

CHAPTER 1

INTRODUCTION

1.1 Population Ageing: An Inevitable Future Prospect

The share of the elderly population (persons aged 60 years and above) in the world has been increasing very fast. This fact is referred to as “Population Ageing” which is the effect of the “Demographic Transition” (the term Demographic Transition was introduced by the American demographer Frank W. Notestein) – both reduction in fertility and mortality rates. This is one of the most distinct demographic events in the modern world. There are four demographic transitions: (a) in stage one (Pre-transition), pre-industrial society, there are both death rate and birth rate are high; (b) in stage two (Early transition), that of developing country, the death rate reduces rapidly due to improvements of food supply and sanitation, which increase life spans and reduce disease; (c) in stage three (Late transition), birth rate falls due to access to contraception, increase in wages, urbanization, a reduction in subsistence agriculture, an increase in the status, empowerment and education of women etc; and (d) in stage four (Post transition), there are both low birth rate and low death rate and population growth is negligible or even declining. Demographic trap is used by demographers to explain the high fertility (birth rates) and declining mortality (death rates) in developing countries, resulting in a period of high population growth rate (PGR). High fertility rate combined with decreasing mortality rate happens when a developing country moves through the demographic transition of becoming developed. During “stage 2” of the demographic transition, quality of health care improves and death rates fall, but birth rates still remain high, resulting in a period of high population growth. Demographic gift is a term in demographics used to describe the initially favourable effect of falling fertility rates on the age-dependency ratio, the fraction of children and elderly persons as compared to that of the working population. Demographic-economic paradox is the inverse (negative) correlation found between wealth and fertility within and between nations (Preston, 1975).

Human Development Index (HDI) is a composite index consisting of three positively interrelated indices: (a) Life Expectancy Index, (b) Education Index and (c) Income Index. The Preston Curve indicates that individuals born in richer countries, on average, can expect to live longer than those born in poor countries (Preston, 1975). Preston’s hypothesis stands for the positive correlation between Income Index and Life

Expectancy Index. Samuel H. Preston described it in his article “The Changing Relation between Mortality and Level of Economic Development” in the journal *Population Studies* in 1975. Population ageing is related to HDI and Preston hypothesis. Another index related to population ageing is Multidimensional Poverty Index (MPI) having three dimensions health, education and living standard which are similar to three dimensions of HDI.

Population ageing is basically the result of a two-dimensional demographic transformation: on one hand, the decrease in overall mortality results in longer life-expectancy; and on the other hand, decrease in fertility results in decreasing the share of children and young adults in the population (Saha, 2006). Initially experienced in the more developed countries, this event is now rapidly happening in the developing countries like India. Various predictions indicate that population ageing is becoming a major global issue in the coming years. As the shares of elderly persons rise, that of other age groups in the population would fall. The projections indicate that the share of younger people in the age group of 15-24 years would fall in most countries. The intergenerational balance present today may not be present in the future. That changing balance between age groups would make the elderly persons more of a burden on society, and as resources would be shifted from the younger to the elderly persons, the whole world may realize intergenerational conflicts and tensions. There will be tremendous improvements in life expectancy and that improvement in life expectancy will take place at an increased rate for females than for males. There will be a progressive ageing of the elderly population and a majority of them would be females. Besides these demographic changes, the socio-economic characteristics of these people will be very interesting to study, both for academics and for policy makers (Dhar Chakraborti, 2004).

While an individual must grow elderly over time, aggregations of individuals can either become younger or elderly, depending upon fertility, mortality and migration history affecting their average age. The process of population ageing also implies a rise in the median age of the population, in addition to an increase in the fraction of population that is elderly persons. The process may be categorized into relative ageing and absolute ageing. Relative or bottom-up ageing means a growing share of elderly caused by fertility decline and dwindling youth base in the age composition. Here the number of elderly persons grows as a per cent of total population even if their numbers did not change at all.

Absolute or top-down ageing is the result of a real extension of lifespan raising the absolute number of elderly persons (Saha. 2006).

There is mounting evidence that the elderly persons are healthier than before. In an event referred to by demographers and health specialists as the “compression of morbidity,” the length of healthy old-age appears to be increasing. Part of this increase is due to increases in the life span, and part to even greater increases in the length of life free of chronic illness. The net effect is a decline in the lifetime burden of illness (Bloom et al 2008).

Many countries have drastically reduced their rates of infant and maternal mortality and the incidence of infectious and parasitic diseases. These improvements have interacted with reductions in fertility, advancements in education and health to produce populations with increasingly larger shares of elderly members (Kinsella, 1988). Changes in the age composition occur primarily when fertility declines and not when only mortality falls. Decreasing in mortality with unchanging fertility has little effect on the age structure of the population. The effect of initial decline in mortality has generally made the population young, because the fall mostly occurs among children resulting in improvement of their survival (Guha Ray, 1985). Besides fertility and mortality, migration also is an important factor of population growth. But in the demographic ageing process, migration has a secondary role since its effect is generally spread over all ages (Pollard et al. 1981). Population ageing is characterized not only by an increasing proportion of elderly people and their growing numbers, but also by ageing within the elderly population and ageing of the labour force (Dhar Chakraborty, 2004). Present demographic changes have already serious impact on every aspect of society in developed countries, demanding adjustments in economic and social policies and societal infrastructure. In developing countries, these changes are expected to occur at a much faster attempt than it took in developed countries and in most cases no infrastructure or policies will be available to deal with the consequent developments, unless proper initiatives are taken. Elderly population is likely to increase rapidly as successively larger cohorts enter the span of elderly ages. It needs to be stressed that the additions in the cohorts of the aged over the next few decades would mostly comprise of baby boomers of yesteryears who suffered poor life course of experiences. Their reliance on transfer income, particularly on subsidies and transfer of public money, is therefore expected to be higher (Alam, 2004).

