reports**

- ❖ Alam, M., Mazumdar, S., Chakravarty, I., & Yadav, P. (2011). *The Status of Elderly in West Bengal*. BKPAI State Series, United Nations Population Fund (UNFPA).
- ❖ Alam, et al., (2012). *Report on the Status of Elderly in Select States of India*. New Delhi: BKPAI, United Nations Population Fund (India).
- ❖ Guzman, J. M., Pawliczko, A., Beales, S., Till, C., & Voelcker, I. (2012). *Ageing in the Twenty First Century: A Celebration and a Challenge*. New York: United Nations Population Fund.
- ❖ Help Age International (2009). *Working for life: Making Decent Work and Pensions for Older People*. Help Age International, London.

- ❖ ....., (2010). *Unreported Lives: the Truth about Older People's Work*. Help Age International, London.
- ❖ ....., (2010). *Forgotten Workforce: Older People and their Right to Decent Work*. Help Age International, London.
- ❖ ....., (2012). *Global Ageing: its Implications for Growth, Decent Work and Social Protection Beyond 2015*. Help Age International, London.
- ❖ Kinsella, K., & Velkoff, V.A. (2001). *An Ageing World: 2001*. US Government Printing Office, Washington, DC.
- ❖ Murray, C.L., & Lopez, A.D. (1996). *Burden of Disease: A Comprehensive Assessment of Mortality and Disability from Diseases, Injuries, and Risk Factors in 1990 and Projected to 2020*. Harvard School of Public Health, London.
- ❖ National Sample Survey Organisation (2000). *Migration in India, 1999-2000: NSS 55th Round July 1999 – June 2000, (Report No. 470 (55/10/8)*, National Sample Survey Organisation (NSSO), Ministry of Statistics and Programme Implementation, Government of India.
- ❖ National Sample Survey Organisation (2003). *Morbidity, Health Care and the Condition of the Aged: NSS 60th Round (January-June 2004)*, Report No. 507 (60/25.0/1), National Sample Survey Organisation (NSSO), Ministry of Statistics and Programme Implementation, Government of India.
- ❖ National Sample Survey Organization (2014). *Key Indicators of Social Consumption in India Health: NSS 71<sup>st</sup> Round January- June 2014, (Report No. NSSK I (71125.0)*, National Sample Survey Organisation (NSSO), Ministry of Statistics and Programme Implementation, Government of India.
- ❖ United Nations Population Division (2011). *World Population Prospects: The 2010 Revision*. New York: United Nations

#### **A.5: Online Website Links**

- ❖ <http://www.who.int/en>
- ❖ <http://censusindia.gov.in>
- ❖ <http://www.helpage.org>
- ❖ <http://mospi.nic.in>
- ❖ <https://www.helpageindia.org>



- ❖ <http://www.unfpa.org>
- ❖ <http://www.isec.ac.in>
- ❖ <http://india.unfpa.org/drive>
- ❖ <http://www.unescap.org/appj.asp>
- ❖ <http://www.prb.org/countries/India.aspx>
- ❖ <http://populationfoundation.in>
- ❖ <http://www.oxfordjournals.org/en>
- ❖ <http://taylorandfrancis.com>
- ❖ <http://www.epw.in>
- ❖ <http://online.sagepub.com>
- ❖ <http://socialjustice.nic.in>
- ❖ <http://www.popcouncil.org/research/india>
- ❖ <http://www.un.org/en/index.html>

## Appendix (B)

### Concepts and Definitions

The concepts and definitions of some important terms used in this research work are as follows:

**Pucca Structure:** A pucca structure is one whose walls and roofs are made of pucca materials such as cement, concrete, oven burnt bricks, hollow cement / ash bricks, stone, stone blocks, jack boards (cement plastered reeds), iron, zinc or other metal sheets, timber, tiles, slate, corrugated iron, asbestos cement sheet, veneer, plywood, artificial wood of synthetic material and poly vinyl chloride (PVC) material.

**Katcha Structure:** A structure which has walls and roof made of non-pucca materials is regarded as a katcha structure. Non-pucca materials include unburnt bricks, bamboo, mud, grass, leaves, reeds, thatch, etc. Katcha structures can be of the following two types:

- ❖ **Unserviceable Katcha** structure includes all structures with thatch walls and thatch roof i.e. walls made of grass, leaves, reeds, etc. and roof of a similar material and
- ❖ **Serviceable Katcha** structure includes all katcha structures other than unserviceable katcha structures.

**Semi-Pucca Structure:** A structure which cannot be classified as a pucca or a katcha structure as per definition is a semi-pucca structure. Such a structure will have either the walls or the roof but not both, made of pucca materials.

**Census House:** A 'census house' is a building or part of a building used or recognized as a separate unit because of having a separate main entrance from the road or common courtyard or staircase, etc. It may be occupied or vacant. It may be used for residential or non- residential purpose or both. If a building has a number of Flats or Blocks/Wings, which are independent of one another having separate entrances of their own from the road or a common staircase or a common courtyard leading to a main gate, these are considered as a separate Census house.

**Village:** The basic unit for rural areas is the revenue village, which has definite surveyed boundaries. The revenue village may comprise of one or more hamlets but the entire village is treated as one unit for presentation of data. In unsurveyed areas, like villages

within forest areas, each habitation area with locally recognized boundaries is treated as one village.

**Labour Force:** Persons who are either employed (or working) or unemployed (or seeking or available for work) constitute the labour force.

**Household:** A 'household' is usually a group of persons who normally live together and take their meals from a common kitchen unless the exigencies of work prevent any of them from doing so. Persons in a household may be related or unrelated or a mix of both. However, if a group of unrelated persons live in a census house but do not take their meals from the common kitchen, then they are not constituent of a common household. Each such person was to be treated as a separate household. The important link in finding out whether it was a household or not was a common kitchen/common cooking. There may be one member households, two member households or multimember households.

**Literate:** A person aged 7 years and above who can both read and write with understanding in any language is taken as literate. A person who can only read but cannot write is not literate. It is not necessary that to be considered as literate, a person should have received any formal education or passed any minimum educational standard. Literacy could have been achieved through adult literacy classes or through any non-formal educational system. People who are blind and can read in Braille are treated as literates.

**Literacy Rate:** Literacy rate of the population is defined as the percentage of literates in the age-group seven years and above. For different age-groups the percentage of literates in that age-group gives the literacy rate.

**Self-Employed:** Persons who operate their own farm or non-farm enterprises or are engaged independently in a profession on own-account or with one or a few partners are considered to be self-employed in household enterprises. The essential feature of the self-employed is that they have autonomy (i.e., how, where and when to produce) and economic independence (i.e. market, scale of operation and money) for carrying out their operation.

**Casual Wage Labour:** A person casually engaged in others' farm or non-farm enterprises (household and non- household) and receiving wages according to the terms of the daily or periodic work contract is called a casual wage labour.

**Elderly:** The 'aged' essentially comprises that group of the population which as per the United Nations cut-off is 60 years and above.

**Rural-Non Farm Sector:** Non-agricultural activities in rural areas play a crucial role in providing simple consumer goods and services to the rural households. Such activities also provide a humble but critical income to the landless labour. Rural households engage in a variety of activities, both agricultural and non-agricultural. Non-agricultural activities include all economic activities other than crop production and allied agricultural activities such as animal husbandry, plantations, fishing, construction, transportation, carpenters, weavers and forestry, etc.

Work is taken as basis to identify workers. The concept of work in Indian census was introduced since 1961 census, but the reference period was changed and the concept of main activity was introduced in 1971. The 1971 census did record the marginal category of workforce. Thus, the figures of 1961 and 1971 censuses were not comparable. In the 1981 census, attempt was made to get a detailed profile of the working characteristics of the population. Workers were categorised into main and marginal since 1981 Census. For the further exploration the definitional criteria for workers have been adopted by census of India will be discussed in the subsequent sections.

The concept of 'income' was introduced in 1931 and continued till 1951. Thereafter, from the 1961 Census, 'Work' formed the basis for collection of economic data. The minimum period for which a person may have been employed for being qualified to be a 'Worker', however, varied over censuses. Persons not engaged in any economic activity were treated as 'Non-workers'.

Work is defined as participation in any economically productive activity with or without compensation, wages or profit. Such participation may be physical and/or mental in nature. Work involves not only actual work but also includes effective supervision and direction of work. It even includes part-time help or unpaid work on farm, family enterprise or in any other economic activity. All persons engaged in 'work' as defined above are workers. Persons who are engaged in cultivation or milk production even solely for domestic consumption are also treated as workers. Reference period for determining a person as worker or non-worker is one year preceding the date of enumeration (Census of India Report, 2001). The division of entire population into three

categories, viz., 'Main Workers', 'Marginal Workers' and 'Non-workers' adopted at 1981 for recoding the economic activity of a person continued for 2001 census also. The **Census of India, 2001** defined a 'Main worker' to be one who had participated in any economically productive activity for a period of more than six months, at any time during the reference period of proceeding one year. A person who had worked for less than six months during the reference period was defined as 'Marginal worker'. 'Work' included even part time help or unpaid work on farm, family enterprise or in any other economic activity. A person who did not work at all during the reference period was treated as 'Non-Worker'.

Census of India 2001, provided information on four categories of workers only i.e. cultivators, agricultural labourers, household industries and other workers. According to Census definition agricultural workers includes cultivators, agriculture and other workers. **Cultivator:** For purposes of Census, a person is classified as Cultivator if he or she is engaged in cultivation on land owned or held from Government or held from Private persons or Institutions for payment in money, kind or share. Cultivation includes effective supervision or direction in cultivation. A person who has given out her/his land to another person or persons or institution(s) for cultivation for money, kind or share of crop and who does not even supervise or direct cultivation of land, is not treated as cultivator. Similarly, a person working on another person's land for wages in cash or kind or a combination of both (agricultural labourer) is not treated as cultivator. Cultivation involves ploughing, sowing, harvesting and production of cereals and millet crops such as wheat, paddy, jowar, bajra, ragi, etc., and other crops such as sugarcane, tobacco, ground-nuts, tapioca, etc., and pulses, raw jute and kindred fibre crop, cotton, cinchona and other medicinal plants, fruit growing, vegetable growing or keeping orchards or groves, etc. Cultivation does not include the following plantation crops tea, coffee, rubber, coconut and betel-nuts areca.

**Agricultural Labourer:** A person who works on another person's land for wages in money or kind or share is regarded as an agricultural labourer. She/he has no risk in cultivation, but merely works on another person's land for wages. An agricultural labourer has no right of lease or contract on land on which she/he works.

Genesis Worker Concept in Indian Census		
Census Year	Workers	Description about the Concept
1951	Self supporting Earning dependents Non earning dependents	Weather their earning sufficient to support them, not enough and they were partly support by other family members, and those who did not do any work at all.
1961	Income Approach Time Disposition	Under these two category workers are classify according their work activity.
1971	Workers Non-Workers	Main Activity: any person whose main activity was participation in any economically productive work by his physical or mental activity including effective supervision or direction of work during one year preceding the census.
1981	Main Workers Marginal Workers Non-Workers	In this census, 'Main worker' to be one who had participated in any economically productive activity for a period of more than six months, at any time during the reference period of preceding one year. A person who had worked for less than six months during the reference period was defined as 'Marginal worker'. A person who did not work at all during the reference period was treated as 'Non-Worker'.
1991	Main Workers Marginal Workers Non-Workers	The 1991 census essentially followed the same procedure to classify the population into main, marginal workers and non-workers as adopted in the 1981 census. 1991 census also explained unpaid work on farm or in family enterprise was added in 'individual slip' to the question "did you work in any time in the last year?"
2001	Main Workers Marginal Workers Non-Workers	The definition of workers in the 2001 census has remained almost similar to one adopted in the 1981 and 1991 censuses. In this census, person engaged in activities relating to milk production even purely household consumption have been regarded as worker.
2011	Main Workers Marginal Workers Non-Workers	The definition of workers in the 2001 census has remained almost similar to one adopted in the 1981, 1991 and 2001 censuses.

**Household Industry:** A household industry is defined as an industry conducted by one or more numbers of the household at home or within the village in rural areas and only within the precincts of the house where the household lives in urban areas. The larger proportion of workers in the household industry should consist of household members.

The industry should not be run on the scale of a registered factory, which would qualify to be registered under the Indian Factory Act.

**Other Worker:** A person who has been engaged in some economic activity during the reference period but not as a Cultivator or Agricultural Labourer or in Household Industry is termed as 'Other Worker (OW)'. The type of workers that come under this category of 'OW' include all Government Servants, Municipal Employees, Teachers, Factory Workers, Plantation Workers, those engaged in trade, commerce, business, transport, banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than Cultivators or Agricultural Labourers or Household Industry Workers are 'Other Workers'.

Since 1981 the Census of India introduced a new category of worker on the basis of whether they had been working for 180 days in a year or less than that. The former group is called "Main Workers" and the latter is called "Marginal Workers." Census of India (2001) defines main and marginal workers as:

**Main Workers:** Those workers who had worked for the major part of the reference period (i.e. 6 months or more) were termed as Main Workers.

**Marginal Workers:** Those workers who had not worked for the major part of the reference period (i.e. 6 months or more) were termed as Marginal Workers.

**Not Working:** Persons who are neither 'working' nor 'seeking or available for work' for various reasons during the reference period are considered as 'not in labour force'. Persons under this category are students, those engaged in domestic duties, rentiers, pensioners, recipients of remittances, those living on alms, infirm or disabled persons, too young persons, prostitutes, etc.

