

Chapter - I

Introduction

1.1 Introduction :

Population ageing is accepted as an important and inevitable demographic change to happen in the transition of all societies. Population ageing refers to a situation when the number of elderly (generally above the age of 60 years) people increases much more rapidly than the rest of the population. Generally ageing can be described as the process of growing old and it is an intricate part of the life cycle. Ageing of population is basically the result of a two-dimensional demographic transformation; on the one hand the longer life expectancy due to decline in overall mortality and on the other, decline in fertility results in decrease in the proportion of children and young adults in the population. The relative strength of these two forces determine the proportion of elderly in the population. The mortality and fertility declines that move population through their demographic transitions inevitably results in increase over time in the proportion of a population who are old (Coale, 1964; Grigsby, 1991)

Population ageing is a dynamic process. It was first observed in post-industrial European societies in the 19th century. The United Nations conference of Ageing Populations in the context of the family held in Japan in 1994 observed that the most common demographic issue in all developed countries is the population ageing which was the inevitable consequence of fertility decline and decline in

mortality. Projected increases in both the absolute and relative size of the elderly population in many third world countries is a subject of growing concern for public policy (Kinsella and Velkoff 2001; World Bank 2001, United Nations 2002; Bordia and Bhardwaj 2003, Liebig and Rajan 2003). During the last half of the century, many countries have been able to reduce the infant and maternal mortality rates and as a result of advancement of the health services there has been a decline in the infectious and parasitic diseases. These improvements have interacted with reductions in fertility and advancements in education and health to produce population with increasingly larger proportions of older members (Kinsella, 1988).

The number of elderly in the developing countries has been growing at a phenomenal rate. In 1990 the elderly population (60- years and above) in the developing countries outnumbered that in the developed countries. Hence the world's population of older persons will increasingly be concentrated in developing countries. The proportion of the elderly (60 years and above) in the world population is expected to increase from 10 per cent in 2000 to 15 per cent in 2025 and to 21 per cent in 2050 (United Nations, 2002). According to UN Population Division, there will be two elderly persons for every child in the world by 2050.

1.2 Statement of the problem:

The Indian elderly population is currently the second largest in the world after China. It is projected that India's elderly will be more than four times by 2050 i.e. it will increase from 77 million to 324 million. According to census figures,

the proportion of elderly persons in India has risen from 5.6 per cent in 1961 to 7.4 per cent in 2001 and is expected to be 8.9 per cent in 2016 (Population projection of India and States, 1996-2016, RG, India). It is estimated that by the middle of this century India will have 21 per cent older persons of the total world elderly persons (Population Ageing, 1999, UN Division, Department of Economic and Social Affairs). The demographers predicted that by the year 2015, India is going to have the third largest elderly population after China and Japan. (Chandana Sarmah,2004).

The North Eastern region comprising of eight states accounts for 3.8 per cent of India's total population and it covers 8.05 per cent of the country's total geographical area .Because of their geographical similarities with each other and isolation from the rest of the nation, these states differ to a large extent with respect to number and proportion of elderly persons in total population. The elderly population in these states taken together comprises of 6 percent of the total population of the region in 2011. Among these states Assam has the highest number of elderly population. Almost 70 per cent of the total elderly population of the north east region belonged to Assam in 2011. According to 2011 census about 6 per cent of the total population were senior citizens (60 years or above) in Assam. Since 87 per cent of total population lives in rural areas, the proportion of elderly person is high in rural areas than in urban areas of Assam.

Population ageing has major socio-economic implications in the society. It has serious impact on economic growth, savings, investment and consumption, labour markets, pensions and the transfer of wealth, property and care from one

generation to another and old age dependency ratio. In a country with increasing dependency ratio, it increases the burden on the productive part of the population to maintain the means of livelihood of the dependents. Ageing of population will also continue to affect health and health-care, composition of family, living arrangements, housing and sanitation etc. The social and economic impacts of such population dynamics provide interesting scope of research to gather knowledge, so as to cope up with problems resulting from the advancement of science and technology, by designing appropriate and effective social and economic policies (Pethe, 1990).

