POPULATION MONOGRAPH OF BANGLADESH

ELDERLY POPULATION IN BANGLADESH: CURRENT FEATURES AND FUTURE PERSPECTIVES

Population Monograph: Volume-4

Bangladesh Bureau of Statistics
Statistics and Informatics Division
Ministry of Planning

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POPULATION MONOGRAPH OF BANGLADESH

ELDERLY POPULATION IN BANGLADESH: CURRENT FEATURES AND FUTURE PERSPECTIVES

November 2015

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Minister
Ministry of Planning
Government of the People's Republic of Bangladesh

Message

I am delighted to know that Population and Housing Census 2011 Project of Bangladesh Bureau of Statistics (BBS), Statistics and Informatics Division (SID) has prepared fourteen Population Monographs using the census data of different years. This is the first time BBS is publishing population monographs with in-depth analysis of the population census data. The present monograph on 'Elderly Population in Bangladesh: Current Features and Future Perspectives' is one of such monograph series.

Each monograph deals in a particular issue related to population and housing where census data have been used in multidimensional approaches. In addition, cross country comparison and in country comparison have also been made to oversee the representativeness of data with other national sources. It is expected that the monographs will useful in national planning and policy making particularly in the field of population and development.

I would like to thank concerned officials of SID and BBS and also authors of the monographs for their relentless effort in preparing these monographs and publication thereof. Special thanks to European Union (EU) and United Nations Population Fund (UNFPA) for their generous support in conducting 5th decennial census of Bangladesh and preparing the population monographs.

AHM Mustafa Kamal, FCA, MP

Dhaka
November, 2015

State Minister
Ministry of Finance
and
Ministry of Planning
Government of the People's Republic of Bangladesh

Message

I have come to learn that Population and Housing Census 2011 Project of Bangladesh Bureau of Statistics, Statistics and Informatics Division has prepared fourteen Population Monographs using census data of different years. Population is the main ingredient for national planning and policy making. Therefore, Population Monographs are of vital importance in the field of population planning of the country.

Each monograph has been prepared with a particular issue related to population and housing. To prepare these Monographs census data have been used widely in multidimensional way where secondary data from other sources have also been used. The monographs are a new dimension in the wide use of data generated through national censuses of the country.

My sincere thanks and gratitude to the honorable Minister, Ministry of Planning for his dynamic leadership and active guidance in implementing all our activities including census undertaking. I would like to thank Secretary, Statistics and Informatics Division, Director General, BBS for their relentless effort in preparing these monographs and publication thereof. Special thanks to European Union (EU) and United Nations Population Fund (UNFPA) for their generous support in conducting 5th decennial census of Bangladesh and preparing the population monographs.

M.A. Mannan, MP

Dhaka
November, 2015

Secretary
Statistics and Informatics Division
(SID)
Ministry of Planning
Government of the People's Republic
of Bangladesh

Foreword

Population Census is the single most important statistical undertaking in any country. Bangladesh Bureau of Statistics of the Statistics and Informatics Division has conducted the 5th decennial census of the country during 15-19 March, 2011. In order to supplement the main census a large scale sample survey was conducted in October 2011 which covered detailed information on Population & Housing. The Monograph on 'Elderly Population in Bangladesh: Current Features and Future Perspectives' is mainly based on the findings of main census and sample census conducted during 2011. Data from other secondary sources have also been used to prepare the Monographs.

It may be mentioned that Bangladesh Bureau of Statistics (BBS) has been publishing a number of Population Monograph series and Population Monograph on 'Elderly Population in Bangladesh: Current Features and Future Perspectives' which is one of the fourteen monographs being published by BBS using Population Census Data. Monographs are the in depth analysis of a particular topic of interest. It is worth mentioning that jn Bangladesh the proportion of elderly population are increasing. Therefore, special attention should be taken to address their welfare.

In light of that, population monograph on 'Elderly Population in Bangladesh: Current Features and Future Perspectives' will be useful for proper planning for the elderly population in Bangladesh. This monograph has covered detailed information on elderly population of Bangladesh from different censuses and surveys conducted by the BBS.

I like to express my sincere thanks to Director General, Deputy Director General of BBS, Project Director of Population and Housings Census 2011 Project and his team for preparing this Monograph. I acknowledge with gratitude the support of European Union (EU) and United Nations Population Fund (UNFPA) for successful completion of the Population and Housing Census 2011 and preparing the Monographs.