<b>Definitional Change In Disability according to Census of India</b>	
<b>Type of Disability</b>	<b>Change in Definition</b>
<b>In Seeing</b>	One eyed persons were treated as disabled at Census 2001. At the Census 2011 such persons have not been treated as disabled in seeing. At the Census 2011 enumerators were asked to apply a simple test to ascertain blurred vision. At Census 2001 no such instructions were given.
<b>In Hearing</b>	Persons using hearing aid have been treated as disabled at Census 2011. They were not treated as disabled at the Census 2001. Persons having problem in hearing through one ear although the other ear is functioning normally was considered having hearing disability in Census 2001. But in Census 2011, such persons were not considered as disabled.
<b>In Speech</b>	Definition was made clearer in Census 2011 to record persons with speech disability. <u>For instance, “persons who speak in single words and are not able to speak in sentences” was specifically mentioned to be treated as disabled.</u>
<b>In Movement</b>	Specific mention of the following was made in the definition for Census 2011: Paralytic persons Those who crawl Those who are able to walk with the help of aid Have acute and permanent problems of joints/muscles Have stiffness or tightness in movement or have loose, involuntary movements or tremours of the body or have fragile bones Have difficulty balancing and coordinating body movement Have loss of sensation in body due to paralysis, Leprosy etc. Have deformity of body like hunch back or are dwarf.
<b>Mental Retardation</b>	New category introduced at Census 2011. Mental Retardation was covered under the category of mental disability at Census 2001.
<b>Mental Illness</b>	New category introduced at Census 2011. Mental Illness was covered under the category of Mental disability at Census 2001.
<b>Any Other</b>	New category introduced at Census 2011 to ensure complete coverage. This option enabled respondents to report those disabilities which are not listed in the question. In such cases, where informant was not sure about the type of disability this option of reporting disability as ‘Any Other’ was available to her/him.
<b>Multiple Disability</b>	New category introduced at Census 2011. The question has been designed to record as many as three types of disabilities from which the individual was reported to be suffering.



**Appendix (C)**

**(Table: C:1)**

<b>State Wise Distribution of Elderly Population by Sex and Place of Residence in India: 2011</b>									
<b>State</b>	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
Jammu & Kashmir	7.4	7.3	7.5	7.2	7.2	7.1	7.9	7.5	8.3
Himachal Pradesh	10.2	9.8	10.7	10.5	10.1	11.0	7.8	7.4	8.3
Punjab	10.3	9.9	10.9	11.3	10.8	11.8	8.7	8.3	9.2
Chandigarh	6.4	6.0	6.8	3.8	3.6	4.1	6.4	6.1	6.9
Uttarakhand	8.9	8.6	9.3	9.6	9.3	10.0	7.4	7.2	7.6
Haryana	8.7	8.1	9.3	9.2	8.5	9.9	7.7	7.3	8.2
Nct of Delhi	6.8	6.4	7.3	6.5	5.9	7.1	6.8	6.4	7.3
Rajasthan	7.5	6.8	8.1	7.6	7.0	8.3	7.0	6.5	7.5
<b>Uttar Pradesh</b>	<b>7.7</b>	<b>7.7</b>	<b>7.8</b>	<b>8.0</b>	<b>8.0</b>	<b>8.0</b>	<b>6.7</b>	<b>6.6</b>	<b>6.8</b>
Bihar	7.4	7.6	7.2	7.4	7.6	7.3	7.1	7.2	7.0
Sikkim	6.7	7.0	6.4	7.3	7.6	6.9	4.9	5.0	4.9
Arunachal Pradesh	4.6	4.6	4.5	5.3	5.3	5.2	2.3	2.4	2.2
Nagaland	5.2	5.3	5.0	5.8	5.9	5.6	3.8	3.9	3.6
Manipur	7.3	7.2	7.4	6.9	6.9	6.9	8.2	8.0	8.4
Mizoram	6.3	6.2	6.3	6.2	6.2	6.1	6.3	6.1	6.5
Tripura	7.9	7.6	8.2	7.6	7.3	7.9	8.7	8.3	9.1
Meghalaya	4.7	4.5	4.9	4.6	4.5	4.7	4.9	4.4	5.5
Assam	6.7	6.6	6.7	6.5	6.5	6.6	7.5	7.5	7.5
West Bengal	8.5	8.2	8.8	7.9	7.5	8.3	9.8	9.8	9.8
Jharkhand	7.1	7.0	7.3	7.3	7.1	7.6	6.6	6.7	6.5
Odisha	9.5	9.4	9.6	9.8	9.7	9.9	7.8	7.7	7.8
Chhattisgarh	7.8	7.2	8.5	8.2	7.5	8.8	6.8	6.3	7.3
Madhya Pradesh	7.9	7.4	8.4	8.0	7.5	8.5	7.6	7.1	8.1
Gujarat	7.9	7.1	8.8	8.3	7.5	9.2	7.4	6.7	8.2
Daman & Diu	4.7	3.2	7.0	5.9	4.5	7.6	4.3	2.9	6.7
Dadra & Nagar Haveli	4.0	3.3	5.0	4.7	3.8	5.8	3.3	2.7	4.1
Maharashtra	9.9	9.0	10.8	11.3	10.3	12.4	8.1	7.5	8.8
Andhra Pradesh	9.8	9.2	10.4	10.8	10.2	11.5	7.7	7.3	8.1
Karnataka	9.5	8.9	10.1	10.4	9.7	11.1	8.0	7.6	8.4
Goa	11.2	10.1	12.4	11.9	10.6	13.3	10.8	9.8	11.8
Lakshadweep	8.2	8.1	8.3	7.8	8.1	7.5	8.3	8.1	8.5
Kerala	12.6	11.8	13.3	12.6	11.8	13.3	12.5	11.7	13.3
Tamil Nadu	10.4	10.1	10.7	10.8	10.6	11.1	10.0	9.7	10.3
Puducherry	9.7	8.7	10.5	9.2	8.3	10.1	9.8	8.9	10.8
Andaman & Nicobar Islands	6.7	7.0	6.3	7.6	7.9	7.2	5.2	5.5	4.9

**Source:** Calculations based on Census of India, 2011

**Note:** T; Total (Person), M; Male, F; Female

(Table: C:2)

**District Wise Distribution of Elderly Population by Sex and Place of Residence in Uttar Pradesh: 2011**

State Name/District	Total			Rural			Urban		
	T	M	F	T	M	F	T	M	F
<b>Uttar Pradesh</b>	<b>7.7</b>	<b>7.7</b>	<b>7.8</b>	<b>8.0</b>	<b>8.0</b>	<b>8.0</b>	<b>6.7</b>	<b>6.6</b>	<b>6.8</b>
Saharanpur	6.7	6.6	6.9	6.9	6.8	7.0	6.3	6.2	6.5
Muzaffarnagar	7.2	7.1	7.3	7.5	7.4	7.6	6.5	6.3	6.7
Bijnor	6.7	6.6	6.7	6.8	6.8	6.9	6.1	5.9	6.2
Moradabad	5.8	5.8	5.9	5.9	5.8	5.9	5.7	5.6	5.8
Rampur	5.9	5.9	6.0	6.0	6.0	6.0	5.8	5.7	5.9
Jyotiba Phule Nagar	6.4	6.4	6.5	6.7	6.7	6.8	5.6	5.5	5.8
Meerut	6.9	6.7	7.1	7.3	7.1	7.6	6.4	6.3	6.5
Baghpat	8.4	8.4	8.5	8.8	8.8	8.9	6.9	6.8	7.0
Ghaziabad	6.0	5.9	6.1	6.9	6.5	7.2	5.6	5.7	5.6
Gautam Buddha Nagar	6.1	5.8	6.5	6.8	6.4	7.3	5.6	5.3	5.8
<b>Bulandshahr</b>	<b>7.4</b>	<b>6.9</b>	<b>8.0</b>	<b>7.8</b>	<b>7.2</b>	<b>8.5</b>	<b>6.3</b>	<b>6.0</b>	<b>6.7</b>
Aligarh	7.0	6.6	7.5	7.4	6.9	8.0	6.2	6.0	6.4
Mahamaya Nagar	7.4	7.0	7.9	7.6	7.1	8.1	6.7	6.5	7.0
Mathura	7.0	6.8	7.3	7.0	6.7	7.3	7.0	6.9	7.2
Agra	6.4	6.3	6.6	6.6	6.4	6.8	6.2	6.1	6.4
Firozabad	6.7	6.5	7.0	7.2	6.9	7.6	5.7	5.7	5.7
Mainpuri	8.1	8.0	8.3	8.3	8.2	8.5	7.1	6.9	7.2
Budaun	6.2	5.9	6.6	6.3	6.0	6.7	5.9	5.6	6.3
Bareilly	6.3	6.1	6.4	6.4	6.2	6.6	6.0	5.9	6.1
Pilibhit	7.1	6.9	7.2	7.2	7.1	7.3	6.6	6.4	6.8
Shahjahanpur	6.8	6.7	6.9	6.9	6.9	6.9	6.4	6.1	6.8
Kheri	7.2	7.1	7.3	7.3	7.2	7.4	6.6	6.4	6.7
Sitapur	7.6	7.4	7.8	7.7	7.5	8.0	6.6	6.4	6.9
Hardoi	7.9	7.6	8.3	8.1	7.7	8.5	6.9	6.7	7.1
Unnao	8.4	8.1	8.8	8.8	8.4	9.1	7.0	6.7	7.2
Lucknow	7.8	7.8	7.9	8.3	8.0	8.6	7.6	7.7	7.5
Rae Bareli	8.6	8.2	8.9	8.8	8.4	9.1	6.6	6.4	6.7
Farrukhabad	7.2	7.0	7.3	7.2	7.1	7.4	6.9	6.7	7.1
Kannauj	7.8	7.5	8.1	8.0	7.7	8.4	6.8	6.5	7.2
Etawah	8.6	8.5	8.7	8.9	8.7	9.1	7.6	7.6	7.7
Auraiya	8.3	8.2	8.5	8.5	8.4	8.7	7.4	7.3	7.4
Kanpur Dehat	9.1	9.0	9.3	9.2	9.1	9.4	8.0	7.8	8.2
Kanpur Nagar	8.5	8.5	8.5	9.4	9.2	9.5	8.0	8.1	7.9
Jalaun	9.3	9.2	9.5	9.8	9.6	9.9	8.0	7.8	8.3
Jhansi	8.5	8.1	8.9	9.0	8.7	9.4	7.7	7.2	8.3

Contd.....									
District	Total			Rural			Urban		
	T	M	F	T	M	F	T	M	F
Lalitpur	7.3	7.1	7.4	7.3	7.1	7.4	7.2	6.9	7.5
Hamirpur	9.5	9.4	9.7	9.9	9.8	10.1	7.8	7.5	8.2
Mahoba	9.3	9.2	9.4	9.7	9.6	9.7	7.8	7.6	8.0
Banda	8.7	8.5	8.8	8.9	8.7	9.0	7.5	7.3	7.8
Chitrakoot	8.1	8.2	8.0	8.2	8.3	8.1	7.1	6.8	7.5
Fatehpur	8.5	8.5	8.6	8.7	8.7	8.8	7.1	7.0	7.2
Pratapgarh	8.9	9.1	8.7	9.0	9.1	8.8	7.6	7.5	7.6
Kaushambi	7.7	7.6	7.8	7.7	7.7	7.8	6.9	6.7	7.1
Allahabad	7.6	7.6	7.5	7.5	7.6	7.5	7.7	7.7	7.7
Bara Banki	8.0	7.8	8.3	8.2	8.0	8.4	6.7	6.4	7.0
Faizabad	8.6	8.6	8.5	8.7	8.8	8.7	7.7	7.7	7.7
Ambedkar Nagar	9.2	9.5	8.9	9.5	9.9	9.2	7.1	7.1	7.1
Sultanpur	9.0	9.2	8.9	9.1	9.3	9.0	7.0	6.9	7.1
Bahraich	7.4	7.4	7.4	7.5	7.6	7.5	6.2	6.0	6.4
Shrawasti	7.2	7.4	7.0	7.3	7.5	7.0	6.1	6.2	6.0
Balrampur	7.4	7.8	7.0	7.5	7.9	7.0	6.4	6.3	6.4
Gonda	7.7	7.9	7.5	7.8	8.0	7.6	5.9	5.8	6.0
Siddharthnagar	8.3	9.0	7.6	8.4	9.2	7.6	6.8	6.9	6.7
Basti	8.6	9.2	8.0	8.7	9.3	8.0	7.1	7.1	7.1
Sant Kabir Nagar	8.7	9.3	8.0	8.8	9.5	8.1	6.7	6.9	6.5
Mahrajganj	7.7	8.0	7.4	7.7	8.0	7.4	6.9	6.9	6.8
Gorakhpur	8.4	8.7	8.0	8.6	8.9	8.2	7.6	7.9	7.4
Kushinagar	8.0	8.3	7.7	8.1	8.4	7.8	6.8	6.8	6.8
Deoria	9.1	9.5	8.7	9.3	9.7	8.8	7.8	7.9	7.8
Azamgarh	8.8	9.3	8.4	9.1	9.5	8.6	6.5	6.6	6.4
Mau	8.4	8.8	8.1	9.1	9.5	8.7	6.1	6.2	5.9
Ballia	9.0	9.2	8.7	9.1	9.3	8.8	8.1	8.1	8.2
Jaunpur	9.0	9.2	8.8	9.2	9.5	9.0	6.8	6.5	7.0
Ghazipur	8.8	9.0	8.6	8.9	9.1	8.7	7.4	7.3	7.4
Chandauli	8.4	8.4	8.3	8.6	8.7	8.5	6.7	6.6	6.9
Varanasi	7.9	7.9	8.0	8.3	8.2	8.4	7.5	7.6	7.4
Sant Ravidas Nagar Bhadohi	7.7	7.8	7.5	7.9	8.0	7.8	6.2	6.1	6.3
Mirzapur	8.0	7.8	8.2	8.1	8.0	8.3	7.3	7.1	7.5
Sonbhadra	6.9	7.0	6.7	7.4	7.5	7.2	4.3	4.4	4.3
Etah	7.4	7.1	7.8	7.6	7.3	7.9	6.7	6.4	6.9
Kanshiram Nagar	7.0	6.6	7.5	7.1	6.7	7.6	6.7	6.3	7.1