The International Day of Older Persons is observed on October 1 each year. On December 14, 1990 the United Nations (UN) General Assembly voted to establish October 1 as the International Day of Older Persons as recorded in Resolution 45/106. The holiday was observed for the first time on October 1, 1991. The holiday is celebrated by raising awareness about issues affecting the elderly persons, such as senescence and elder abuse. It is also a day to appreciate the contributions that elderly people make to the society. The Vienna International Plan of Action on Aging was adopted by the World Assembly on Aging held in Vienna, Austria from 26 July to 6 August 1982.

1.2 Social Security and Elderly related Social Security

Social security is enshrined in Article 22 of the Universal Declaration of Human Rights, which states: “Everyone, as a member of society, has the right to social security and is entitled to realization, through national effort and international co-operation and in accordance with the organization and resources of each State, of the economic, social and cultural rights indispensable for his dignity and the free development of his personality.” According to the International Labour Organization (ILO), “Social security is the security that society furnishes through appropriate organisation against certain risks to which its members are exposed. These risks are essentially contingencies of life which the individual of small means cannot effectively provide by his own ability, or foresight alone or even in private combination with his fellows”. Social Security protects individuals and their families from loss of earnings due to retirement, disability, accident or death (Waid, 2012). Significance of social security varies from county to country, society to society, individual to individual etc. Social security measures are generally grouped under two broad categories, namely, social assistance and social insurance measures. The difference between the two measures depends upon the condition whether the recipients have contributed to such benefits through their personal savings or not.

Social assistance consists of any help that society (particularly the Government) provides to the needy persons without requiring them to share the burden of maintaining such programmes. The extent and form of assistance are determined mainly by the circumstances of the needy. Social assistance can be seen as a device to ensure a minimum level of living of the members of the society. One example of social assistance is National Old Age Pension Scheme (NOAPS).

Social insurance is the joint venture on the part of the individual beneficiary, the employers, with or without the Government to provide for economic security and other benefits in specific situations, such as un-employment, sickness, accidents, death, elderly age, retirement, and other contingencies in accordance with the prevailing procedures and practices. Social insurance, like social assistance, aims at maintaining a certain level of life through savings contributions or investment for the future by the beneficiary. One example of social insurance is pension.

Risks relating to elderly are economic, health (physical and mental), shelter, living arrangement, protection, compassion, association, involvement, social adjustment etc. Different securities furnished to the elderly persons by family members, relatives, society, nation etc to overcome or decrease their risks.

1.3 Historical Development of the Study Area

Population ageing is explained by demographic transition. The demographic transition is explained in four stages. In stage one, which prevails in pre-industrial societies (i.e. the world before the 17th century), both birth and death rates are high. In the ancient society, security of the family members and clan was very important for which the younger generations were responsible for assistance and support for the elderly. The elderly persons were highly respected by the younger generations. Combined efforts of the experience and wisdom of the elders and the physical strength of the young guided and continued the family and clan to survive and develop. The family members looked after and provided cares to the elderly persons, it was considered as the moral and social responsibility of the family members, an expression of gratitude of the younger generations towards the elderly persons. The elderly persons in their adult ages provided different services in bearing, educating, protecting etc and through their hard-work and thrift, generated assets, property etc and leading to employment and income-generation for the younger generations. Few people reached old age in primitive societies. But the situations have been changed because of various developments in the societies particularly due to developments in medical sciences, mortality has been reduced and expectation of life increased tremendously, number of elders has been increased. With the development of society, the children, youth and women became the members and targets of development. Now, the elderly persons are neglected in some cases and are the recipients of only welfare services. But, because of their large numbers and social changes, they have attracted the attention of the state (Paul Chowdhury1992).

1.4 Demographic Determinants of Population Ageing

Demographic determinants of population ageing are as follows. Decreasing fertility along with increasing life expectancy has reshaped the age structure of the population in most regions of the world by shifting relative weight from younger to elderly groups. International migration in reshaping age distribution has been far less important than that of fertility and mortality. Fertility decline is the primary determinant of population ageing. Over the last half century, the total fertility rate (TFR) decreased globally by almost half, from 5.0 to 2.7 children per female. Over the next half century, it is expected to drop to the replacement level of 2.1 children per female. Fertility is much below the replacement level in the more developed regions of the world. At present, the TFR is below the replacement level in practically all industrialized countries. Fertility decline in the less developed regions started later and has proceeded faster. As fertility rates move towards lower levels, mortality decline, especially at elderly ages, assumes an increasingly important role in reshaping age structure of population. People are living longer and longer, but large variations exist. Great variations in life expectancy exist within the less developed regions of the world. It is observed that (a) more people will survive to elderly ages and (b) increases in life expectancy are expected to be higher at elderly ages. Except for a small number of countries, where cultural factors have contributed to lower female life expectancy, reductions in mortality have been substantially higher among females than males. The female advantage in life expectancy at birth increased globally over the last 50 years (World Population Ageing 1950-2050 presented by the Population Division, Department of Economic and Social Affairs (DESA), United Nations, 2002).