Kaniz Fatema ndc

Dhaka
November, 2015

Director General
Bangladesh Bureau of Statistics (BBS)
Statistics and Informatics Division (SID)
Ministry of Planning
Government of the People's Republic of Bangladesh

Preface

The fifth population and housing census of Bangladesh was conducted during 15th March to 19th March, 2011. The main objective of the census was to collect information on the basic characteristics related to housing, households and population for developing a comprehensive database for development planning and human resource development programmes as well as economic management.

Population and Housing Census 2011 were conducted in three phases. In the First Phase, basic data about all households and individual members of the households were collected through ICR formatted questionnaire during 15th March to 19th March, 2011. In the Second Phase, quality and coverage of the main count were verified through a Post Enumeration Check (PEC) survey during 10th April to 14th April, 2011. For the first time in the census history of Bangladesh, PEC was conducted by an independent organization, namely Bangladesh Institute of Development Studies (BIDS). In the Third Phase, detailed socio-economic information was collected by administering a long machine readable questionnaire in a sample survey held during 15th October to 25th October, 2011.

One of the objectives of the Population and Housing Census 2011 Project was in-depth analysis of census data and preparation of Population Monograph series. Monographs are useful to the users to know the detailed information about the related area for taking appropriate policy measures and further research.

The Population Monograph on 'Elderly Population in Bangladesh: Current Features and Future Perspectives' is one of the 14 monograph series which covered the different aspects of elderly population of Bangladesh.

I express my heartfelt gratitude to the Honorable Minister for Planning for his effective guidance and significant cooperation in making the census a success. I express my deepest gratitude to Secretary, Statistics and Informatics Division (SID) for her whole-hearted support and cooperation to the census. Moreover, members of 'Steering Committee', 'Standing Technical Committee', Consultants and the participants of the Seminar-cum-Expert Consultation deserve special thanks for their valuable contributions for finalizing the questionnaire and the census programme. I am thankful to the researchers of the Institute of Statistical Research and Training (ISRT), University of Dhaka for preparing this monograph. Thanks to European Union (EU) and United Nations Population Fund (UNFPA) for their technical and financial support to the Population and Housing Census 2011 Project.

Finally, I like to thank Deputy Director General, BBS, Project Director, Population and Housing Census 2011 Project, members of the Technical Committee and other officers & staff members of BBS for bringing out this monograph.

Mohammad Abdul Wazed

Dhaka
November, 2015

Representative
UNFPA Bangladesh

Message

This report is part of a series of 14 monographs developed by the Bangladesh Bureau of Statistics (BBS) with support from the United Nations Population Fund (UNFPA). UNFPA has supported the BBS since the very first census in 1974, a cooperation that has grown stronger with each census. Through the "Support to 2011 Bangladesh Population and Housing Census" project UNFPA has been working closely with the BBS to ensure that best use is made out of the resources invested in the census. The project has put a major emphasis on in-depth analysis of census data and the production of thematic reports in the form of these monographs. This series will provide its readers a better and clearer understanding of the trends, the current country scenarios and the gaps indicating where targeted interventions are necessary.

The availability of quality, reliable and timely data, as well as a thorough, methodologically sound and user-friendly analysis of data is more important than ever before. The information generated by population and housing census, the numbers of people, their distribution, their living conditions, are all critical for development. Without accurate data, policymakers do not know where to invest in schools, hospitals or roads and the most in need remain invisible. The implementation and monitoring of the Sustainable Development Goals, the guiding framework for the development agenda 2030, will require the production and analysis of a large amount of data, big data, requiring strong and independent National Statistics Offices, which UNFPA will continue to support.

I would like to take this opportunity to congratulate and thank the Statistics and Informatics Division and the Bangladesh Bureau of Statistics' authority and the project team for their efforts to produce this series, as well as the experts who contributed to the development of the monographs. My special gratitude goes to the Delegation of European Union in Bangladesh for their generous support and co-operation in implementing the "Support to Bangladesh Population and Housing Census 2011" project and in the preparation of these monographs.

Dhaka
November, 2015

Argentina Matavel Piccin
Representative
UNFPA Bangladesh

Project Director
Population and Housing Census 2011
Project
Bangladesh Bureau of Statistics
Statistics and Informatics Division
Ministry of Planning

Acknowledgements

It is my great pleasure to acknowledge the contributors who were engaged in preparing the fourteen Population Monographs of Bangladesh under Population and Housing Census 2011 Project of Bangladesh Bureau of Statistics (BBS). This initiative of BBS is a new dimension with regard to the wide use of census data in the country and the abroad.