**Source:** Calculations based on Census of India, 2011

**Note:** T; Total (Person), M; Male, F; Female

<b>(Table: C:3)</b>									
<b>District Wise Distribution of Scheduled Caste Elderly Population by Sex and Place of Residence in Uttar Pradesh: 2011</b>									
<b>State Name/District</b>	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
<b>Uttar Pradesh</b>	7.4	7.3	7.5	7.6	7.5	7.7	5.8	5.6	6.1
Saharanpur	6.3	6.1	6.4	6.4	6.3	6.5	5.5	5.2	5.9
Muzaffarnagar	7.2	7.0	7.4	7.4	7.3	7.6	6.2	5.9	6.5
Bijnor	6.4	6.2	6.5	6.5	6.3	6.6	5.5	5.3	5.7
Moradabad	5.5	5.2	5.8	5.7	5.5	6.0	4.6	4.3	4.8
Rampur	5.5	5.3	5.7	5.6	5.4	5.8	4.5	4.2	4.8
Jyotiba Phule Nagar	6.0	5.9	6.2	6.2	6.0	6.3	5.1	4.9	5.3
Meerut	6.1	5.8	6.4	6.5	6.2	6.9	5.5	5.3	5.8
Baghpat	7.7	7.5	8.1	8.0	7.8	8.3	6.4	5.8	7.0
Ghaziabad	5.4	5.2	5.6	6.3	5.9	6.7	4.8	4.8	4.9
Gautam Buddha Nagar	5.4	5.1	5.7	6.3	5.9	6.8	3.9	3.8	4.1
<b>Bulandshahr</b>	6.9	6.3	7.7	7.2	6.5	8.0	5.8	5.4	6.3
Aligarh	6.5	5.9	7.1	6.8	6.2	7.5	5.3	5.0	5.7
Mahamaya Nagar	6.7	6.2	7.3	6.8	6.3	7.5	6.0	5.7	6.4
Mathura	6.0	5.7	6.3	6.2	5.8	6.6	5.3	5.0	5.5
Agra	5.5	5.3	5.8	5.9	5.7	6.2	5.0	4.8	5.3
Firozabad	6.2	5.9	6.6	6.6	6.2	7.1	5.2	5.1	5.3
Mainpuri	7.3	7.1	7.4	7.4	7.3	7.6	6.0	5.9	6.2
Budaun	6.1	5.7	6.5	6.2	5.9	6.7	5.0	4.7	5.4
Bareilly	6.0	5.7	6.2	6.2	6.0	6.5	5.0	4.9	5.2
Pilibhit	6.7	6.5	6.8	6.8	6.7	7.0	5.0	4.5	5.5
Shahjahanpur	6.8	6.6	6.9	6.9	6.8	7.0	5.5	5.1	5.9
Kheri	7.2	7.1	7.4	7.3	7.1	7.4	5.6	5.5	5.8
Sitapur	7.6	7.3	8.0	7.7	7.4	8.0	6.1	5.7	6.5
Hardoi	7.9	7.4	8.5	8.0	7.5	8.6	6.5	6.4	6.8
Unnao	8.2	7.8	8.7	8.4	7.9	8.9	6.5	6.2	6.8
Lucknow	7.6	7.3	7.9	8.4	8.0	8.8	6.2	6.2	6.3
Rae Bareli	8.0	7.6	8.5	8.1	7.7	8.6	5.8	5.3	6.3
Farrukhabad	6.5	6.2	6.7	6.6	6.4	6.8	5.9	5.6	6.3
Kannauj	7.2	6.9	7.6	7.3	7.0	7.7	6.1	5.8	6.4
Etawah	7.8	7.6	8.0	8.0	7.8	8.2	6.6	6.5	6.8
Auraiya	7.7	7.5	8.0	7.8	7.6	8.1	6.6	6.6	6.5
Kanpur Dehat	8.0	7.7	8.3	8.1	7.8	8.4	7.0	6.8	7.3
Kanpur Nagar	7.5	7.4	7.7	8.4	8.2	8.7	6.5	6.4	6.6
Jalaun	8.8	8.6	9.1	9.1	8.9	9.4	7.7	7.4	8.0
Jhansi	8.2	7.8	8.8	8.7	8.3	9.1	7.3	6.7	8.1
Lalitpur	7.1	6.8	7.4	7.2	7.0	7.5	5.9	5.4	6.4

Contd.....									
District	Total			Rural			Urban		
	M	F	T	M	F	T	M	F	
Hamirpur	9.7	9.4	10.1	10.2	9.9	10.6	7.4	6.9	8.0
Mahoba	9.6	9.5	9.8	9.9	9.8	10.0	8.0	7.5	8.7
Banda	8.6	8.3	8.9	8.8	8.5	9.1	7.0	6.7	7.4
Chitrakoot	7.2	7.2	7.3	7.4	7.3	7.4	5.6	5.2	6.0
Fatehpur	7.8	7.6	7.9	7.9	7.8	8.0	6.4	6.0	6.8
Pratapgarh	7.8	7.9	7.8	7.8	7.9	7.8	7.2	7.1	7.3
Kaushambi	7.0	7.0	7.0	7.1	7.0	7.1	6.2	6.1	6.3
Allahabad	6.9	6.8	7.0	7.0	6.9	7.0	6.4	6.1	6.7
Bara Banki	8.3	8.0	8.6	8.4	8.1	8.7	6.6	6.3	6.9
Faizabad	8.1	8.1	8.1	8.3	8.3	8.3	6.3	6.1	6.4
Ambedkar Nagar	8.9	9.1	8.6	9.0	9.2	8.7	7.6	7.6	7.7
Sultanpur	8.5	8.6	8.4	8.6	8.7	8.4	6.2	5.9	6.5
Bahraich	7.8	7.7	7.8	7.8	7.8	7.9	5.7	5.4	6.0
Shrawasti	7.8	8.0	7.7	7.9	8.0	7.7	5.6	5.7	5.6
Balrampur	7.7	8.0	7.3	7.7	8.1	7.3	6.7	6.8	6.5
Gonda	7.6	7.7	7.5	7.7	7.8	7.6	4.9	4.5	5.3
Siddharthnagar	8.3	9.1	7.5	8.3	9.1	7.5	7.0	7.2	6.9
Basti	8.1	8.7	7.5	8.2	8.8	7.5	6.2	6.4	6.0
Sant Kabir Nagar	8.3	8.9	7.6	8.3	9.0	7.6	6.7	6.8	6.7
Mahrajganj	7.7	7.9	7.4	7.7	8.0	7.4	6.4	6.2	6.6
Gorakhpur	7.8	8.2	7.4	7.9	8.4	7.5	6.9	7.1	6.7
Kushinagar	7.6	7.9	7.4	7.7	7.9	7.4	5.9	5.6	6.2
Deoria	8.2	8.5	7.8	8.3	8.6	7.9	6.7	6.6	6.7
Azamgarh	8.4	8.8	8.1	8.5	8.9	8.2	6.6	6.5	6.8
Mau	8.3	8.6	8.1	8.6	8.8	8.3	6.5	6.5	6.5
Ballia	7.6	7.8	7.4	7.7	7.9	7.4	5.9	5.7	6.0
Jaunpur	8.2	8.3	8.1	8.2	8.3	8.1	6.7	6.2	7.2
Ghazipur	8.2	8.2	8.1	8.2	8.3	8.1	6.4	6.2	6.7
Chandauli	7.9	8.0	7.8	8.0	8.1	7.9	6.2	6.0	6.4
Varanasi	7.4	7.3	7.6	7.7	7.6	7.8	6.6	6.4	6.8
Sant Ravidas Nagar Bhadohi	6.7	6.7	6.7	6.8	6.8	6.8	5.9	5.9	6.0
Mirzapur	7.1	7.0	7.3	7.2	7.1	7.3	6.1	5.8	6.4
Sonbhadra	7.2	7.4	7.0	7.5	7.7	7.2	4.0	4.0	4.0
Etah	6.9	6.6	7.3	7.1	6.8	7.5	6.0	5.5	6.6
Kanshiram Nagar	6.6	6.1	7.2	6.8	6.3	7.3	5.8	5.2	6.4

**Source:** Calculations based on Census of India, 2011

**Note:** T; Total (Person), M; Male, F; Female

<b>(Table: C:4)</b>									
<b>Index of Ageing among Elderly Population by Sex and Place of Residence in Uttar Pradesh: 2011</b>									
<b>State Name/District</b>	<b>Total</b>			<b>Rural</b>			<b>Urban</b>		
	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>	<b>T</b>	<b>M</b>	<b>F</b>
<b>Uttar Pradesh</b>	21.7	21.4	22.0	21.6	21.3	21.8	22.0	21.5	22.5
Saharanpur	19.5	19.0	20.1	19.3	18.8	19.9	20.1	19.5	20.8
Muzaffarnagar	20.1	19.5	20.9	20.4	19.9	21.0	19.4	18.4	20.4
Bijnor	18.7	18.3	19.1	18.9	18.6	19.3	17.9	17.3	18.5
Moradabad	15.4	15.2	15.6	14.6	14.4	14.8	17.3	17.1	17.6
Rampur	15.5	15.5	15.5	14.9	14.9	14.9	17.8	17.6	18.0
Jyotiba Phule Nagar	17.1	16.8	17.5	17.4	17.0	17.7	16.2	15.9	16.6
Meerut	20.9	19.9	22.0	20.9	19.7	22.2	20.9	20.1	21.8
Baghpat	24.7	24.3	25.3	25.8	25.5	26.3	20.6	19.9	21.4
Ghaziabad	18.7	18.0	19.4	19.0	17.8	20.5	18.5	18.2	18.8
Gautam Buddha Nagar	18.8	17.7	20.1	19.5	17.9	21.4	18.3	17.6	19.1
<b>Bulandshahr</b>	21.0	19.1	23.3	21.6	19.5	24.1	19.1	17.7	20.6
Aligarh	19.6	18.3	21.1	19.8	18.3	21.6	19.0	18.2	19.9
Mahamaya Nagar	20.4	19.1	22.0	20.5	19.0	22.1	20.3	19.3	21.6
Mathura	19.7	18.9	20.6	18.7	17.9	19.6	22.4	21.6	23.3
Agra	18.2	17.6	18.9	17.1	16.5	17.7	19.9	19.2	20.7
Firozabad	18.6	17.9	19.4	19.4	18.5	20.5	16.8	16.6	17.1
Mainpuri	22.7	22.2	23.2	22.8	22.4	23.3	21.9	21.0	23.1
Budaun	15.6	14.8	16.5	15.4	14.6	16.2	16.6	15.5	17.8
Bareilly	17.0	16.6	17.4	16.1	15.7	16.6	19.1	18.7	19.4
Pilibhit	19.4	19.3	19.6	19.2	19.1	19.3	21.1	20.4	21.9
Shahjahanpur	17.8	17.7	17.9	17.3	17.4	17.2	20.4	19.2	21.7
Kheri	19.1	19.0	19.3	19.0	18.9	19.0	20.7	20.1	21.4
Sitapur	20.2	19.8	20.6	20.2	19.9	20.5	20.4	19.8	21.2
Hardoi	21.4	20.8	22.2	21.5	20.8	22.2	21.3	20.6	22.1
Unnao	25.1	24.2	26.1	25.4	24.5	26.4	23.5	22.6	24.5
Lucknow	27.3	27.0	27.7	23.7	23.1	24.5	29.8	29.8	29.9
Rae Bareli	24.9	23.8	26.2	25.1	23.9	26.3	23.4	22.7	24.2
Farrukhabad	19.6	19.2	20.1	19.0	18.7	19.4	22.2	21.3	23.2
Kannauj	21.6	20.8	22.3	21.8	21.2	22.5	20.3	19.2	21.5
Etawah	25.7	25.3	26.1	25.6	25.3	26.0	26.0	25.4	26.8
Auraiya	24.5	24.4	24.5	24.6	24.6	24.6	23.7	23.4	24.1
Kanpur Dehat	27.6	27.4	27.8	27.8	27.7	27.9	25.7	25.0	26.5
Kanpur Nagar	31.1	31.3	30.9	28.8	28.7	29.0	32.7	33.1	32.3
Jalaun	29.6	29.2	30.0	30.3	30.1	30.4	27.3	26.2	28.5
Jhansi	28.3	26.7	30.1	28.1	27.0	29.4	28.6	26.3	31.3
Lalitpur	19.1	18.7	19.6	18.5	18.2	18.8	23.9	22.6	25.2