1.5 Population Ageing, Economic Growth, Sustainable Development and Social Protection

Although labour force participation rates are projected to decline from 2000 to 2040 in most countries, due to population ageing, labour-force-to-population ratios will actually increase in most countries. Reason behind it is that low fertility will cause lower youth dependency that is more than enough to offset the skewing of adults toward the elderly ages at which labour force participation is lower. The increase in labour-force-to-population ratios will further magnified by increases in age-specific rates of female labour force participation associated with fertility declines. Therefore economic growth

will continue quickly. For the OECD countries, the declines projected to occur in both labour force participation and labour-force-to-population ratios suggest modest declines in the pace of economic growth. But even these effects can be reduced by behavioural responses to population ageing - in the form of higher savings for retirement, greater labour force participation and increased immigration from labour-surplus to labour-deficit countries. Population ageing in developed countries may have less effect than some have predicted. Policy responses related to retirement incentives, pension funding methods, investments in health care of the elderly and immigration can further make better the effect of population ageing on economic growth (Bloom et al, 2008). Elderly persons, in general, are not producers, but consumers of special consuming behaviours.

World population ageing is a consequence, of substantial progress in improving the health and well-being and reducing mortality risks faced by people around the world. People are living longer, and in many cases, healthier lives than ever before. The benefits of greater longevity to individuals, families and society are many. Longer lives can afford individuals opportunities to increase their working life, embark on second careers, or pursue varied interests in elderly ages. Families benefit from the contributions of elderly generations, through financial support, assistance with household maintenance, participation of childcare and decision-making activities etc. Societies benefit from the wisdom and experience of the elderly persons and from their contributions to the labour force, as well as, from their volunteerism, philanthropy and civil engagement. At the same time, many countries are concerned about population ageing, with respect to its implications for the systems and institutions that aim to protect and preserve people's well-being. In many countries, the number of elderly persons has been growing faster than the number of people in the traditional working ages, providing rise to concerns about the fiscal sustainability of pension systems that rely upon contributions from current working people (generally younger generation) to pay benefits to elderly persons. Population ageing and growth in the number of persons at very advanced ages put pressure on health care systems. Population ageing drives increases in health expenditures. Poverty rates among elderly relative to the general population vary, largely due to the coverage and adequacy of old-age social protection systems.

Elderly persons vary greatly in regard to their independence and economic self-sufficiency. Many of them live independently and support themselves with their own income, also helping others, including some of them remain active in their labour forces.

But for large of the population, old age is associated with increasing dependency and vulnerability associated with declining income or health and a growing need for care and support. Vulnerability of elderly persons is greater where there is no reliable source of income support, such as through social protection mechanism, which includes pensions, disability insurance or health care benefits for the elderly. Retirement pensions or similar scheme involving income support at elderly age are critical to elderly persons' social protection. The right to income security in elderly age is grounded in the Universal Declaration of Human Rights (1948) and in the International Covenant on Economic, Social and Cultural Rights (1966). In recent years, many low-income and middle-income countries have expanded the coverage of contributory pension schemes and established non-contributory pensions. Many high-income countries have adopted fiscal consideration, reforming their pension systems by rising the statutory pensionable age, reducing benefits or increasing contribution rates to ensure the system's long-term sustainability (World Population Ageing 2015, Population Division, Department of Economic and Social Affairs, United Nations).

1.6 Statement of the Problem

Population ageing is an inevitable event, but its degree of urgency varies widely in different societies. The consequences of rapid transformation in age-structure and the social and economic changes require deep investigations and study (Saha, 2006). With the increasing complexities of modern society, the elderly started feeling themselves unsecured and burden in their own family and to the society (whereas those elderly were essential members of the families and societies in their early lives). They cannot adjust with the other members of the family. The younger members of the family remain busy to such an extent that they intentionally or unintentionally cannot manage their time for the service of their elderly family members. The elderly family members usually blame that they are not provided proper care, rather are ill-treated at home by their family members and get offended, insulted and upset. The younger members, also on the other hand, charge and blame the elderly family members against their non cooperation, misunderstandings and quarrelsome behaviour. The results are that the elderly started living in separate living arrangements or taking shelter in Old Age Homes (OAH). In some cases, the elderly bear miserable lives even commit suicide. In many developing countries, rapid social and demographic changes are taking place with the occurrence of population ageing. Population control strategies directed at reducing fertility levels and

family size has been becoming smaller and smaller, which are not always socially harmonious or economically favourable. The changes in family size and composition of households have important implications for the well-being of the elderly and other members in the family particularly for the children. Population ageing strains social insurance and pension systems and challenges existing models of social support. It affects economic growth, trade, migration, disease patterns and prevalence and fundamental assumptions about growing elderly. Using data from the United Nations, U.S. Census Bureau, and Statistical Office of the European Communities as well as regional surveys and scientific journals, the U.S. National Institute on Aging (NIA), with input from demographers, economists and experts on aging, identified nine emerging trends in global aging. These trends present a snapshot of challenges and opportunities that clearly show why population matters (National Institute on Aging (US, 2006)).

The link between ageing and development is wide ranging. Ageing is a 'triumph of civilization' and it is an important determinant of economic development. Ageing starts with age-related changes in production, consumption and distribution. Productivity falls with the rise in the age of the workers. There is a tremendous shift towards unproductive consumption in the form of health care and a massive reallocation of resources from the younger to the elderly in the form of old age security benefits. Elderly people are usually regarded as economically unproductive. People of some countries like Australia tend towards early retirement due to social pressures and lifestyle attitudes. There will be fewer taxpayers who will remain to support pensions. There will also have been inadequate savings in their super funds (early retirement means less working periods), placing enormous pressure on government welfare. Labour-force participation varies widely among specific sub-regions and countries. People of some countries like Japan and India have to work even after their retirement ages. In some countries, a large cohort of workers move into extended retirement years with a smaller cohort of children entering into the working-age group. Elderly women in Asia are much less likely to work than elderly men. Again, in general, the number of elderly women is larger than that of elderly men. Then there would be shortage of workforce. Population ageing has tremendous implications for consumers, businesses and governments. Elderly consumers live with different lifestyles. They have more time, money compared to any other stages of their life and have a less direct role with children. They spend less on renovation, furniture and other family items. This consequently affects the wider public in the range

of goods and services offered by producers and businesses. As individuals live longer, the amount of time in retirement period is likely to be longer periods, which requires a sustainable income base drawn in part from previous savings or supplemented by part-time/full-time work (working mostly in informal sector) to meet a changing expectation of quality of life and standard of living in retirement.