1.3 Conceptual Framework:

Ageing is a continuous irreversible biological process. It is defined as a progressive decline in the physiological capacity of a human being leading to a decrease in the ability to adapt to stresses or the loss of adaptability of an individual organism over time. Becker (1981) defines 'ageism' as those changes occurring in an individual as a result of the change of time. Stieglitz (2002) describes 'aging is a part of living'. It begins with conception and terminates with death. Paul Wallace (1999) added the term 'Age Quake' to gerontological vocabulary. Kasthuri, (2007) states that chronological numeric age is used in defining the term 'elderly'. In the Indian context, people who have attained 60 years and above are considered as old, whereas in developed countries it begins only at 65 years (Mahadevan et al, 1992).

In addition to an increase in the proportion of population above the age of sixty years, the process of population ageing starts with a rise in the median age of the

population. The process may be classified into relative ageing and absolute ageing. Relative or bottom up ageing means a growing proportion of elderly due to fertility decline and the dwindling youth base in the age composition. Here the number of elderly grows as a percentage of total population, even if their numbers did not change at all. Absolute or top-down ageing is the result of a real prolongation of life span (Schmid, 1998) raising the absolute number of elderly. Changes in the age composition occur when fertility declines and not when only mortality falls. Decrease in mortality with unchanging fertility has little effect on the age structure of population. The effects of initial decline in mortality have generally been the younging of population, because the fall mostly occurs among children resulting in improvement of their survival (Guha Ray, 1985). Besides fertility and mortality, migration is also an important factor of population growth. But in the process of ageing, migration has a secondary role since its effects are generally spread over all ages (Pollard et al. 1981). According to Dhar, Chakraborty (2004), population ageing is characterized not only by an increasing proportion of old people and their growing numbers, but also by ageing within the elderly population and ageing of the labour force. A society is considered to be relatively old when the proportion of the population aged 65 and over exceeds 8 to 10 percent.

A related measure of population ageing is the elderly dependency ratio (EDR). The number of individuals of retirement ages compared to the number of those of working ages is the dependency ratio. Working ages may be assumed to start at age 15. The ratio of the elderly dependent population to the economically

active population is also known as old-age dependency ratio which is used to assess intergenerational transfers, taxation policies and saving behaviour of the economy.

Another indicator of population ageing is the 'ageing index' which is defined as the number of people aged 65 and over per 100 youths under age 15 (Gavrilov L.A. & Hauveline P. 2003). Till date, ageing indices are much lower in developing countries than in the developed world. But the proportionate rise in the ageing index in developing countries is expected to be much more than in developed countries. These indicators fail to take into account the age distribution within the categories particularly among the elderly persons.

Another class of indicators is the group of statistical measures of location such as median, mean and modal ages of population. The median age is the age at which exactly half of the population is older and another half is younger. It is perhaps the most widely used indicator. Since it is more sensitive to the changes at the right-hand tail of the age distribution (i.e., the oldest old ages), the mean age of population might be preferred to the median age in order to study the dynamics of population ageing.

The most adequate approach to study population ageing is to explore the age distribution through a set of percentiles, or graphically by analyzing the population pyramids. Youthful populations are represented by pyramids with a broad base of young children and a narrow apex of older people, while older populations are characterized by more uniform numbers of people in the age categories (Gavrilov LA & Hauveline P, 2003).

1.4 Objectives of the Study

Amongst the North-eastern states Assam records the highest in terms of number of population. The absolute number of elderly population is also found to be high in comparison to other north eastern states. There are many differences among the elderly of different categories according to castes, gender, region and income etc. The present study is taken up with the broad aim of analyzing the dynamic aspects of population ageing in Assam and its socio-economic implications.

The following objectives are set for the study —

- 1.4.1 To study the trend of the elderly population in Assam.
- 1.4.2 To obtain an idea about the socio-economic conditions of elderly population in Assam.
- 1.4.3 To identify the factors affecting health conditions of elderly population in Assam.
- 1.4.4 To highlight the existing social security policies and measures taken by the govt. for the welfare of the elderly population in Assam.

1.5 RESEARCH QUESTIONS:

Keeping the above objectives in view the following research questions will be investigated in order to arrive at policy suggestions on the basis of the findings —

- 1.5.1 What is the pattern and extent of aging population in Assam ?