Contd.....									
District	Total			Rural			Urban		
	T	M	F	T	M	F	T	M	F
Hamirpur	28.6	28.6	28.7	29.3	29.5	29.0	25.6	24.5	26.9
Mahoba	26.9	26.8	27.0	27.5	27.5	27.4	24.4	23.7	25.2
Banda	23.3	23.2	23.3	23.1	23.2	23.1	24.0	23.4	24.8
Chitrakoot	20.5	21.0	20.1	20.5	21.0	19.9	21.6	20.8	22.4
Fatehpur	24.3	24.1	24.5	24.4	24.3	24.6	23.3	22.8	23.9
Pratapgarh	25.3	24.8	25.8	25.3	24.8	25.8	25.1	24.6	25.8
Kaushambi	19.7	19.6	19.8	19.7	19.6	19.8	19.7	19.2	20.2
Allahabad	21.8	21.8	21.7	20.1	20.1	20.1	29.1	29.2	29.0
Bara Banki	22.1	21.7	22.6	22.3	21.9	22.7	20.7	19.8	21.7
Faizabad	24.8	24.6	25.0	24.4	24.1	24.7	28.0	28.3	27.7
Ambedkar Nagar	26.7	27.0	26.3	27.3	27.7	26.8	21.8	21.8	21.8
Sultanpur	25.5	25.1	25.8	25.6	25.2	25.9	23.3	22.8	23.9
Bahraich	18.5	18.7	18.3	18.4	18.7	18.2	18.7	18.2	19.4
Shrawasti	18.1	18.7	17.5	18.1	18.7	17.5	17.4	17.7	17.0
Balrampur	18.3	19.1	17.3	18.3	19.2	17.3	18.7	18.7	18.7
Gonda	20.1	20.5	19.8	20.2	20.6	19.8	19.0	18.6	19.5
Siddharthnagar	20.2	21.6	18.8	20.3	21.7	18.8	18.7	18.9	18.4
Basti	23.1	24.3	21.8	23.0	24.3	21.6	24.6	24.4	24.8
Sant Kabir Nagar	22.7	23.9	21.4	22.9	24.2	21.6	19.3	19.6	19.0
Mahrajganj	20.7	21.4	19.9	20.6	21.4	19.9	21.3	21.4	21.2
Gorakhpur	24.7	25.3	24.1	24.2	24.7	23.6	27.8	28.6	27.0
Kushinagar	21.7	22.2	21.1	21.7	22.3	21.1	21.3	21.2	21.3
Deoria	25.5	25.5	25.4	25.5	25.6	25.5	24.8	24.7	25.0
Azamgarh	24.1	24.3	24.0	24.6	24.8	24.5	18.6	18.8	18.4
Mau	23.0	23.3	22.6	24.9	25.2	24.5	16.4	16.9	16.0
Ballia	25.8	26.1	25.6	25.9	26.2	25.5	25.8	25.4	26.2
Jaunpur	25.1	24.3	25.8	25.4	24.6	26.1	21.0	20.1	22.1
Ghazipur	24.6	24.6	24.6	24.7	24.7	24.7	22.7	22.5	22.9
Chandauli	23.3	23.3	23.3	23.6	23.7	23.6	20.6	20.1	21.1
Varanasi	24.4	24.1	24.7	23.5	22.9	24.1	25.7	25.9	25.6
Sant Ravidas Nagar Bhadohi	20.4	20.1	20.8	20.9	20.5	21.2	17.5	17.3	17.7
Mirzapur	21.7	21.3	22.2	21.5	21.1	22.0	23.2	22.6	23.8
Sonbhadra	17.8	18.3	17.3	18.3	18.9	17.7	14.5	14.8	14.2
Etah	20.0	19.1	21.2	20.0	19.1	21.1	20.4	19.3	21.7
Kanshiram Nagar	18.1	17.0	19.3	17.8	16.9	19.0	19.3	17.8	20.9

**Source:** Calculations based on Census of India, 2011

**Note:** T; Total (Person), M; Male, F; Female

(Table: C:5)

**Old Age Dependency Ratio (OADR) among Elderly Population by Sex and Place of Residence in Uttar Pradesh: 2011**

State Name/District	Total			Rural			Urban		
	T	M	F	T	M	F	T	M	F
<b>Uttar Pradesh</b>	13.9	13.9	13.8	14.8	14.9	14.8	10.9	10.8	11.0
Saharanpur	11.7	11.6	11.8	12.3	12.3	12.4	10.3	10.1	10.5
Muzaffarnagar	12.7	12.7	12.8	13.5	13.5	13.5	10.9	10.7	11.2
Bijnor	11.8	11.8	11.8	12.3	12.4	12.2	10.3	10.1	10.6
Moradabad	10.7	10.6	10.8	11.3	11.2	11.4	9.6	9.5	9.8
Rampur	10.7	10.7	10.8	11.2	11.1	11.2	9.6	9.4	9.8
Jyotiba Phule Nagar	11.6	11.5	11.7	12.4	12.3	12.4	9.5	9.4	9.7
Meerut	11.6	11.4	11.9	13.1	12.7	13.5	10.4	10.3	10.5
Baghpat	14.8	14.8	14.8	15.7	15.6	15.7	11.7	11.7	11.8
Ghaziabad	10.1	10.1	10.2	12.3	11.7	12.9	9.2	9.3	9.0
Gautam Buddha Nagar	10.3	9.8	10.9	12.4	11.8	13.2	9.0	8.5	9.5
<b>Bulandshahr</b>	13.1	12.2	14.1	14.0	12.9	15.2	10.7	10.3	11.2
Aligarh	12.5	11.7	13.3	13.6	12.6	14.8	10.4	10.1	10.7
Mahamaya Nagar	13.2	12.4	14.1	13.7	12.8	14.8	11.3	11.0	11.8
Mathura	13.0	12.5	13.6	13.5	12.8	14.2	11.9	11.6	12.2
Agra	11.1	10.9	11.3	12.1	11.8	12.4	10.0	9.9	10.1
Firozabad	12.0	11.6	12.4	13.2	12.5	13.9	9.7	9.7	9.7
Mainpuri	14.6	14.4	14.8	15.2	14.9	15.4	11.8	11.7	11.8
Budaun	12.1	11.4	12.9	12.4	11.7	13.3	10.5	9.8	11.2
Bareilly	11.4	11.0	11.7	12.2	11.7	12.6	10.1	9.9	10.3
Pilibhit	12.5	12.2	12.8	12.9	12.7	13.2	10.6	10.3	11.0
Shahjahanpur	12.6	12.3	12.9	13.2	13.0	13.4	10.5	9.9	11.1
Kheri	13.3	13.1	13.5	13.6	13.4	13.9	10.7	10.5	11.0
Sitapur	14.1	13.6	14.7	14.6	14.1	15.2	11.0	10.6	11.4
Hardoi	14.6	13.8	15.5	15.1	14.2	16.2	11.4	11.0	11.8
Unnao	15.0	14.3	15.8	15.9	15.1	16.8	11.3	10.9	11.7
Lucknow	12.6	12.5	12.7	14.8	14.1	15.6	11.7	11.8	11.5
Rae Bareli	15.0	14.5	15.6	15.6	15.0	16.2	10.1	9.9	10.3
Farrukhabad	12.7	12.4	13.1	13.3	12.9	13.7	11.1	10.8	11.4
Kannauj	14.0	13.3	14.7	14.5	13.7	15.3	11.6	11.1	12.1
Etawah	14.9	14.6	15.2	15.8	15.4	16.2	12.2	12.2	12.1
Auraiya	14.5	14.2	14.8	15.1	14.7	15.5	12.0	12.0	12.0
Kanpur Dehat	15.8	15.4	16.3	16.1	15.7	16.6	13.1	12.8	13.4
Kanpur Nagar	13.3	13.3	13.3	16.1	15.7	16.5	12.0	12.1	11.8
Jalaun	15.8	15.5	16.2	16.9	16.5	17.3	12.8	12.5	13.2
Jhansi	13.9	13.3	14.6	15.4	14.9	16.0	12.0	11.2	12.9



Contd.....									
District	Total			Rural			Urban		
	T	M	F	T	M	F	T	M	F
Lalitpur	13.3	13.0	13.6	13.6	13.4	13.9	11.6	11.1	12.1
Hamirpur	16.7	16.3	17.2	17.7	17.3	18.3	12.7	12.2	13.3
Mahoba	16.8	16.6	17.1	17.9	17.7	18.2	13.3	12.9	13.7
Banda	16.1	15.6	16.6	16.9	16.4	17.5	12.3	11.8	12.8
Chitrakoot	15.5	15.5	15.5	16.0	16.1	15.9	11.9	11.4	12.6
Fatehpur	15.2	15.1	15.4	15.8	15.7	16.0	11.4	11.2	11.6
Pratapgarh	16.0	16.7	15.2	16.2	17.1	15.4	12.2	12.2	12.2
Kaushambi	14.7	14.5	14.9	15.0	14.8	15.2	12.0	11.6	12.5
Allahabad	13.3	13.4	13.2	13.9	14.1	13.7	11.8	11.7	11.8
Bara Banki	15.0	14.5	15.5	15.4	14.9	16.0	11.2	10.7	11.8
Faizabad	15.4	15.7	15.1	16.0	16.3	15.6	12.4	12.4	12.4
Ambedkar Nagar	16.7	17.5	15.8	17.3	18.4	16.3	12.0	12.1	11.9
Sultanpur	16.4	16.9	15.8	16.7	17.3	16.1	11.0	10.9	11.2
Bahraich	14.2	14.3	14.2	14.6	14.7	14.6	10.3	10.0	10.7
Shrawasti	13.8	14.2	13.3	13.9	14.4	13.4	10.5	10.6	10.4
Balrampur	14.3	15.2	13.4	14.7	15.7	13.6	10.8	10.6	10.9
Gonda	14.3	14.7	13.8	14.7	15.1	14.1	9.4	9.2	9.6
Siddharthnagar	16.5	18.5	14.6	16.8	19.0	14.8	12.0	12.1	11.8
Basti	15.9	17.4	14.4	16.3	17.9	14.7	11.1	11.1	11.1
Sant Kabir Nagar	16.4	18.0	14.8	16.8	18.6	15.1	11.5	11.9	11.2
Mahrajganj	14.2	14.9	13.5	14.4	15.1	13.6	11.3	11.4	11.2
Gorakhpur	14.8	15.6	13.9	15.6	16.5	14.6	11.9	12.3	11.4
Kushinagar	15.0	15.8	14.2	15.2	16.0	14.3	11.7	11.8	11.7
Deoria	16.7	18.0	15.4	17.1	18.7	15.7	12.9	13.1	12.8
Azamgarh	16.3	17.8	15.0	16.8	18.5	15.4	11.2	11.4	11.0
Mau	15.5	16.5	14.6	17.1	18.3	15.9	10.7	11.0	10.3
Ballia	16.2	16.9	15.5	16.5	17.3	15.7	13.6	13.6	13.6
Jaunpur	16.8	17.8	15.9	17.3	18.6	16.2	11.2	10.8	11.6
Ghazipur	16.4	17.0	15.7	16.7	17.4	16.0	12.3	12.3	12.3
Chandauli	15.2	15.3	15.0	15.8	16.0	15.6	11.2	11.0	11.4
Varanasi	13.5	13.6	13.5	14.8	14.8	14.8	12.0	12.1	11.9
Sant Ravidas Nagar Bhadohi	14.0	14.5	13.5	14.6	15.3	14.0	10.7	10.4	11.0
Mirzapur	14.5	14.3	14.9	15.0	14.8	15.3	12.0	11.6	12.4
Sonbhadra	12.6	12.8	12.3	14.1	14.4	13.7	6.6	6.7	6.5
Etah	13.5	13.0	14.1	14.0	13.4	14.6	11.1	10.8	11.4
Kanshiram Nagar	13.1	12.3	14.0	13.5	12.6	14.5	11.6	10.9	12.3

**Source:** Calculations based on Census of India, 2011  
**Note:** T; Total (Person), M; Male, F; Female

(Table: C:6)

**Distribution of Elderly Population (Marital Status) by Sex and Place of Residence in India: 2011**

India/States	POR	Never Married			Currently Married			Widowed			Separated			Divorced		
		T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
India	Total	0.4	0.5	0.4	11.8	14.6	8.9	58.9	60.8	58.3	10.9	13.3	9.8	8.7	8.9	8.6
	Rural	0.4	0.4	0.4	12.2	15.2	9.4	60.2	61.1	59.9	11.6	14.5	10.1	9.2	9.5	9.1
	Urban	0.6	0.5	0.6	10.7	13.5	7.9	55.9	59.9	55.0	9.7	10.8	9.1	7.9	7.8	7.9
Jammu & Kashmir	Total	0.4	0.4	0.3	12.0	14.2	9.6	65.5	66.9	64.9	20.6	23.9	17.6	13.3	16.7	11.2
	Rural	0.3	0.4	0.3	12.0	14.5	9.4	65.8	66.6	65.4	23.9	29.7	19.6	14.0	17.7	11.3
	Urban	0.5	0.5	0.4	12.0	13.6	10.1	64.7	67.8	63.7	14.0	15.1	12.8	11.6	13.3	10.8
Himachal Pradesh	Total	0.5	0.6	0.4	13.0	16.5	9.6	65.0	70.2	63.7	17.2	19.2	15.4	16.6	16.6	16.6
	Rural	0.5	0.6	0.4	13.3	17.1	9.8	65.4	70.5	64.2	17.8	19.6	16.0	17.5	17.3	17.6
	Urban	0.6	0.6	0.6	10.2	12.2	8.0	58.8	66.7	57.0	11.5	13.6	10.1	9.3	9.6	9.1
Punjab	Total	0.7	0.9	0.4	14.1	16.2	12.0	62.3	67.8	60.1	14.4	15.1	13.6	7.4	6.8	8.4
	Rural	0.8	1.1	0.4	15.5	17.8	13.4	64.4	69.8	62.1	17.8	19.2	16.3	8.8	7.7	10.8
	Urban	0.5	0.5	0.4	11.7	13.6	9.8	58.4	63.8	56.5	9.7	9.8	9.6	5.5	5.2	5.9
Chandigarh	Total	0.3	0.3	0.3	9.0	10.3	7.6	55.0	62.4	52.8	7.9	10.4	5.6	7.6	7.0	8.0
	Rural	0.4	0.5	0.1	5.1	5.8	4.2	52.3	60.1	49.7	4.3	8.3	0.0	0.0	0.0	0.0
	Urban	0.3	0.3	0.3	9.2	10.5	7.7	55.1	62.5	52.8	8.0	10.5	5.7	7.7	7.2	8.1
Uttarakhand	Total	0.5	0.6	0.4	12.5	16.2	9.1	62.2	67.1	60.9	13.1	13.4	12.9	10.0	10.6	9.6
	Rural	0.5	0.6	0.4	13.5	17.7	9.7	63.8	68.5	62.6	14.5	14.9	14.2	11.6	11.4	11.7
	Urban	0.6	0.7	0.5	10.5	13.1	7.7	57.0	63.0	55.3	9.2	9.6	9.0	7.7	9.4	6.8
Haryana	Total	0.4	0.5	0.3	12.3	14.1	10.5	58.1	62.5	56.5	9.6	9.2	10.0	7.8	5.4	10.8
	Rural	0.5	0.6	0.3	13.2	15.0	11.4	59.1	63.6	57.4	11.2	10.3	12.2	9.3	5.3	15.8
	Urban	0.4	0.4	0.4	10.7	12.6	8.8	55.9	60.2	54.5	7.1	7.1	7.0	6.2	5.5	6.9
Nct of Delhi	Total	0.3	0.4	0.3	9.4	11.2	7.6	57.5	61.5	56.2	6.5	7.0	6.3	7.1	6.5	7.5
	Rural	0.4	0.4	0.3	9.0	10.5	7.6	55.3	59.2	53.9	7.5	7.6	7.4	8.3	6.0	10.7
	Urban	0.3	0.3	0.3	9.4	11.2	7.6	57.5	61.5	56.2	6.5	6.9	6.2	7.1	6.5	7.5
Rajasthan	Total	0.3	0.4	0.2	10.4	12.3	8.5	60.5	57.0	61.6	6.2	6.8	5.6	7.0	6.2	7.6
	Rural	0.3	0.4	0.2	10.6	12.5	8.8	61.3	56.4	63.0	6.5	6.9	6.0	8.3	6.7	9.7
	Urban	0.3	0.4	0.3	9.6	11.5	7.8	57.7	59.1	57.3	5.3	6.2	4.8	5.3	5.5	5.3