The elderly persons are traditionally dependent on a substantial input of unpaid, informal care, largely provided by family members. But these traditions have been changing rapidly; some elderly people are residing separately from family members, or living in old-age homes. Mature elderly workers play a vital role to play in future of a nation's economy. Competence is what counts, yet many organizations judge employees according to age (as experiences and wages are highly positively related to age in many cases). Unless organizations adjust their thinking on mature workers, market forces may do it for them. The supply of mature workers will grow rapidly in the years ahead, while the supply of younger workers will be relatively on contract. If organizations drop mandatory retirement policies – officially or by default – then the nation gains as a whole. Social values and attitudes influence the respective roles of government, private business (service provider), and individuals in providing resources and services to the elderly persons. The circumstances of elderly generations (e.g. labour force participation, level of private income and assets, health status, and availability of family/community support) will influence the level of resources that will be needed for the elderly care, health, housing and income support. Much of recent government policy has focused on cost reduction and shifting costs and responsibility from the public sector to individuals, families, community groups and private business.

Information on how caste, religion, sex and other factors affect the wellbeing of elderly in India is very limited. Population ageing is less advanced among Scheduled Castes and Scheduled Tribes and Muslims than that of the population as a whole. The improved and up-to date information on population ageing and its different aspects and their study and analysis are highly required for the policy makers in formulation, evaluating goals, development and implementation of programmes for the welfare and the proper optimal utilization of the elderly population, improving and generating public awareness and support for necessary policy up-gradation and implementation. Majority of the elderly people suffer a lot of insecurities relating to their health (physical and mental), livelihood, shelter, love, care, understanding, compassion etc. and like to be an essential

member of their households and societies sharing their happiness and sorrow, to act as decision-makers as they used to do so at their adult lives with same dignities. But the elderly persons of today are more wellbeing compared to those of yesteryears. Some of the elderly persons are living more years (even some octogenarians, nonagenarians, centenarians etc. are found in rural and urban areas) with sound health and mind, with well economic condition, with high social status, even remaining in workforce etc. The socio-economic and health conditions of the elderly people vary according to various factors like age, sex, locality of residence, living arrangement, life style, life skill, religion, caste, literacy, marital status, work participation, activity status of non-working elderly persons etc.

Most of the elderly people at the rural areas and/or working in the informal sector particularly self-entrepreneurship do not have any specific retirement; they can work, generate income, save money for future, contribute money and services to the family and society etc as long as they can. Since the income of the elderly people is likely to be ceased or decreased as their ages increase and/or health conditions deteriorate and in most cases, resources gathered in their adult ages, are likely to be reduced and even exhausted as their ages increase. Their needs in general reduce gradually as age increases (expenditures for healthcare increase as age increase up to certain age, but decrease afterwards). Providing socio-economic needs to the elderly people is the primary importance of the society and nation. Family (particularly in India) is the major care-giver (supporting element) to the most of the elderly people. But in the fast changing society, people are trying to fulfill their own ambitions and that of their children and the conventional family care-giving system is being changing slowly (now-a-days sometimes, elderly people have to stay separately, particularly in old age homes, to acquire their livelihood by their own means). Very few of the elderly people may acquire their livelihood through pension, some may have adequate savings to meet their livelihood, but the rest have to depend on the public help including family members. The economic aspect of population ageing has to deal with the following issues: (1) the money necessary for taking care of the elderly persons, (2) the money available and their sources for taking care of the elderly persons, (3) how the economic status of the elderly persons affect the different aspects of their life (e.g. firstly health, well-being, involvement in decision-taking, input to household related activities etc) in the society (Devi et al, 2008).

1.7 Significance or Scope of the Study

In India, the elderly population (aged 60 years and above) account for 8.6 per cent of total population in 2011 (For males it was marginally lower at 8.2 per cent, while for females it was 9.0 per cent. For rural area it was 8.8 per cent, while in urban area it was 8.1 per cent). Per cent of elderly persons among Hindu and Muslim communities in India were 8.2 and 6.4 respectively. Per cent of elderly persons among Muslims were least among all the religious communities. Per cent of elderly persons among Scheduled Tribes (ST) and Scheduled Castes (SC) populations were 6.9 and 7.8 respectively. Among states, the per cent of elderly persons vary from around 4 to 5 per cent in small states like Dadra & Nagar Haveli, Arunachal Pradesh, Daman & Diu and Meghalaya to more 12.6 per cent in Kerala. The old-age dependency ratio climbed from 10.9 per cent in 1961 to 14.2 per cent in 2011 for India as a whole. For females and males, the values of the ratio were 14.9 per cent and 13.6 per cent respectively in 2011. About 65 per cent of the elderly persons had to depend on others for their day-to-day maintenance. Less than 20 per cent of elderly women but majorities of elderly men were economically independent. In rural areas, 55 per cent of the elderly persons with sickness and 77 per cent of those without sickness felt that they were in a good or fair condition of health. In urban areas, the respective proportions were 63 per cent and 78 per cent. Literacy rate among elderly persons in India as a whole, in rural and urban areas of India according to Census of India were 43.5, 34.2 and 66.0 respectively. Per cent of households in India having at least one elderly family members was 31.3. Life expectancies of elderly persons in India at birth and at age 60 years were 68.3 and 18.0 respectively. Percentages of currently married elderly males and females in India were 82.1 and 49.6 respectively.