1.5.2 What is the socio economic conditions of the elderly persons across communities and according to gender?

1.5.3 What are the factors affecting the health conditions of the elderly persons?

1.5.4 What are the sources of support and care available for the elderly persons in Assam?

1.6 METHODOLOGY:

1.6.1 Data sources:

The study has been carried out in some selected areas by using both primary and secondary data. The secondary data have been collected from relevant books, journals, census reports, statistical hand books of Assam and NSSO reports etc. The Economic Tables and Socio-Cultural Tables published by the Directorate of Census Operations, Assam provide population data classified by age-group, gender and a number of other socio-economic information.

Primary data have been collected from the sample households selected from the two districts. For collecting primary data interview schedules have been used to gather relevant information by canvassing a schedule. Both the qualitative and quantitative data have been collected for the analysis. The schedules have been prepared incorporating some specific questions such as income of the households, living conditions, care and support from the family etc.

In order to make the study more meaningful a survey was done in the old age homes in the selected areas to study about the facilities and care available to the

elderly persons residing in there. For this purpose a separate schedule has been designed.

1.6.2 Justification of selecting the sample area:

The present study is primarily concerned with economic impact of an ageing population and the status of the elderly persons in respect of living standard (income), health, living arrangements of the aged persons etc. The literature suggest that the aged population is not a homogenous group of people and their situation differ across class (both economic and social), region (urban and rural) community (tribal and non tribal) and gender (male and female). So it is imperative to choose the survey area in such a manner that all these dimensions of elderly population are included. While selecting districts the demographic features are taken into consideration. In selecting the blocks certain criteria like predominance of SC/ST, minority population, socio economic progressiveness of the blocks are taken into consideration.

1.6.3 Sampling design:

The present study is primarily concerned with economic impact of an ageing population and the status of the elderly persons in respect of living standard (income), health, living arrangements of the aged persons etc. The literature suggest that the situation of elderly persons differ across class (both economic and social), region (urban and rural) community (tribal and non tribal) and gender (male and female). So it is imperative to choose the survey area in such a manner that all these dimensions of elderly population are included.

The study has been conducted in two districts of Assam selected purposively. One is Kamrup Metropolitan and the other is Nagaon. The survey area is selected on the basis of 2011 census figures. Kamrup (Metro) having the highest total urban population (10,44,832) is the mostly urbanized district where the state capital city Guwahati is situated. It has the highest density of population. The district having elderly person 143126 according to 2011 census. Likewise considering the rural population, Nagaon recorded the highest total rural population (2457906) in the state. It has total no. of population 2826006. About 110077 elderly persons (age 60+) are residing in this district. Being cosmopolitan area, these two districts are therefore chosen for conducting the survey in the first stage. In the second stage, two blocks and one municipal ward from each district has been chosen randomly. In the third stage two villages from each block will be selected purposively. Finally from each village, 25 households have been chosen purposively and from each municipal area, 50 households have been selected randomly. Thus the sample size became 300 households of elderly respondents. Primary data have been collected from the elderly persons selected randomly in the areas by interviewing them on the basis of a detailed and structured questionnaire. (Annexure -1)

Table 1.1: Sampling Design: Details of Sample area:

District	Blocks	Villages	House hold	Urban	Household	Total H.H.
Nagaon	Bajiagaon	Sonaribali	25	Nagaon MB	50	
		Rangagarah	25			
	Kathiatoli	Rangaloo	25			
		Lalunggaon	25			150
Kamrup Metro	Chandrapur	Panikhaiti	25	Guwahati city	50	
		2no. Chandrapur	25			
	Dimoria	Amseng	25			
		Tepesia	25			150
Total	04	08	200	02	100	300

Analytical Methods:

For data processing and analysis, SPSS is used. Data have been presented in tabular form. Measures like proportions, rates and ratios and diagrams will be used for comparative analysis. Individual as well as households are taken as units of observations. In view of research questions to be addressed, the method of analysis is exploratory in nature. Apart from these, to find out the intensity of ageing, P-index is constructed by using the formula-

$$P(p) = \frac{1}{n(p)} \times \sum \frac{(y_i - 60)^2}{60^2}, n(p) = \text{Total population}$$