Uttar Pradesh	Total	0.6	0.7	0.4	12.0	14.4	9.7	59.1	57.4	60.1	9.2	10.0	8.3	9.5	9.9	9.2
	Rural	0.5	0.7	0.4	12.5	15.0	10.2	60.7	58.1	62.3	9.9	10.4	9.1	10.5	10.5	10.5
	Urban	0.6	0.6	0.6	10.2	12.5	8.0	53.2	54.5	52.7	7.1	8.4	6.2	7.3	8.0	6.9
Bihar	Total	0.4	0.4	0.3	11.8	14.6	9.2	61.3	63.4	60.3	10.1	11.7	9.0	11.8	12.4	11.4
	Rural	0.3	0.4	0.3	11.9	14.7	9.3	61.9	63.6	61.0	10.5	11.9	9.5	12.4	13.3	12.0
	Urban	0.4	0.4	0.4	11.2	14.1	8.3	56.9	61.5	55.2	7.7	10.0	6.3	8.3	7.7	8.6
Sikkim	Total	0.9	0.9	0.8	9.3	11.2	7.1	56.4	62.7	53.3	14.4	15.5	13.5	13.9	15.1	12.3
	Rural	0.9	1.0	0.8	10.2	12.3	7.9	59.0	64.0	56.2	15.7	16.7	14.7	14.2	15.2	12.6
	Urban	0.7	0.7	0.7	6.6	8.1	4.9	47.4	55.6	44.9	9.3	9.5	9.1	12.9	14.5	11.7
Arunachal Pradesh	Total	0.5	0.5	0.4	7.2	8.9	5.4	44.5	50.3	42.7	13.1	16.0	10.7	8.3	12.0	6.3
	Rural	0.5	0.5	0.4	8.4	10.5	6.4	47.2	52.2	45.5	15.1	19.0	12.2	8.9	12.3	6.7
	Urban	0.4	0.4	0.4	3.3	4.2	2.3	29.5	35.6	28.2	6.1	7.2	5.0	6.4	10.3	5.1
Nagaland	Total	0.5	0.5	0.5	9.8	12.3	7.3	48.0	52.2	46.8	11.4	13.9	9.5	10.5	11.4	10.0
	Rural	0.5	0.5	0.5	11.2	14.0	8.4	51.0	53.6	50.2	12.9	15.9	10.7	11.4	12.3	10.8
	Urban	0.4	0.4	0.5	6.7	8.5	4.6	39.4	46.3	38.2	8.1	9.9	6.5	8.3	8.8	8.1
Manipur	Total	0.4	0.3	0.4	11.6	14.1	9.1	54.7	63.0	52.6	16.6	15.2	18.0	12.7	11.3	13.3
	Rural	0.3	0.3	0.4	11.4	13.8	9.0	53.3	61.1	51.2	15.7	14.9	16.7	11.8	11.0	12.1
	Urban	0.5	0.4	0.6	12.1	14.8	9.4	57.0	66.7	54.8	18.5	16.1	20.1	14.4	11.9	15.3
Mizoram	Total	0.5	0.5	0.6	9.9	12.1	7.8	51.0	58.6	48.9	10.3	13.0	8.3	14.8	16.9	13.6
	Rural	0.5	0.5	0.5	9.8	12.0	7.6	53.2	57.7	51.6	12.1	16.1	9.1	20.1	24.1	17.4
	Urban	0.5	0.5	0.6	10.1	12.1	8.0	49.3	59.5	46.8	8.8	10.4	7.8	11.9	12.3	11.7
Tripura	Total	0.3	0.3	0.3	9.8	13.3	6.2	55.3	61.8	54.1	9.1	17.6	6.5	6.8	13.3	5.1
	Rural	0.2	0.2	0.2	9.7	13.1	6.3	55.7	61.3	54.5	10.0	18.8	7.2	7.1	14.5	5.1
	Urban	0.4	0.4	0.5	9.9	14.0	5.7	54.4	63.5	53.3	6.6	13.8	4.9	5.8	8.4	5.2
Meghalaya	Total	0.4	0.4	0.4	7.6	10.0	5.2	45.2	49.5	44.3	9.3	14.3	7.3	13.5	18.6	11.9
	Rural	0.4	0.4	0.3	7.7	10.2	5.3	45.7	48.8	45.1	9.8	15.3	7.5	14.1	19.3	12.3
	Urban	0.6	0.5	0.7	7.2	9.2	5.0	43.3	52.6	42.2	7.4	9.5	6.8	10.3	13.5	9.5
Assam	Total	0.3	0.3	0.3	9.4	13.1	5.8	51.1	51.7	50.9	11.9	17.7	9.3	6.5	10.3	5.5
	Rural	0.3	0.3	0.3	9.3	12.9	5.8	51.1	51.1	51.1	12.8	20.4	10.0	6.5	10.5	5.5
	Urban	0.5	0.5	0.6	9.9	13.8	5.9	50.8	56.2	50.0	8.1	11.0	5.8	6.2	9.0	5.5
West Bengal	Total	0.5	0.5	0.5	10.5	14.3	6.7	59.2	62.1	58.7	10.6	17.0	8.0	6.7	9.2	6.0
	Rural	0.3	0.3	0.3	9.7	13.3	6.1	59.8	62.2	59.4	11.7	20.3	8.8	6.5	9.1	5.9

	Urban	0.9	1.0	0.9	12.0	16.3	7.8	58.1	61.9	57.4	8.8	13.0	6.8	7.1	9.5	6.3
Jharkhand	Total	0.4	0.3	0.4	10.5	13.1	7.9	54.3	56.6	53.6	8.3	9.8	7.7	9.0	9.7	8.7
	Rural	0.3	0.3	0.4	10.7	13.3	8.1	55.6	56.4	55.3	8.8	10.2	8.2	9.4	9.8	9.3
	Urban	0.4	0.4	0.5	9.7	12.5	6.9	49.9	57.3	47.7	6.3	8.2	5.6	7.4	9.4	6.6
Odisha	Total	0.3	0.3	0.3	13.0	16.6	9.5	61.7	66.7	60.2	12.0	19.6	8.9	11.5	14.0	10.9
	Rural	0.3	0.2	0.3	13.5	17.2	9.9	62.8	67.2	61.5	12.4	20.2	9.2	11.9	14.1	11.4
	Urban	0.4	0.3	0.4	10.7	13.8	7.5	55.1	63.3	53.2	9.5	15.9	7.5	9.3	13.0	8.5
Chhattisgarh	Total	0.3	0.3	0.3	10.3	12.5	8.2	57.1	57.4	57.0	9.5	11.3	8.7	7.4	8.4	7.1
	Rural	0.3	0.3	0.3	10.8	12.9	8.7	58.1	57.3	58.4	9.7	11.6	8.8	7.7	8.8	7.3
	Urban	0.4	0.4	0.4	9.0	11.2	6.8	53.3	58.3	52.1	8.7	9.6	8.4	6.5	7.0	6.4
Madhya Pradesh	Total	0.4	0.5	0.4	10.9	12.9	9.0	59.5	55.7	61.0	8.2	9.6	7.3	8.2	8.3	8.1
	Rural	0.4	0.5	0.3	11.2	13.0	9.3	60.5	55.5	62.6	8.6	9.9	7.6	8.8	8.8	8.8
	Urban	0.5	0.5	0.5	10.4	12.6	8.2	57.0	56.5	57.2	7.2	8.5	6.4	7.1	7.3	6.9
Gujarat	Total	0.4	0.4	0.4	10.2	11.9	8.5	57.8	54.8	58.7	9.3	9.0	9.5	6.8	5.3	8.5
	Rural	0.3	0.3	0.3	10.9	12.5	9.2	58.4	53.9	59.9	10.6	11.2	10.1	6.7	5.2	8.9
	Urban	0.5	0.5	0.6	9.3	11.0	7.6	56.7	56.3	56.9	7.8	6.9	8.8	6.9	5.6	8.2
Daman & Diu	Total	0.3	0.2	0.5	5.7	5.9	5.4	54.7	54.8	54.7	4.7	4.0	6.0	9.1	6.2	10.4
	Rural	0.2	0.2	0.3	7.6	8.8	6.3	54.2	60.4	53.4	5.1	8.5	2.3	10.3	6.7	11.7
	Urban	0.3	0.2	0.6	5.1	5.2	5.0	54.9	52.0	55.4	4.6	3.1	7.7	8.6	6.0	9.9
Dadra & Nagar Haveli	Total	0.2	0.2	0.3	5.3	5.9	4.6	52.7	56.8	51.9	7.6	6.8	8.7	3.4	5.8	2.6
	Rural	0.2	0.2	0.3	6.4	7.1	5.6	53.7	55.8	53.3	9.1	8.7	9.4	3.1	5.9	2.2
	Urban	0.2	0.1	0.2	4.2	4.7	3.7	50.8	58.3	49.1	4.9	3.9	6.6	4.0	5.8	3.2
Maharashtra	Total	0.5	0.5	0.6	13.0	15.5	10.6	59.5	62.8	58.8	12.7	14.3	12.0	9.7	10.4	9.4
	Rural	0.5	0.4	0.5	15.1	17.9	12.4	63.0	66.0	62.3	14.5	17.7	13.4	10.8	11.8	10.5
	Urban	0.7	0.6	0.8	10.5	12.7	8.2	54.5	58.3	53.7	9.7	10.1	9.5	8.4	9.0	8.1
Andhra Pradesh	Total	0.4	0.3	0.4	12.1	15.6	8.6	56.3	63.0	55.1	10.3	15.2	8.6	9.1	11.8	8.3
	Rural	0.3	0.3	0.3	13.2	17.0	9.5	58.7	64.9	57.5	10.7	16.3	8.8	9.5	13.3	8.5
	Urban	0.5	0.4	0.6	9.7	12.6	6.9	50.3	57.4	49.2	9.1	11.7	8.1	8.0	8.4	7.9
Karnataka	Total	0.4	0.3	0.5	12.2	16.0	8.6	56.4	64.7	55.1	10.9	15.6	9.4	9.8	11.5	9.2
	Rural	0.3	0.3	0.4	13.4	17.6	9.3	58.8	66.5	57.5	11.5	18.0	9.6	10.4	13.3	9.6
	Urban	0.5	0.4	0.7	10.4	13.6	7.4	51.7	61.0	50.3	9.3	10.7	8.8	8.9	9.7	8.5