In West Bengal, the proportion of the elderly population (aged 60 years and above) was 8.5 per cent in 2011 (For males it was 8.2 per cent, while for female it was 8.8 per cent. For rural area it was 7.9 per cent, while in urban area it was 9.8 per cent). Per cent of elderly persons among Hindu and Muslim communities in West Bengal were 9.4 and 6.1 respectively. Per cent of elderly persons among Muslims were least among all the religious communities. Per cent of elderly persons among ST and SC populations were 7.0 and 7.6 respectively. Within West Bengal, district wise comparisons show that Kolkata had highest per cent of elderly population (11.8 per cent), while Uttar Dinajpur had lowest per cent (6.3 per cent). Significantly high proportion (40 per cent) of the

elderly persons aged 60+ was economically active. Literacy rate among elderly persons in West Bengal as a whole, in rural and urban areas of West Bengal according to Census of India were 53.5, 42.2 and 72.9 respectively. Per cent of households in West Bengal having at least one elderly family members was 30.4. Life expectancies of elderly persons in West Bengal at birth and at age 60 years were 70.5 and 17.9 respectively. Percentages of currently married elderly males and females in West Bengal were 85.7 and 39.9 respectively.

Very few studies on population ageing in West Bengal have been done so far. Ali et al. (2001) conducted a study on displaced (due to land acquisition) elderly persons in the rural areas: Kolaghat and Kharagpur. Chakraborty (2005) conducted a sample survey in a rural block of North 24 Parganas to study health seeking behavior of elderly population. Roy (2010) conducted a study on status of elderly persons in the tribal society (Lepcha) of Darjeeling district. Above all, to the best of our knowledge, (a) no significant study have not done yet on (i) nature and pattern of population ageing among Muslim and Non-Muslim population in India, West Bengal and particularly in Malda district, (ii) nature and pattern of population ageing among Scheduled Tribes (ST) and non-Scheduled Tribes population in India, West Bengal and particularly in Jalpaiguri district, and (b) again no study on population ageing in India and West Bengal among Schedules Castes (SC) population has not yet done. Study of the magnitude of population ageing based on religions and social communities like Scheduled Tribes and Scheduled Castes are very important and relevant in Indian national context.

Income from work, savings and insurances are the most important sources of economic support for the elderly persons. There is a gradual decline of work force participation and involvement of household and social activities of the elderly persons. The problems of the elderly persons are turning very acute day by day. Studies dealing with the social and economic security for the elderly persons particularly the elderly persons of West Bengal directly or indirectly are comparatively negligible.

1.8 Objectives of the Study

The general objective of the study is to understand and forecast the magnitude and consequences of population ageing in India and West Bengal with special focus on two districts of West Bengal: (a) Malda (one of the Muslim dominated districts in West Bengal) and (b) Jalpaiguri (a district in top position with respect to per cent of Scheduled

Tribes (ST) in West Bengal). The objective of the study also includes (a) the study of the magnitude of population ageing in India and West Bengal among Scheduled Castes (SC) population, (b) Indian Constitutional provisions and legal protection, government programmes and policies for the welfare of elderly persons in India and West Bengal with special attention to the additional policies and programmes for welfare of elderly persons in West Bengal and (c) suggestions on population ageing. The study will focus on the following objectives:

1. To study the magnitude and trend of population ageing including sex ratio, marital status, life expectancy etc of the elderly persons etc in India and West Bengal.
2. To study about the economic status of the elderly persons.
3. To study about the health and social status of the elderly persons.
4. To study the policies and programmes for social security of the elderly persons undertaken in India and West Bengal.
5. To study about the provisions and implementations and suggestions of social and economic security and health care for the elderly persons in West Bengal.

1.9 (a) Research Questions

We have tried to find out answers to the following principal and other research questions:

Principal Research Questions:

1. What is the share of elderly persons in total population?
2. What are the sex ratio of elderly persons and persons of all ages?
3. What are the distributions of (a) living arrangements, (b) marital status,(c) working status of elderly persons?
4. What are the life expectancies (a) at birth and (b) at age 60 years of population?
5. What are age-specific death rates of elderly persons?
6. What is old-age dependency ratio?
7. What is the distribution of elderly persons by state of economic independence?
8. What is the distribution of economically dependent elderly persons by category of persons supporting them?
9. What is the literacy rate of elderly persons?

10. What is the distribution of elderly persons by state of physical mobility?

Other Research Questions:

1. How does the population ageing and related issues affected by different attributes like religion, locality of residence, sex, caste, states/union territories of India, districts of West Bengal etc?
2. How do the elderly persons be financially supported by kin (not household members)?
3. How do the elderly females be covered under National Old Age Pension Scheme?
4. What are the distributions of elderly persons with their general feeling about their health, loneliness etc?
5. What are the Constitutional provisions and legal measures for the protection of the elderly persons in India?
6. What are the programmes and policies for welfare of elderly persons in India?
7. What are the programmes and policies for welfare of elderly persons adopted at state level in West Bengal?
8. What are scopes for job opportunities for younger generations for providing car services to the elderly persons?