Monographs have been prepared by the BBS in collaboration with public universities, research organizations and a local consultant of this project. A series of review meetings were organized to finalize the draft monographs.

I would like to express my profound regards and deep sense of gratitude to the Secretary, Statistics and Informatics Division (SID) and Director General, Bangladesh Bureau of Statistics for their valuable suggestions, continuous guidance and all out support in smooth completion of all the activities of this project and bringing out the population monographs.

It is worth mentioning that European Union (EU) has provided generous support in the implementation of the Population and Housing Census 2011 Project. I take the opportunity to express my indebtedness to United Nations Population Fund (UNFPA) for the partnership of this project of BBS.

I am extremely grateful to the institutions and the authors who were engaged in preparing the monographs. My sincere thanks to Mr. Nicholas Jhon Mcturk, Technical Expert on Population Development, Asia and the Pacific Regional Office, Dr. Chrisophe Lefrance, Technical Advisor, Population and Development, UNFPA Regional Office and the local consultant of this project Mr. Md. Shamsul Alam for their whole hearted co-operation in the preparation of monographs.

Thanks are also due to Mr. Iori Kato, Deputy Representative, Dr. Shantana R. Halder, Chief PPR and Mr. Mahboob-E-Alam, NPO, UNFPA for their kind support and help. I am grateful to Mr. Md. Mostafa Ashrafuzzaman, Deputy Director, Mr. Md. Khorshed Alam, Assistant Statistical Officer, Mr. Mohammad Abdullah, Assistant Statistical Officer and all other officials of Population and Housing Census 2011 project of BBS who worked hard to conduct the census and to prepare the monographs.

Md. Mashud Alam

Dhaka
November, 2015

EXECUTIVE SUMMARY

Global population ageing is a byproduct of the demographic transition in which both mortality and fertility decline from high level to low level. Hence population ageing and its social and economic consequences are drawing increased attention of policy makers worldwide. For Bangladesh too, ageing is one of the emerging issues that has been gradually accumulating with its far reaching consequences. As a result, coming up with new legislation and policies and growing awareness on this issue is now a necessity and the policy planners need to be made aware of the situation so that the Government can introduce an appropriate pension system, assisted-living facilities, adult day care support and health insurance scheme to cover the need of the increasing magnitude of elderly people. This monograph will be a good resource for the government and non-government policy makers for such purposes.

The main objective of preparing this monograph is to portray the current situation of elderly population of Bangladesh in terms of magnitude and proportion of elderly population at the national and regional level. The United Nations uses 60 years to refer to older people. This line, which divides younger and older cohorts of a population, is also used by demographers in Asian and Pacific regions. This has been used as a realistic statistical definition for ageing in the context of Bangladesh, the long questionnaire survey (census 2011) data are mainly utilized to explore the household structure to assess the family structure through age distribution of the family members and social positioning of the household with elderly population. A future perspective of the elderly situation at the national and regional (district) level is also looked at. According to the long questionnaire survey, census 2011, the percentage of elderly in Bangladesh is 7.7 percent. Among all the divisions, the number of elderly is the highest in Barisal along with the highest proportions of male and female elderly among the whole country. The difference between the male and female elderly population seems to be very trivial except for the Barisal division where the male and female elderly population consists of 4.84 percent and 4.18 percent, respectively, of the division population.

In each of the divisions of Bangladesh, most of the elderly people are at their early sixties. More than one- third of the elderly (37 percent) are the youngest of the elderly population and belong to the age group 60-64. Among the total population, 2.85 percent belong to the age group 60-64 with 1.49 percent male and 1.36 percent female.

A greater percentage of elderly females is widowed as compared to the corresponding percentage for elderly Males. If widowed, divorced, separated as well as the never married are collapsed into one category "single", the proportion of single elderly females is observed to be higher than the proportion of single elderly males. The pattern of gender differentials in marital status is very similar across the regions of residence.

There is a low proportion of economically active elderly people in Bangladesh, notably one-fourth are self-employed in agriculture (16 percent) but about two-third (68 percent) of the elderly are economically inactive. The percentage of inactive is as high as 95 percent among the female elderly while the corresponding percentage for the male is 43.89 percent among the male.