Goa	Total	1.0	0.8	1.3	13.9	17.6	10.2	62.0	64.6	61.6	14.5	17.6	12.7	16.0	17.8	15.0
	Rural	0.9	0.7	1.1	14.4	18.5	10.3	63.0	65.3	62.7	17.8	19.4	16.9	17.5	19.6	16.3
	Urban	1.0	0.8	1.3	13.6	17.1	10.1	61.1	64.1	60.7	12.2	16.2	10.1	15.4	17.0	14.5
Lakshadweep	Total	0.2	0.2	0.2	10.7	14.8	6.6	62.4	77.4	60.0	19.1	21.8	18.2	19.2	20.3	18.9
	Rural	0.1	0.1	0.1	10.2	14.2	5.9	65.7	78.5	62.9	10.9	16.7	7.5	12.8	17.6	11.5
	Urban	0.3	0.2	0.3	10.9	14.9	6.8	61.5	77.0	59.2	21.4	24.1	20.6	20.9	21.1	20.9
Kerala	Total	0.8	0.4	1.3	14.8	20.7	9.6	67.2	76.3	66.2	14.1	17.1	13.3	12.3	13.5	12.1
	Rural	0.7	0.4	1.1	15.0	20.6	9.9	66.7	76.1	65.6	13.8	17.5	12.9	12.4	13.5	12.2
	Urban	0.9	0.5	1.5	14.6	20.8	9.1	67.7	76.4	66.8	14.4	16.5	13.8	12.2	13.5	11.9
Tamil Nadu	Total	0.4	0.3	0.4	12.6	16.8	8.5	57.1	65.7	55.5	12.9	16.2	11.8	8.7	8.5	8.8
	Rural	0.3	0.2	0.3	13.2	17.8	8.7	57.3	66.0	55.5	13.3	18.0	11.7	9.8	10.3	9.6
	Urban	0.4	0.3	0.5	12.0	15.9	8.3	56.9	65.3	55.3	12.5	14.3	11.9	7.8	7.2	8.1
Puducherry	Total	0.5	0.4	0.7	11.3	14.9	7.8	55.7	65.0	54.4	11.2	14.9	10.1	11.4	9.0	12.2
	Rural	0.3	0.2	0.3	10.9	14.6	7.4	52.8	62.7	51.4	10.8	16.4	9.2	10.9	6.3	12.5
	Urban	0.6	0.4	0.8	11.4	15.1	7.9	57.1	66.2	55.9	11.3	14.3	10.4	11.4	9.5	12.1
Andaman & Nicobar Islands	Total	0.4	0.5	0.3	8.7	11.7	5.5	48.8	58.0	46.6	13.1	19.0	8.1	8.5	10.4	7.5
	Rural	0.5	0.6	0.3	9.9	13.2	6.3	52.1	58.6	50.3	15.4	22.9	8.7	8.0	9.4	7.3
	Urban	0.3	0.3	0.3	6.9	9.5	4.2	41.9	56.1	39.5	7.8	9.4	6.6	9.2	12.2	7.9

**Source:** Calculations based on Census of India, 2011

**Note:** T; Total (Person), M; Male, F; Female

(Table: C:7)

**Distribution of Elderly Population (Marital Status) by Sex and Place of Residence in Uttar Pradesh: 2011**

District	Place of Residence	Never Married			Currently Married			Widowed			Separated			Divorced		
		M	F	T	M	F	M	F	T	M	F	M	F	T	M	
Uttar Pradesh	Total	0.6	0.7	0.4	12.0	14.4	9.7	59.1	57.4	60.1	9.2	10.0	8.3	9.5	9.9	9.2
	Rural	0.5	0.7	0.4	12.5	15.0	10.2	60.7	58.1	62.3	9.9	10.4	9.1	10.5	10.5	10.5
	Urban	0.6	0.6	0.6	10.2	12.5	8.0	53.2	54.5	52.7	7.1	8.4	6.2	7.3	8.0	6.9
Saharanpur	Total	0.4	0.5	0.4	10.6	12.7	8.6	58.0	59.9	57.0	9.0	9.3	8.6	6.9	6.3	7.4
	Rural	0.4	0.5	0.3	11.0	12.9	9.1	59.5	60.3	59.0	9.3	9.3	9.2	8.1	6.7	9.9
	Urban	0.5	0.5	0.5	9.8	12.2	7.4	54.5	58.6	52.9	8.4	9.2	7.8	5.5	5.7	5.4
Muzaffarnagar	Total	0.4	0.5	0.3	11.5	13.6	9.4	60.4	62.2	59.4	7.9	7.7	8.1	7.1	5.8	8.3
	Rural	0.5	0.6	0.3	12.0	14.1	9.9	61.6	62.9	60.8	8.8	8.1	9.6	8.0	6.0	10.4
	Urban	0.3	0.4	0.3	10.2	12.4	8.1	57.2	59.7	56.2	5.5	6.3	4.9	5.3	5.4	5.3
Bijnor	Total	0.4	0.4	0.3	11.0	13.3	8.8	59.4	60.4	58.9	8.0	7.7	8.3	6.9	7.5	6.6
	Rural	0.4	0.5	0.3	11.3	13.4	9.2	60.2	60.5	60.0	7.8	7.4	8.4	6.6	6.5	6.7
	Urban	0.3	0.3	0.4	10.3	12.8	7.8	57.0	59.7	56.0	8.5	8.9	8.2	7.4	9.6	6.4
Moradabad	Total	0.4	0.5	0.4	9.8	11.9	7.6	54.6	53.5	55.2	7.7	8.0	7.4	6.7	6.7	6.6
	Rural	0.4	0.4	0.3	10.0	12.0	8.0	56.5	53.4	58.2	7.9	7.2	8.8	8.0	8.2	7.8
	Urban	0.5	0.5	0.5	9.3	11.8	6.9	51.2	53.6	50.3	7.3	9.6	5.7	5.6	5.1	5.8
Rampur	Total	0.4	0.5	0.4	10.1	12.7	7.5	57.4	55.2	58.4	8.9	9.5	8.2	8.2	7.9	8.3
	Rural	0.4	0.5	0.4	10.3	12.7	7.9	59.0	55.0	61.2	9.5	9.8	9.1	9.3	9.2	9.4
	Urban	0.4	0.4	0.4	9.6	12.8	6.4	53.5	56.1	52.7	7.2	8.3	6.6	6.6	4.7	7.3
Jyotiba Phule Nagar	Total	0.3	0.4	0.3	10.4	12.7	8.3	59.1	58.7	59.3	8.3	8.5	8.1	7.2	9.3	5.8
	Rural	0.3	0.4	0.2	10.9	13.0	8.8	60.3	58.8	61.2	8.8	8.9	8.7	8.5	9.7	7.4
	Urban	0.3	0.3	0.3	9.1	11.6	6.7	55.2	58.4	54.1	6.9	7.0	6.8	5.3	8.4	4.3
Meerut	Total	0.5	0.6	0.4	10.5	12.6	8.4	56.6	57.5	56.2	8.0	8.3	7.7	7.5	7.2	7.7
	Rural	0.6	0.8	0.4	11.3	13.3	9.3	59.1	58.7	59.3	8.1	8.2	8.1	9.8	9.3	10.5
	Urban	0.4	0.4	0.4	9.7	11.9	7.6	53.9	56.1	53.1	7.8	8.4	7.4	6.0	5.6	6.3
Baghpat	Total	0.7	0.9	0.3	13.0	15.3	10.8	62.3	65.6	60.5	9.1	10.0	8.0	9.5	10.0	8.9
	Rural	0.8	1.1	0.3	13.6	15.9	11.4	63.1	65.6	61.6	9.2	10.7	7.3	10.4	10.0	11.1
	Urban	0.4	0.5	0.2	10.6	12.7	8.6	59.3	65.3	56.5	8.6	7.2	9.8	6.9	10.0	3.8

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Ghaziabad	Total	0.7	0.8	0.7	9.1	11.0	7.3	50.8	51.8	50.4	7.4	7.5	7.2	6.9	6.3	7.5
	Rural	0.7	0.8	0.5	10.7	12.6	8.7	56.6	56.1	56.8	8.4	8.4	8.3	6.8	6.2	7.6
	Urban	0.8	0.8	0.7	8.4	10.3	6.6	47.2	49.1	46.4	6.8	6.9	6.7	7.0	6.3	7.5
Gautam Buddha Nagar	Total	0.5	0.5	0.4	9.0	10.4	7.6	55.9	56.6	55.6	7.5	9.1	6.2	8.5	7.6	9.2
	Rural	0.5	0.6	0.4	10.3	12.0	8.7	56.9	56.6	57.0	6.6	8.1	5.0	10.7	8.6	13.8
	Urban	0.4	0.4	0.4	8.2	9.5	6.9	54.8	56.6	54.2	8.3	10.1	7.0	7.3	7.0	7.5
Bulandshahr	Total	0.4	0.5	0.3	11.2	13.4	9.2	60.1	58.8	60.6	7.5	8.6	6.5	7.5	6.2	8.8
	Rural	0.4	0.5	0.3	11.8	13.9	9.7	61.4	59.1	62.3	7.9	8.9	6.8	7.6	6.1	9.3
	Urban	0.5	0.5	0.5	9.6	11.7	7.6	55.5	57.8	54.6	6.3	7.5	5.5	7.3	6.3	7.8
Aligarh	Total	0.5	0.5	0.4	10.8	12.9	8.8	56.6	53.4	58.0	6.5	6.7	6.4	8.8	6.2	10.9
	Rural	0.5	0.6	0.3	11.3	13.3	9.3	58.9	54.1	61.2	7.1	7.3	6.9	9.9	6.4	13.4
	Urban	0.5	0.5	0.5	9.8	12.0	7.6	51.2	51.3	51.2	5.4	5.0	5.7	7.5	5.9	8.5
Mahamaya Nagar	Total	0.4	0.5	0.3	11.2	13.4	9.0	58.9	54.0	61.3	7.9	6.1	10.0	7.2	6.8	7.6
	Rural	0.4	0.6	0.3	11.5	13.6	9.3	60.0	54.0	63.1	8.4	6.7	10.8	8.0	8.1	7.9
	Urban	0.4	0.4	0.3	10.1	12.5	7.8	54.6	53.8	54.9	5.9	3.6	7.9	4.9	1.8	7.0
Mathura	Total	0.7	0.8	0.4	10.6	12.5	8.7	55.6	52.8	57.0	9.6	10.5	8.6	7.3	5.2	9.3
	Rural	0.6	0.8	0.4	10.8	12.6	8.9	56.1	52.4	58.1	8.5	8.6	8.4	8.2	5.8	11.0
	Urban	0.8	1.1	0.6	10.1	12.2	8.1	54.3	53.7	54.5	11.3	14.3	8.8	6.3	4.4	7.7
Agra	Total	0.6	0.7	0.5	10.0	11.8	8.1	52.6	51.3	53.3	7.2	7.6	6.8	7.9	7.3	8.5
	Rural	0.6	0.8	0.4	10.2	11.9	8.4	55.9	53.3	57.4	8.6	9.5	7.5	9.0	8.3	9.8
	Urban	0.6	0.6	0.7	9.7	11.7	7.7	48.6	48.4	48.7	5.8	5.4	6.1	7.2	6.6	7.7
Firozabad	Total	0.6	0.7	0.5	10.4	12.5	8.4	54.2	50.9	56.0	7.3	7.1	7.6	8.7	8.0	9.3
	Rural	0.6	0.7	0.4	11.1	13.2	9.1	56.8	52.1	59.6	7.6	7.0	8.4	10.2	9.2	11.3
	Urban	0.6	0.6	0.6	9.0	11.1	7.0	47.8	47.6	48.0	6.8	7.4	6.3	7.4	6.6	7.9
Mainpuri	Total	0.6	0.7	0.4	12.7	15.2	10.3	58.0	55.4	59.6	9.3	9.9	8.7	9.6	10.8	8.8
	Rural	0.6	0.7	0.4	13.1	15.6	10.7	59.0	55.4	61.2	10.4	10.4	10.4	11.6	11.5	11.7
	Urban	0.5	0.5	0.4	10.7	13.2	8.3	52.8	55.5	51.8	4.7	6.5	3.4	4.7	7.7	3.4
Budaun	Total	0.6	0.8	0.4	9.5	11.4	7.7	52.8	44.9	57.5	8.7	10.2	7.0	10.5	10.3	10.7
	Rural	0.7	0.8	0.4	9.6	11.4	7.8	53.1	44.4	58.6	9.6	10.9	7.8	11.4	10.3	12.5
	Urban	0.5	0.5	0.4	9.2	11.3	7.1	51.6	48.4	52.9	5.8	6.7	5.4	8.8	10.3	8.1
Bareilly	Total	0.6	0.7	0.5	9.9	11.9	7.8	53.0	49.2	54.9	8.8	10.2	7.3	7.5	7.4	7.6
	Rural	0.6	0.7	0.4	10.1	12.1	8.1	56.0	49.9	59.5	10.2	11.1	8.9	8.9	8.0	9.7