(b) Research Hypotheses

1. There are significant differences of different social, economic, health and other conditions among the elderly persons of different genders and localities of residence.
2. Per cent of the elderly persons in the total population is (a) highly positively related to total literacy rate, (b) highly negatively related to decadal population growth rate.
3. Per cent of the elderly persons in the total population vary over locality of residences, genders, religions, communities and economic conditions.
4. There is significance association between earning of household income and earning of elderly persons of the household.
5. In Malda and Jalpaiguri districts, localities of residence and gender are not homogeneous in respect of involvement of elderly in different household activities, getting necessities of life by the elderly etc.

1.10 Research Methodology

The research methodology adopted for the proposed of study is detailed as follows:

Sources of Data

The study involves both primary and secondary sources of data. For collecting primary data, sample survey method has been employed.

Primary Sources of Data: Selected households (having at least one elderly people in the household) from selected (Malda and Jalpaiguri) districts of West Bengal.

Secondary Sources of Data: (a) Indian Census data for the Census years 1961 to 2011, (b) National Sample Survey Organization (NSSO) 60th Round (January–June, 2004), (c) Sample Registration System (SRS) Office of the Registrar General, (d) Profiles of Ageing 2017, Population Division, Department of Economic and Social Affairs, United Nations and (d) the compiled data on the elderly persons and related areas from the published sources etc.

Method of Sample Drawn

For the data on the elderly persons from households, four-stage sampling method has been applied. In the first stage, two districts out of nineteen districts of West Bengal have been selected based on Purposive Sampling: One is Jalpaiguri district since it is in top position having ST population among all the districts of West Bengal (our aim is to compare the population ageing and social security of ST and non-ST population of the Jalpaiguri district) and other is Malda district since it is most Muslim population dominated one among all the districts of North Bengal (our aim is to compare the population ageing and social security of Muslim and non-Muslim population of the Malda district).

In the second-stage, two blocks and one town have been selected from each two selected districts (in selecting blocks from the Jalpaiguri district, one block from blocks having at least 40 per cent ST population in total population and another block from blocks having at most 10 per cent ST population in total population have been selected and in selecting blocks from the Malda district, one block has been chosen from more Muslim population dominated and another block from less Muslim population dominated).

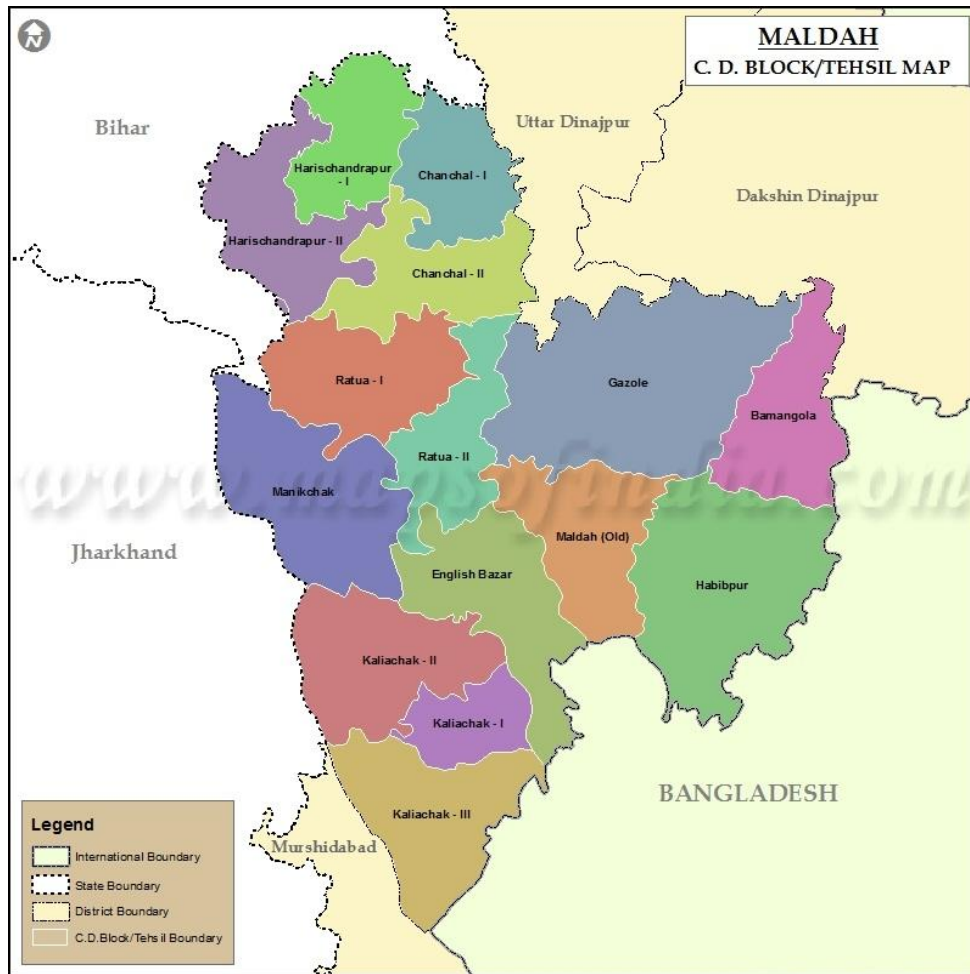
In the third-stage, two villages from all the selected blocks and one ward from all the selected towns have been selected. In the fourth-stage, twenty-five households having at least one elderly person (since our study is based on the elderly population) have been selected from all the selected villages and wards. In the second to fourth stages, Simple Random Sampling Without Replacement (SRSWOR) has been employed. While collecting data from the selected households, data from all the elderly persons of the households have been collected. Therefore, the number of sampled households in rural and urban areas of each of Malda and Jalpaiguri districts were 100 and 25 respectively, that is, in the ratio 4:1 (proportional allocation) because according to Census of India, percentages of persons living in rural and urban areas of Malda were 86.4 and 13.6 respectively and those in Jalpaiguri districts were 72.6 and 27.4 respectively. In our study, sampling units were households having at least one elderly family member. According to SRS Baseline Survey, 2014, about 75 per cent of households do not have elderly family members; therefore, taking sample size more than 25 from each of sampled village/ward may or may not be possible. Thus, we confined to consider sample size from each sampled village/ward as 25. The number of selected households from two districts: Malda and Jalpaiguri is $2 \times 125 = 250$. Collection of primary data has been completed in the year 2016.