The age difference index $I(p)$ is the extent of oldness of old that can be measured by

$$P(p) = \frac{1}{q(p)} \times \sum \frac{(y_i - 60)}{60}, \text{ where } q(p) = \text{Elderly population}$$

Basu's Q index can be measured by $Q(P) = H(P) \times I(P)$, where, $H(P) = \frac{q(p)}{n(p)}$,

(Appendix- I)

To examine the status of Health in the study area, a logit model is formulated by taking health status (HS) as dependent variable..

$$\text{Logit (HS)} = b_0 + b_1 (\text{GR}) + b_2 (\text{AR}) + b_3 (\text{ES}) + b_4 (\text{LE}) + b_5 (\text{EW}) + b_6 (\text{SA}) + U$$

Where, HS = Health status indicated as fairly Healthy = 1 and unhealthy = 0.

GR = Gender of respondents coded as Male = 1, Female = 0.

AR = The age of the respondents coded as below 70 years = 0,
above 70 years = 1.

ES = Economic condition of the respondents coded as APL = 1 and BPL = 0.

LE = Level of education of respondents coded as literate = 1, Illiterate = 0.

EW = Engagement in work coded as working = 1, not working = 0.

SA = Spouse alive or not coded as alive = 1, not alive = 0. (Appendix-I)

1.6 Justification of the study

Ageing of population has been increasing day by day and this global phenomenon has affected India too. According to an estimates of Department of Economic and Social Affairs, UN, Population Division (2002), by 2050 AD one

out of every three will be senior citizens in the world's population. In India older persons above 60 years of age represents 8.1% of total population and is projected to reach 12% by 2031 and 17% by 2051. The oldest of the old grow faster than any other age group in the population. With the increase in the life expectancy and decrease in the fertility rate the number of elderly persons in our state has also risen which results in an increase in the old age dependency ratio. There are various issues affecting the elderly –they are often treated differently considering that they are weak, inefficient, dependent and unproductive.

Although several studies relating to ageing of population have been conducted in different parts of our country, a thorough and extensive investigation is still required to find out the nature of the problems the elderly faces and find out the solutions thereof. Taking this as a significant area of research, the present researcher ventures upon the present study.

1.7 Limitation of the study :

The study is based on two districts only .Due to limitations of time and resource the study has not been able to cover more districts. At the time of collection of primary data, it has been found that some respondents have shown their unwillingness to give any information and that some elderly persons stayed away from their home for social visit or health check up. Some of the respondents have been suffering from loss of memory for which some information could not be gathered properly. Hence the sample size is limited to 473 elderly persons only. In order to arrive at more generalized conclusions, a large sample covering many districts is needed.

This study is exploratory in nature and has not formulated any hypothesis a priori. The pattern and extent of ageing of population in Assam has been analyzed on the basis of secondary data. On the other hand the socio economic conditions of elderly population is examined on the basis of primary data and these are compared to the secondary data found in the literature.

The primary data on health status of the elderly persons are based on subjective responses which are not always possible to verify. However, the data collected from the elderly respondents have been scrutinized thoroughly and tabulated for processing and analysis.

1.8 Chapter Plan :

The present study consists of seven chapters.

Chapter-1 is the introductory chapter which include the concept of ageing population and related problems, aims and objectives of the study, research questions, justification of the study and methodology of the study.

Chapter -2 is devoted to the review of literature. Various studies relating to different aspects of population ageing at international, national and state level are reviewed to help and enrich the present study.

Chapter-3 contains an analysis of population growth, pattern and ageing of population in Assam. It is done on the basis of secondary data .It also analyses the burden of ageing population and intensity of ageing on the basis of secondary data.

Chapter-4 is devoted to the study findings related to the socio economic conditions of the elderly persons in the study area. It also provides an analysis of the living arrangements of elderly persons according to different characteristics.

Chapter-5 deals with the health profile of the elderly persons in the study region. It also analyses the different factors affecting the health status of the elderly persons of the study region.

Chapter-6 highlights the existing social security policies adopted by the government for the welfare of the elderly population of the state.

Chapter-7 consists of summary of the findings and conclusion .In this chapter, few suggestions are put forwarded for the betterment of the elderly persons of the state.