	Urban	0.7	0.7	0.6	9.5	11.7	7.3	47.5	47.8	47.4	6.2	7.6	5.2	6.0	6.5	5.7
Pilibhit	Total	0.6	0.7	0.4	11.0	13.3	8.7	58.6	53.1	61.6	7.9	9.3	6.2	9.2	11.4	7.2
	Rural	0.6	0.7	0.4	11.1	13.5	8.8	59.9	53.3	63.7	8.3	9.7	6.5	9.3	11.2	7.3
	Urban	0.7	0.7	0.6	10.2	12.6	7.8	52.8	52.1	53.0	6.0	6.9	5.3	8.8	12.1	7.0
Shahjahanpur	Total	0.7	0.9	0.4	10.4	12.6	8.2	55.2	49.0	59.2	8.8	10.2	7.1	9.7	10.1	9.4
	Rural	0.7	1.0	0.4	10.6	12.7	8.4	55.9	48.6	61.1	9.7	11.3	7.2	11.8	11.2	12.4
	Urban	0.5	0.5	0.5	9.7	12.0	7.5	52.6	51.0	53.3	6.5	5.6	7.0	6.8	7.7	6.4
Kheri	Total	0.5	0.6	0.4	11.1	13.3	8.9	56.1	51.6	58.9	8.4	9.4	6.9	8.9	8.7	9.2
	Rural	0.5	0.6	0.4	11.2	13.4	9.1	56.6	51.6	59.8	8.8	9.6	7.7	9.1	8.7	9.5
	Urban	0.4	0.4	0.4	9.8	12.3	7.4	52.3	51.4	52.7	4.9	7.8	3.0	8.1	8.4	8.0
Sitapur	Total	0.6	0.7	0.4	11.7	13.8	9.7	57.1	50.3	61.6	9.0	9.2	8.7	8.6	8.3	8.9
	Rural	0.6	0.7	0.4	11.9	14.0	10.0	57.8	50.3	63.0	9.1	9.0	9.5	9.2	8.4	10.4
	Urban	0.7	0.8	0.7	10.3	12.5	8.1	51.9	50.6	52.4	7.9	11.9	4.6	5.4	7.1	4.8
Hardoi	Total	0.8	0.9	0.5	12.0	14.2	9.9	57.9	49.1	63.6	9.2	9.6	8.4	10.8	9.9	12.0
	Rural	0.8	1.0	0.5	12.3	14.4	10.2	58.6	49.0	65.1	9.6	9.8	9.0	11.8	10.2	15.0
	Urban	0.7	0.7	0.7	10.4	12.8	8.1	52.9	50.1	54.2	6.3	7.2	5.5	6.8	7.6	6.4
Unnao	Total	0.5	0.6	0.4	12.8	15.4	10.4	59.5	53.5	62.6	8.8	9.2	8.1	8.1	7.4	8.8
	Rural	0.5	0.6	0.4	13.4	16.0	10.9	60.5	53.7	64.3	9.3	9.7	8.7	9.1	7.4	11.0
	Urban	0.5	0.6	0.5	10.3	12.6	8.0	53.7	52.6	54.2	6.1	5.8	6.3	5.4	7.2	4.4
Lucknow	Total	0.9	0.9	0.9	11.4	14.0	9.0	54.9	56.0	54.5	7.9	9.4	6.4	8.1	8.3	8.0
	Rural	0.8	0.8	0.7	12.7	15.1	10.5	59.5	54.7	61.9	9.8	10.5	8.5	9.2	10.0	8.0
	Urban	1.0	1.0	0.9	10.8	13.5	8.3	52.5	56.9	50.9	6.5	8.1	5.5	7.6	6.8	8.0
Rae Bareli	Total	0.5	0.5	0.4	12.6	15.0	10.3	62.3	57.6	64.8	9.4	9.5	9.2	9.5	9.4	9.5
	Rural	0.5	0.6	0.4	12.9	15.3	10.6	63.0	57.7	65.8	9.6	9.7	9.4	9.5	9.1	9.9
	Urban	0.4	0.4	0.4	9.7	12.0	7.4	54.4	56.8	53.6	6.9	6.8	6.9	9.1	15.5	7.4
Farrukhabad	Total	0.4	0.6	0.3	11.1	13.6	8.7	57.2	52.1	60.0	6.6	7.2	6.1	9.7	9.9	9.5
	Rural	0.5	0.6	0.2	11.4	13.7	9.0	58.2	52.0	62.0	7.0	7.2	6.8	10.9	11.4	10.5
	Urban	0.4	0.4	0.4	10.4	13.0	7.9	53.4	52.4	53.8	5.6	7.3	4.6	7.6	6.0	8.2
Kannauj	Total	0.6	0.8	0.3	12.3	14.8	9.8	60.4	53.8	63.9	9.1	10.0	8.1	9.8	8.4	10.8
	Rural	0.6	0.8	0.3	12.6	15.1	10.1	61.3	53.8	65.5	9.9	10.1	9.5	10.6	7.6	13.2
	Urban	0.4	0.5	0.4	10.9	13.4	8.6	55.6	53.7	56.4	6.5	9.5	4.8	8.4	10.5	7.3
Etawah	Total	0.7	0.9	0.4	12.9	15.4	10.4	59.7	56.5	61.6	8.2	6.9	9.6	10.8	10.3	11.1



	Rural	0.7	1.0	0.4	13.4	15.9	10.9	61.0	56.3	64.0	8.4	7.0	10.1	14.5	11.8	16.7
	Urban	0.5	0.5	0.4	11.4	14.0	8.8	55.0	57.0	54.2	7.9	6.5	8.9	5.8	7.9	4.6
Auraiya	Total	0.5	0.7	0.2	12.7	15.3	10.1	60.5	56.1	63.2	8.3	8.2	8.4	9.9	10.9	9.1
	Rural	0.6	0.8	0.2	13.0	15.6	10.4	61.5	56.0	65.0	8.7	8.2	9.3	11.3	11.5	11.1
	Urban	0.4	0.5	0.3	11.0	13.5	8.6	55.3	57.0	54.6	6.7	8.3	5.8	6.1	8.8	4.6
Kanpur Dehat	Total	0.8	1.0	0.4	13.9	16.4	11.3	62.3	57.6	65.1	9.5	9.4	9.6	9.0	10.2	8.1
	Rural	0.8	1.1	0.4	14.1	16.6	11.5	62.6	57.6	65.8	9.8	9.5	10.2	9.5	10.0	9.1
	Urban	0.6	0.7	0.5	12.0	14.4	9.5	58.9	58.4	59.1	6.5	8.0	5.4	5.9	11.8	3.0
Kanpur Nagar	Total	1.0	1.1	0.7	12.5	15.0	10.0	55.4	53.6	56.4	8.3	10.0	6.8	10.2	12.5	8.5
	Rural	0.7	1.0	0.4	14.5	17.3	11.8	62.8	58.5	65.3	9.2	9.5	8.9	12.0	10.2	13.8
	Urban	1.1	1.2	0.9	11.5	14.0	9.0	51.3	50.7	51.7	7.9	10.2	6.1	9.9	13.0	7.6
Jalaun	Total	0.7	0.9	0.3	13.3	15.6	11.0	62.2	58.6	64.5	10.1	11.1	9.2	10.4	10.4	10.4
	Rural	0.7	1.0	0.3	13.8	16.1	11.5	63.5	59.1	66.6	11.8	12.1	11.6	11.9	10.8	13.0
	Urban	0.6	0.7	0.4	11.6	13.9	9.2	57.9	56.6	58.5	6.2	8.0	5.2	7.9	9.3	7.5
Jhansi	Total	0.6	0.7	0.5	11.6	13.7	9.6	59.4	54.7	61.6	7.7	8.5	6.9	10.1	10.0	10.2
	Rural	0.6	0.7	0.4	12.3	14.3	10.4	61.7	54.9	65.5	9.4	9.4	9.4	13.1	13.1	13.1
	Urban	0.6	0.6	0.6	10.6	12.7	8.5	56.3	54.4	56.9	5.8	6.8	5.0	8.0	6.9	8.6
Lalitpur	Total	0.5	0.6	0.3	10.3	12.2	8.3	59.1	52.8	62.4	8.6	9.2	7.5	9.0	9.6	8.5
	Rural	0.5	0.6	0.3	10.3	12.2	8.4	59.6	52.2	63.7	8.5	9.3	6.8	10.0	10.1	9.8
	Urban	0.6	0.6	0.6	10.1	12.3	7.9	56.3	57.3	56.0	8.9	8.0	9.6	6.3	7.5	5.6
Hamirpur	Total	0.8	0.9	0.5	14.5	17.0	12.1	61.9	58.2	64.1	11.0	12.1	10.0	12.1	10.9	12.7
	Rural	0.8	1.0	0.5	15.2	17.7	12.8	63.1	59.0	65.8	11.5	11.9	11.0	9.7	7.6	11.0
	Urban	0.7	0.7	0.6	11.6	14.0	9.1	56.5	53.9	57.6	9.6	13.3	7.7	16.4	21.1	15.0
Mahoba	Total	0.8	1.0	0.5	14.0	16.3	11.7	60.5	55.9	63.4	10.6	11.0	9.9	14.4	11.2	17.6
	Rural	0.8	1.0	0.5	14.6	16.9	12.4	61.7	56.8	65.2	10.3	10.8	9.5	16.7	12.1	22.4
	Urban	0.7	0.8	0.6	11.7	14.1	9.3	55.9	51.9	57.8	11.6	12.3	10.9	9.3	8.7	9.7
Banda	Total	0.6	0.8	0.3	13.8	16.3	11.2	60.3	57.0	62.3	10.8	11.7	10.3	14.1	15.9	13.3
	Rural	0.6	0.8	0.3	14.2	16.8	11.7	61.1	57.3	63.4	10.8	11.5	10.3	14.9	19.6	13.1
	Urban	0.4	0.4	0.4	11.4	14.0	8.8	56.3	54.3	57.1	11.1	12.8	10.2	11.5	6.7	14.0
Chitrakoot	Total	0.6	0.8	0.3	13.2	15.6	11.0	60.0	58.3	61.2	11.2	14.3	8.7	11.5	6.5	14.0
	Rural	0.6	0.8	0.3	13.5	15.8	11.2	60.7	58.7	62.1	12.1	15.1	9.4	14.3	7.7	17.9
	Urban	0.5	0.6	0.4	10.9	13.2	8.6	54.6	53.0	55.2	7.1	8.5	6.4	2.3	0.0	2.9

Fatehpur	Total	0.5	0.6	0.3	13.3	16.0	10.6	59.6	57.4	60.9	9.9	9.7	10.0	9.7	8.1	10.4
	Rural	0.5	0.7	0.3	13.6	16.4	11.0	60.2	57.4	61.8	10.4	10.0	10.8	11.0	9.4	11.8
	Urban	0.4	0.4	0.3	10.8	13.4	8.1	55.0	56.7	54.4	6.2	7.3	5.7	3.8	1.6	4.6
Pratapgarh	Total	0.5	0.6	0.5	13.6	16.5	11.1	62.5	63.4	62.0	11.1	12.1	10.0	11.3	13.5	9.7
	Rural	0.5	0.6	0.5	13.8	16.7	11.2	62.9	63.7	62.5	11.1	12.0	10.1	12.0	14.2	10.4
	Urban	0.6	0.6	0.7	11.4	13.7	9.2	55.4	58.4	54.1	10.9	14.6	8.4	3.7	2.3	4.2
Kaushambi	Total	0.6	0.7	0.5	12.9	15.3	10.5	58.7	57.7	59.3	10.7	12.8	8.9	12.1	13.9	11.1
	Rural	0.6	0.7	0.5	13.0	15.5	10.6	58.8	57.7	59.5	10.9	12.8	9.1	12.5	13.9	11.6
	Urban	0.5	0.5	0.4	11.3	13.7	8.9	57.1	57.4	57.0	9.0	12.1	7.4	8.9	14.3	7.2
Allahabad	Total	0.7	0.7	0.6	12.1	14.3	9.9	56.3	58.1	55.3	9.6	10.8	8.5	10.7	10.6	10.7
	Rural	0.6	0.7	0.5	12.2	14.4	10.1	57.4	58.7	56.7	10.0	10.6	9.3	11.2	10.7	11.7
	Urban	0.9	0.9	0.8	11.7	14.1	9.1	53.2	56.3	51.8	8.5	11.3	6.6	9.7	10.6	9.3
Bara Banki	Total	0.7	0.8	0.6	12.2	14.3	10.1	57.9	51.2	62.1	9.0	8.4	10.0	11.0	9.9	12.2
	Rural	0.7	0.9	0.5	12.4	14.5	10.3	58.4	51.2	63.1	9.2	8.6	10.4	11.6	10.0	13.5
	Urban	0.6	0.6	0.6	10.3	12.5	8.0	53.1	51.3	53.8	5.6	3.6	7.2	7.4	8.7	6.8
Faizabad	Total	0.7	0.8	0.5	12.5	14.9	10.3	60.1	58.7	60.9	9.7	10.5	8.6	11.0	12.8	9.5
	Rural	0.5	0.6	0.4	12.8	15.3	10.6	61.2	59.0	62.6	10.0	10.6	9.1	11.1	12.8	9.5
	Urban	1.5	1.9	0.9	10.7	12.8	8.5	52.6	55.5	51.4	7.2	9.3	5.8	10.5	13.1	9.3
Ambedkar Nagar	Total	0.7	0.8	0.6	14.4	17.1	11.8	66.2	66.4	66.2	12.1	14.2	9.1	11.6	14.1	9.7
	Rural	0.7	0.8	0.6	14.7	17.5	12.1	67.0	66.8	67.2	12.7	14.6	9.7	13.0	15.2	10.9
	Urban	0.7	0.7	0.7	11.6	14.3	9.1	59.3	61.1	58.5	7.0	9.1	5.3	6.3	7.3	5.8
Sultanpur	Total	0.6	0.7	0.5	13.4	16.1	10.9	63.6	62.3	64.4	10.1	11.1	8.8	11.2	10.4	11.7
	Rural	0.6	0.7	0.5	13.6	16.3	11.1	63.8	62.3	64.8	10.3	11.2	9.1	11.6	10.8	12.2
	Urban	0.6	0.6	0.5	10.2	12.5	7.9	58.0	61.2	56.8	6.4	9.0	4.8	6.1	3.7	7.0
Bahraich	Total	0.5	0.6	0.4	11.8	14.1	9.5	57.8	53.3	60.6	9.3	9.3	9.3	9.1	11.4	7.8
	Rural	0.5	0.6	0.4	12.0	14.3	9.7	58.4	53.5	61.7	9.6	9.6	9.6	9.2	11.0	8.1
	Urban	0.4	0.4	0.5	9.7	12.3	7.2	51.4	51.1	51.5	6.2	4.8	6.9	8.1	14.3	6.2
Shrawasti	Total	0.5	0.6	0.3	10.7	12.9	8.5	56.7	51.5	60.9	9.0	8.8	9.4	6.7	8.0	5.8
	Rural	0.5	0.6	0.3	10.7	12.9	8.5	56.8	51.4	61.2	8.9	8.6	9.2	6.2	7.0	5.6
	Urban	0.4	0.5	0.3	9.4	11.7	7.0	53.5	54.4	53.1	15.6	22.2	13.0	15.6	27.3	9.5
Balrampur	Total	0.5	0.6	0.4	11.6	14.2	9.1	59.3	56.2	61.8	9.8	11.2	8.1	8.5	10.9	6.7
	Rural	0.5	0.6	0.4	11.7	14.3	9.3	59.7	56.2	62.5	10.0	11.2	8.3	8.7	11.4	6.6