Political maps of India and West Bengal are provided below.



Map 1.1: Political Map of India and West Bengal

Political maps of selected districts Malda and Jalpaiguri are given below.



Map 1.2: Political Map of Malda District (Map not to scale)



Map 1.3: Political Map of Jalpaiguri District (Map not to scale)

Chart 1.1: Sampling Technique for Comparing Ageing between Less Muslim and More Muslim Populations

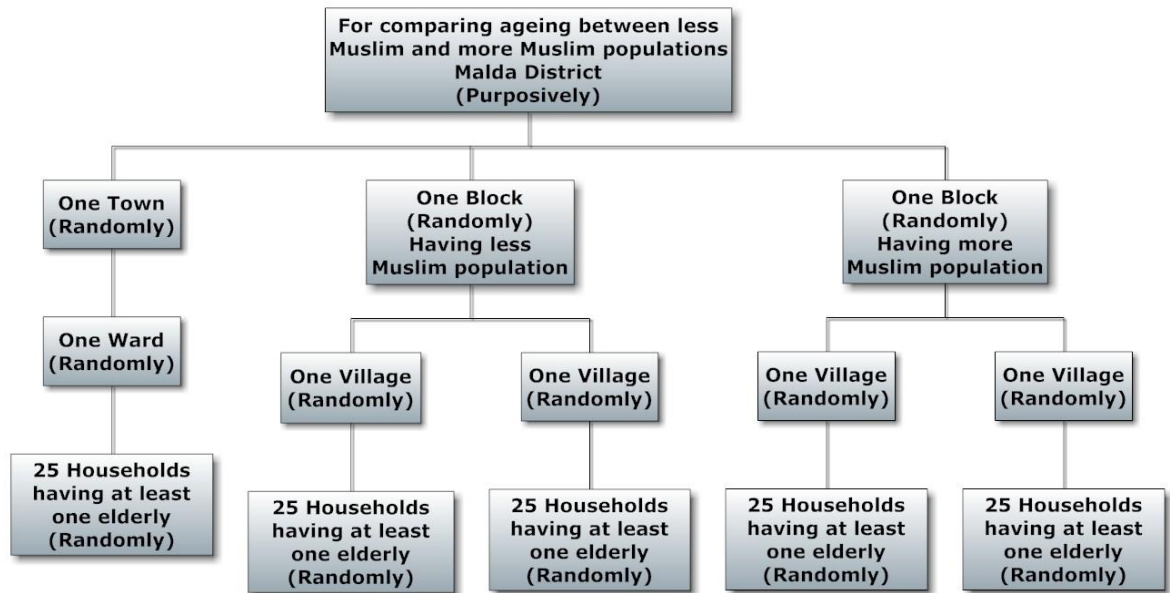
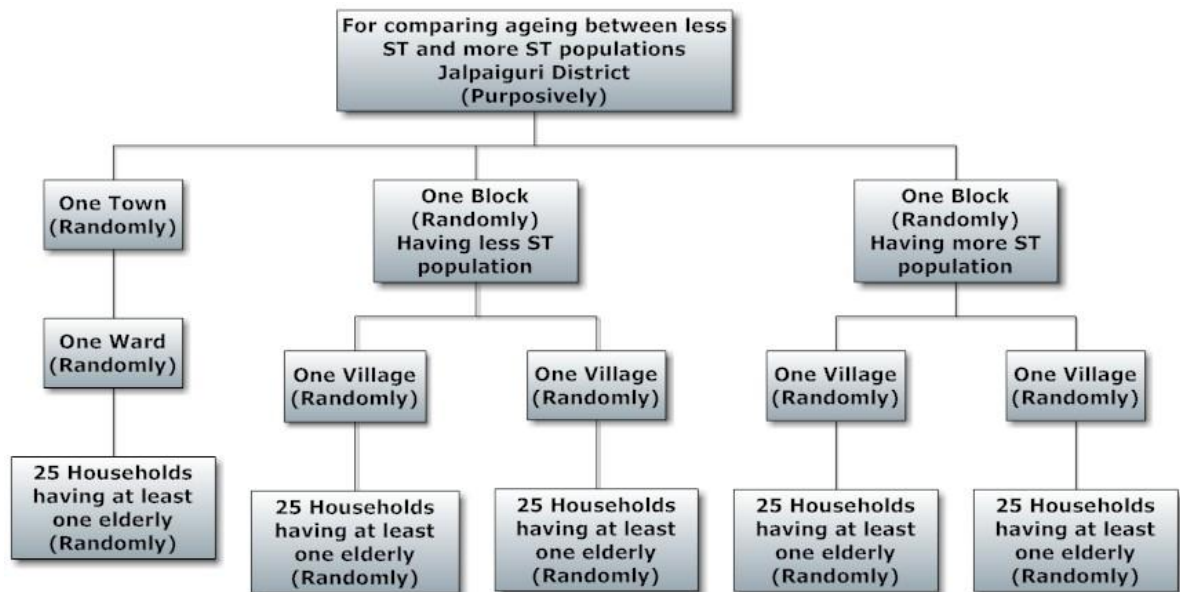