The ageing profile of Bangladesh shows that the ageing index, the total dependency ratio and the old age dependency ratio are 22.5, 64 percent and 8, respectively. These values reveal that for every 100 working aged population, there are 64 dependents and eight of them are individuals of retirement age while there are 22.5 elderly for every 100 children. The median age of 23 years reveals that fifty percent of Bangladesh population have an age under 23 years. This, however, shows the youth dominance of the population. Every couple of parents have 4.6 off springs indicating a strong parent support basis. The number of people age 15-59 per 100 elderly people aged 60+, that is the measure of potential support ratio (PSR) for Bangladesh is found to be 1256 which reflects a lesser level of burden placed on the working population.

Among the elderly people in Bangladesh, about one-third are illiterate (15 percent) or under primary (17 percent) and half of the elderly population have only primary education. Among the elderly, the highest proportion (21.13 percent) lives with a household belonging to 4th asset quintile and the least proportion (18.81 percent) lives with a household belonging to fifth quintile.

About 26.12 percent households have a within household dependency ratio of 0.3 to 0.6 indicating that maximum number of households has almost 3 dependents over every 5 working aged population. The size of the elderly people is projected to be more than 12.8 million in 2015 which would increase to almost 14 million in 2020 and in 2025 the size of elderly is expected to be 17.2 million. In all the divisions, the number of elderly is increasing with time.

It is clear that the elderly people in Dhaka division would be approximately double than any other division at 2025. The increment in the size of elderly during these three half-decades would remain same in all divisions except Dhaka. In addition, the Sylhet division would have a small number of elderly people during these periods. The projected elderly population of year 2015, 2020 and 2025 by division and their type of residence indicates that for every division the number of elderly living in rural areas is greater than the number of elderly living in other than rural area now. But this share of rural elderly decreases in the year 2020 and 2025.

The monthly amount required for old-age pension in million BDT for each of the seven divisions of Bangladesh in the year 2015, 2020 and 2025 is estimated based on GOB pay scale as well as based on general CPI. An estimated 1456.69 million BDT is found to be required in 2025 for old-age pension. The estimation has taken into consideration the change in the number of elderly population, change in living index and the change in the coverage of old-age pension at their current rates.

The monograph stated few generic recommendations on the basis of the study findings. It is felt that policies are needed to be developed for collection of age, sex, region of residence disaggregated data on people 60 years and over. Public programs, including pension schemes and the national healthcare systems are needed to be enhanced both in terms of size and coverage. The access to the old age allowance may be increased in accordance with the projected elderly population and target a number of 13 million people in 2020. The old age allowance is needed to be increased to an amount of between 750 to 1500 taka. Needs are felt for research on forecasting ageing, growth and structure of family pattern and care and living arrangements of the elderly.

There seems to be need for a policy reform that encourages the elderly who are still capable to stay in the work force. The GOB initiative to increase gradually the retirement age of some government sector jobs to 65 years is commendable, Retirement age of other government jobs can also be increased accordingly. In addition, the elderly people may be encouraged to be involved in self-employment in sectors other than Agriculture. Subsidized healthcare and medicine for the elderly people on presentation of ID card may be initiated with a long run target of providing free healthcare and medicine. It is also necessary to increase the number of specialized doctors with their expertise in geriatric issues in Bangladesh.

1. INTRODUCTION

1.1 Background

Ageing issues are directly or indirectly related to many topics, such as demography, economics, food and nutrition, health, education and human rights. There is no universally accepted age bracket of the elderly but, in most literature, people above 60 years of age are considered as 'old' and taken to be the 'elderly' segment of the population of a country. However, in many developed countries, the age of 65 is used as a reference point for older persons as this is often the age at which persons become eligible for old-age social security benefits. In developed societies, chronological age plays a paramount role and the age of 65, roughly equivalent to retirement age, is said to be the beginning of old age. But in developing countries, chronological age has little importance in defining old age.

The United Nations uses 60 years to refer to older people. This line, which divides younger and older cohorts of a population, is also used by demographers in Asian and Pacific regions. This has been used as a realistic statistical definition for ageing in the context of Bangladesh, particularly taking into account average retirement age, legislation, health conditions and so on. Elderly population, thus in this monograph, is defined as those who have reached 60 years of age.