	Urban	0.4	0.4	0.4	10.1	12.6	7.6	54.9	54.7	55.0	7.4	10.2	6.0	6.7	3.4	8.0
Gonda	Total	0.5	0.7	0.4	11.4	13.7	9.2	58.4	55.7	60.2	10.4	10.9	9.7	9.8	12.0	7.9
	Rural	0.5	0.7	0.4	11.6	13.9	9.4	58.8	55.8	61.1	10.6	11.0	9.9	10.4	11.8	9.1
	Urban	0.4	0.4	0.4	8.8	11.0	6.5	51.2	54.6	50.0	7.9	8.3	7.5	4.6	15.4	1.5
Siddharthnagar	Total	0.4	0.6	0.3	13.4	16.6	10.5	64.9	64.8	65.0	13.1	14.9	11.1	10.7	12.4	9.2
	Rural	0.4	0.6	0.3	13.6	16.8	10.6	65.3	65.0	65.6	13.5	15.0	11.7	10.9	12.2	9.8
	Urban	0.4	0.4	0.3	11.1	13.6	8.7	58.9	61.2	57.9	7.8	12.5	4.6	7.5	16.1	2.0
Basti	Total	0.5	0.7	0.3	13.2	16.3	10.4	63.5	63.7	63.4	11.9	13.6	8.9	11.0	12.4	9.1
	Rural	0.5	0.7	0.3	13.4	16.5	10.6	63.8	63.8	63.9	12.4	13.9	9.4	11.3	12.5	9.7
	Urban	0.3	0.3	0.2	10.4	13.0	7.9	58.1	61.4	56.6	3.6	4.1	3.3	6.2	10.7	2.7
Sant Kabir Nagar	Total	0.5	0.6	0.3	14.2	17.6	11.1	65.4	66.0	65.0	12.2	13.9	9.6	13.3	15.1	11.9
	Rural	0.5	0.6	0.3	14.4	17.9	11.3	65.9	66.3	65.6	12.5	14.3	9.9	13.9	14.7	13.3
	Urban	0.3	0.3	0.3	10.9	13.6	8.4	59.3	60.3	58.9	7.8	8.6	7.1	6.3	23.5	0.0
Mahrajganj	Total	0.5	0.5	0.4	11.6	13.9	9.3	61.9	62.0	61.9	10.6	11.7	9.4	9.3	9.9	8.8
	Rural	0.5	0.5	0.4	11.6	14.0	9.4	62.1	62.0	62.2	10.6	11.3	9.8	9.4	9.9	9.1
	Urban	0.6	0.6	0.5	10.1	12.5	7.7	58.0	61.2	56.7	10.7	14.7	7.1	6.4	11.1	3.4
Gorakhpur	Total	0.6	0.6	0.5	13.0	15.9	10.3	61.1	63.7	59.6	9.6	10.5	8.5	10.4	12.1	8.7
	Rural	0.5	0.6	0.4	13.3	16.4	10.6	62.5	64.3	61.4	10.3	11.0	9.5	11.4	12.9	9.8
	Urban	0.7	0.7	0.8	11.4	14.0	8.9	55.0	60.4	52.4	6.3	7.8	4.9	7.2	8.9	6.3
Kushinagar	Total	0.5	0.5	0.4	12.9	15.6	10.4	61.9	63.2	61.2	11.3	11.8	10.7	11.4	12.5	10.3
	Rural	0.5	0.5	0.4	13.0	15.7	10.5	62.4	63.5	61.8	11.4	12.2	10.5	11.6	12.6	10.7
	Urban	0.6	0.6	0.6	10.6	12.8	8.5	53.0	57.3	51.1	9.1	2.0	13.6	7.2	10.0	6.1
Deoria	Total	0.5	0.5	0.4	14.5	18.1	11.4	65.9	68.7	64.4	11.1	12.3	9.9	11.2	14.6	8.4
	Rural	0.5	0.6	0.4	14.7	18.5	11.6	66.5	69.1	65.0	11.4	12.4	10.2	11.9	14.4	9.7
	Urban	0.4	0.4	0.3	12.2	14.9	9.7	60.9	65.0	59.0	9.1	10.6	7.9	6.8	17.1	2.2
Azamgarh	Total	0.4	0.4	0.3	14.3	18.0	11.2	66.8	70.4	64.9	11.4	14.1	8.3	12.0	16.0	9.3
	Rural	0.4	0.4	0.3	14.5	18.4	11.4	67.3	70.7	65.4	11.7	14.4	8.5	12.6	16.5	9.6
	Urban	0.3	0.3	0.3	11.3	13.9	8.8	60.1	65.1	58.1	7.5	9.4	6.5	8.3	9.9	7.9
Mau	Total	0.4	0.5	0.4	14.2	17.3	11.3	65.0	68.7	63.0	13.0	14.6	11.4	10.3	13.6	9.0
	Rural	0.4	0.5	0.4	14.9	18.2	12.0	66.4	69.6	64.5	13.7	15.0	12.3	13.2	15.4	11.9
	Urban	0.3	0.3	0.3	11.1	13.8	8.5	59.0	63.6	57.1	10.2	12.4	9.2	6.5	7.1	6.4
Ballia	Total	0.5	0.6	0.4	14.2	17.2	11.4	62.5	64.4	61.4	12.0	14.9	9.3	13.5	17.5	11.0

	Rural	0.5	0.6	0.4	14.4	17.4	11.6	62.6	64.5	61.6	12.4	15.2	9.6	14.1	18.2	11.3
	Urban	0.4	0.4	0.4	12.6	15.3	10.0	61.0	63.9	59.6	10.4	13.1	8.4	9.0	9.5	8.7
Jaunpur	Total	0.6	0.7	0.5	14.0	17.6	11.0	64.2	65.9	63.4	10.2	11.9	8.3	10.9	13.7	8.7
	Rural	0.6	0.7	0.5	14.3	18.0	11.3	64.8	66.3	64.0	10.7	12.0	9.0	11.8	14.2	9.7
Ghazipur	Urban	0.5	0.5	0.5	10.5	12.9	8.2	56.8	58.5	56.2	6.5	10.9	3.9	5.6	8.8	4.3
	Total	0.5	0.5	0.4	13.9	17.0	11.1	63.3	65.5	62.1	12.3	14.0	10.8	12.7	14.2	11.8
Chandauli	Rural	0.5	0.6	0.4	14.1	17.2	11.3	63.7	65.8	62.6	12.6	14.0	11.3	14.0	15.3	13.1
	Urban	0.3	0.3	0.3	11.9	14.7	9.1	57.9	62.3	56.1	9.7	14.1	7.2	5.9	5.3	6.0
Varanasi	Total	0.3	0.4	0.3	12.9	15.5	10.4	63.6	64.1	63.4	10.4	11.0	9.9	7.5	7.0	7.8
	Rural	0.3	0.3	0.3	13.2	15.8	10.7	64.9	64.6	65.0	12.0	12.0	12.0	8.5	7.8	8.9
Sant Ravidas Nagar Bhadohi	Urban	0.4	0.4	0.3	10.4	12.8	8.0	55.3	59.9	53.6	3.0	3.8	2.5	3.6	3.6	3.6
	Total	0.5	0.6	0.5	12.2	14.8	9.7	59.5	61.4	58.7	7.1	7.7	6.5	7.5	9.2	6.3
Mirzapur	Rural	0.5	0.5	0.4	12.6	15.1	10.2	62.6	63.7	62.0	8.2	8.7	7.8	7.2	8.9	5.4
	Urban	0.7	0.7	0.6	11.7	14.4	9.0	55.4	57.9	54.4	5.7	6.3	5.3	7.7	9.5	6.9
Sant Ravidas Nagar Bhadohi	Total	0.3	0.4	0.3	12.2	14.9	9.8	62.5	62.8	62.3	7.4	7.1	7.6	7.5	6.8	8.1
	Rural	0.4	0.4	0.3	12.6	15.4	10.1	63.0	63.0	63.1	7.6	7.3	8.0	9.4	7.9	11.1
Mirzapur	Urban	0.3	0.3	0.3	10.2	12.3	8.0	59.2	61.6	58.3	6.2	5.9	6.4	3.3	2.2	3.8
	Total	0.4	0.5	0.4	12.4	14.6	10.2	61.3	60.3	61.8	8.2	8.8	7.5	8.1	7.8	8.3
Sonbhadra	Rural	0.4	0.5	0.3	12.6	14.8	10.5	62.5	60.9	63.2	8.5	8.8	8.2	8.3	9.2	7.5
	Urban	0.5	0.5	0.5	11.0	13.4	8.6	55.1	55.9	54.7	6.3	8.9	4.8	7.5	2.5	10.4
Etah	Total	0.3	0.3	0.2	11.1	13.1	9.1	58.0	58.6	57.6	8.9	10.0	8.0	8.6	8.0	9.0
	Rural	0.2	0.3	0.2	12.1	14.3	9.9	59.9	59.6	60.1	9.3	9.8	8.9	9.0	8.2	9.6
Kanshiram Nagar	Urban	0.3	0.3	0.3	6.4	7.9	4.8	46.4	50.4	44.8	6.1	11.5	3.4	6.5	6.9	6.4
	Total	0.5	0.6	0.3	11.5	13.8	9.3	58.0	53.5	60.5	7.6	8.1	6.9	10.1	8.0	11.8
Kanshiram Nagar	Rural	0.5	0.7	0.3	11.7	14.0	9.5	58.8	53.4	61.8	8.1	8.3	7.7	11.5	8.8	13.7
	Urban	0.4	0.5	0.4	10.2	12.5	8.0	53.6	53.7	53.6	5.3	7.0	4.1	5.8	4.5	6.6
Kanshiram Nagar	Total	0.5	0.6	0.3	10.6	13.0	8.4	58.0	50.6	61.8	8.6	10.2	6.8	18.7	13.4	22.0
	Rural	0.5	0.6	0.3	10.8	13.1	8.5	58.3	50.2	62.9	8.6	9.8	7.0	24.3	16.1	29.8
Kanshiram Nagar	Urban	0.5	0.5	0.4	10.2	12.6	7.8	56.3	53.0	57.6	8.5	12.5	6.4	6.2	5.7	6.4

**Source:** Calculations based on Census of India, 2011

**Note:** T; Total (Person), M; Male, F; Female

(Table: C:8)

## Distribution of Population according to Various Indicators for Sub-districts in Bulandshahr District: 2011

Tehsils		1	2	3	4	5	6	7	8	9	10	11	12
Sikandrabad	T	837	21.2	71.4	24.7	24.8	6.0	30.8	69.2	26.3	18.5	6.7	48.5
	R	825	24.1	73.2	27.2	41.0	6.4	47.4	52.6	27.1	16.5	5.2	51.2
	U	879	11.5	65.4	16.5	6.5	5.4	12.0	88.0	22.8	27.7	13.1	36.4
Bulandshahr	T	850	16.3	70.1	22.8	24.4	7.8	32.2	67.8	20.7	11.5	8.9	58.9
	R	848	19.3	67.5	27.4	39.0	9.2	48.1	51.9	22.4	11.1	4.5	62.0
	U	855	10.9	74.7	14.9	8.3	6.2	14.5	85.5	14.1	13.3	25.1	47.5
Siana	T	849	17.9	69.7	28.1	27.0	7.4	34.4	65.6	36.4	21.1	4.4	38.1
	R	839	18.3	70.5	29.5	42.4	6.8	49.1	50.9	38.6	20.1	2.9	38.4
	U	899	15.9	65.7	21.0	10.0	8.0	18.1	82.0	29.7	24.1	9.0	37.2
Anupshahr	T	871	23.1	67.7	26.1	26.4	9.5	35.9	64.1	30.9	21.9	5.5	41.7
	R	867	26.9	67.3	28.6	42.6	7.3	49.9	50.1	34.0	21.7	3.3	41.1
	U	881	11.9	69.0	19.1	8.5	12.0	20.5	79.5	22.7	22.5	11.5	43.3
Debai	T	879	17.4	65.0	27.6	23.7	8.8	32.4	67.6	34.2	29.9	3.2	32.8
	R	879	17.7	64.2	29.2	39.5	8.8	48.2	51.8	37.5	28.9	2.3	31.4
	U	881	15.4	69.6	18.1	6.1	8.8	14.9	85.1	22.1	33.6	6.5	37.8
Shikarpur	T	852	26.2	68.0	27.4	26.4	10.5	37.0	63.1	30.0	27.5	4.6	38.0
	R	846	28.1	69.2	28.9	40.1	9.2	49.4	50.7	36.2	26.6	2.8	34.4
	U	883	16.0	61.9	19.5	11.1	12.0	23.1	77.0	14.9	29.5	8.8	46.8
Khurja	T	848	27.4	69.0	23.4	25.1	8.3	33.4	66.6	25.9	21.0	3.9	49.3
	R	851	31.1	70.0	26.9	41.1	7.9	49.0	51.0	27.7	18.5	2.8	51.1
	U	841	18.7	66.5	15.3	7.1	8.8	15.9	84.1	19.5	29.5	7.7	43.2
Bulandshahr (District)	T	854	20.7	68.9	25.4	25.3	8.2	33.5	66.5	28.3	20.6	5.6	45.5
	R	850	23.1	68.7	28.3	40.6	8.1	48.7	51.3	30.9	19.3	3.5	46.4
	U	866	13.7	69.4	16.7	8.3	8.4	16.7	83.4	20.1	24.6	12.6	42.7

Source: Primary Census Abstract (PCA), Census of India, 2011

Variables: 1: Sex Ratio for 0-6 Age Group, 2: Proportion of SC to Total Population, 3: Literacy Rate, 4: Gaps in Male Female Literacy Rate, 5: Main Workers, 6: Marginal Workers, 7: Main+ Marginal Workers, 8: Non- Workers, 9: Cultivators, 10: Agricultural Labourers, 11: Household Industry Workers, 12: Other Workers