Chart 1.2: Sampling Technique for Comparing Ageing between Less ST and More ST Populations



Statistical software and methods used

1. IBM SPSS (Statistical Package for Social Sciences) ver 21 has been used for data analysis of primary data collected from Malda and Jalpaiguri districts in (a) creating frequency tables, (b) creating cross tables with chi-square tests for homogeneity/independence, (c) calculating percentages, (d) calculating averages and standard deviations, (e) testing equalities of averages using Analysis of Variance (ANOVA) one way classified data, (f) establishing binary logistic regressions, (g) Factor analyses coupled with Reliability analyses etc.
2. Microsoft-Excel has been used for data analysis of secondary data collected from mainly Censuses of India, 2001 and 2011 in (a) calculating different percentages, sex ratios etc, (b) calculating coefficients of correlation, (c) developing regression equations, (d) preparation of bar chart and (e) population pyramids (age-sex pyramids) etc.

P-value or level of significance (α) up to 10 per cent is considered for significance in testing of hypotheses as our study belongs to the category of social science.

Significant means prominent/important. In case of chi-square test for homogeneity, homogeneous means similar composition among different groups and its opposite is non-homogeneous. In case of chi-square test for independence, independence of different attributes in a population (or group) means no association or no link among different attributes in a population and its opposite is not independent or associated.

Per cents of elderly persons, decadal growth rates, per cents of total population, sex ratios, per cents of households by number of elderly family members, per cents of elderly working etc have been calculated using census data of India by the researcher.

1.11 Chapterisation

The study consists of the following chapters. The chapters are divided into several sections and sub-sections. A broad outline of each of the chapters is given below.

CHAPTER 1. Introduction

This chapter consists of (a) population ageing: an inevitable future prospect, (b) social security and elderly related social security, (c) historical development of the study area, (d) demographic determinants of population ageing, (e) population ageing,

economic growth, sustainable development and social protection (f) statement of the problem, (g) significance or scope of the study, (h) objectives of the study, (i) research questions and research hypotheses, (j) research methodology, (k) layout of the chapters and (l) limitations of the study.

CHAPTER 2. Review of Literature

This chapter consists of thematic presentation of review of literature on the sub-themes: (a) The Global context, (b) theories, approaches and processes of ageing, (c) measurements of population ageing, (d) well-being and the determinants of quality of life (QOL) of the elderly, (e) economics of population ageing, (f) directly related studies in the literature, (g) Specially and contextually relevant empirical research and (h) Identification of research gap.

CHAPTER 3. Trends and Pattern of Population Ageing in India and West Bengal and An Overview of Global Population Ageing

This chapter consists of (a) introduction, (b) population ageing in India and its trend, (c) population ageing in West Bengal compared to India, (c) an overview of global population ageing and (d) summary.

CHAPTER 4. Nature and Pattern of Population Ageing among Muslim and Non-Muslim Population in India, West Bengal and Malda District

This chapter consists of (a) Introduction, (b) Age-sex distribution of total population in India, West Bengal and Malda district, (c) Ageing in Malda district compared to West Bengal and India, (d) Ageing in Malda District on the basis of survey data and comparisons of ageing among Muslim and non-Muslim populations in Malda district and (e) summary.

CHAPTER 5. Nature and Pattern of Population Ageing among Scheduled Tribes (ST) and Non-Scheduled Tribes Population in India, West Bengal and Jalpaiguri District

This chapter consists of (a) introduction, (b) age-sex distribution of total population in India, West Bengal and Jalpaiguri district, (c) ageing in Jalpaiguri district compared to West Bengal and India, (d) ageing in Jalpaiguri district on the basis of survey data and comparisons among ST and non-ST populations in Jalpaiguri district and (e) summary.

CHAPTER 6. Population Ageing in India and West Bengal among Scheduled Castes (SC) Population

This chapter consists of (a) introduction, (b) population ageing in India and West Bengal among SC population and (c) summary.

CHAPTER 7. Constitutional Provisions and Government Programmes and Policies for the Social Security of Elderly Persons in India and West Bengal

This chapter consists of (a) introduction; (b) Indian Constitutional provisions for elderly, (c) legal measures, (d) policies and programmes for welfare of elderly in India, (e) pension systems in India, (f) professional services to elderly, (g) additional policies and programmes for social security of elderly in West Bengal and (h) summary.

CHAPTER 8: Summary of Findings, Conclusions and Suggestions

This chapter provides summary of findings, conclusions, suggestions and scope of future research.

1.12 Limitations of the Study

Population ageing is a multi-disciplinary topic. It is related to economics, commerce, sociology, anthropology, political science, demography, actuaries and medical sciences etc. Again, considering economics, many problems may be studied. The following problems are not covered in this study:

- Elderly residing in old age homes (paid or un-paid) covering the backgrounds of elderly in selecting old age homes for their shelter; their present living arrangement, social security, physical and mental conditions etc,
- Feasibility of reverse mortgage loan (RML) and its acceptance by banks for implementation and by the elderly,
- Economics of pension and insurance,
- Legal aspects, education and lifelong learning, access to information, as well as overcoming barriers that exclude or discriminate against elderly persons,
- Quality of life for the elderly etc.