Like the global pattern, the number and rate of elderly population of Bangladesh is increasing and expected to increase more in the future years. According to the United Nations Population Division (2013), the size of population of Bangladesh aged 65 years or more has reached about 8 million in 2010 from 4 million in 1990, and this pattern of increase is forecasted to be steeper in the coming years. With this pattern of increase in ageing population, the question on whether ageing has really emerged as a demographic issue is already on. This is already time to pin down the important issues that should be addressed and the country should be prepared to face the challenges of ageing in order to implement public policies.

1.2 Global Population Ageing

Global population ageing is a byproduct of the demographic transition in which both mortality and fertility decline from high level to low levels. As the twentieth century drew to a close, population ageing and its social and economic consequences were drawing increased attention of policy makers worldwide. The twenty-first century will witness even more rapid population ageing than did the century just past. In many cases, more rapid population ageing will be taking place in countries where the level of economic development is still low.

The topic of the elderly support was not an issue for discussion in most of the developing countries so long ago. Only a small proportion of population lived beyond middle ages; therefore, those few that actually survived into old age were also deified, solidly entrenched into the family support system. Decline in fertility has not only increased the proportion of people surviving to the old age but has also eroded the traditional support base in old age, that is, the family. The reduction in the size of successive birth cohort not only signifies the diminishing availability of youngster to support the older people but the shrinking of family size itself. Measures of societal dependency in the form of age ratios tend largely to be used as surrogates for measures of economic support even though they should be seen merely as representing the contribution of age composition of the population to the economic support problem. While the rising dependency of the aged has been more than offset by the falling dependency of the children, the economic support problem of the elderly is the greater one when one considers public support only. The age-based measures are not very good indications of the level of familial dependency and serve to provide only rough indications of its trends.

Ageing is one of the emerging problems in Bangladesh. This problem has been gradually increasing with its far reaching consequences. A macro level investigation (Khan and Leeson, 2006) on ageing of Bangladesh to identify the real demographic issues has been done. They have noticed that the Bangladesh population ageing tends to increase fiscal demands on the government, especially for income support, health, and social services. A clear indication of increasing Bangladesh demographic ageing process has been found. The elderly of Bangladesh are generally taken care of by family and society. Due to the process of globalization, this traditional support system is weakening day by day. A clear trajectory is needed to face the future support burden of the old.

In Bangladesh, adult offspring, particularly sons, are considered to be the main source of security and economic support to their parents, particularly in the time of disaster, sickness and in old age. As an Asian country, Bangladesh has a long cultural and religious tradition of looking after the elderly and it is expected that families and communities will care for their own elderly members. But rapid socio-economic and demographic transitions, mass poverty, changing social and religious values, influence of western culture, and other factors have broken down the traditional extended family and community care system. Most of the elderly people in Bangladesh suffer from some basic human problems, such as poor financial support, senile diseases, and absence of proper health and medicine facilities, exclusion and negligence, deprivation, and socio-economic insecurity. (Nath and Islam 2009, Islam and Nath 2013).

1.3 Rationale of the Study

Due to recent socio-economic changes, the traditional support to the elderly people is gradually changing its character. Because of lack of adequate family support or a formal social support system, elderly people are, now, seeking alternative financial and health care support from the government. As a result, coming up with new legislation and policies and growing awareness on this issue is now a necessity and the policy planners need to be made aware of the situation so that the Government can introduce an appropriate pension system, assisted living facilities, adult day care support and health insurance scheme to cover the need of the increasing magnitude of elderly people. Accurate projected numbers for the future elderly population at a regionally disaggregated level will be required for both Government of Bangladesh (GOB) and non-government organizations (NGO) for designing any possible intervention of the above nature.

As a result, the present monograph would be a good resource for the government and non-government policy makers considering the pension, old age allowance program, national elderly policy and others like micro credit, health, nutrition, population sector program and community empowerment, etc. It is anticipated that the results would have a large impact on the provision of courses of actions to be essential since it will explore the current tendency in the elderly population and the prospective one.

1.4 Objectives

To address the challenges of growing older more proficiently, policy planners need to better understand the complex interrelationships of the work, health, economic status and family structure of the ageing population. They need to see the big picture more clearly to make better decisions about how to cope with this monumental demographic shift, which will be seen throughout Bangladesh in coming years. However, ageing being gradual, policymakers still have a few years to sort things out before the economy begins to sag under the burden of elderly population. But the actual size of this elderly population along with its changing behavior is an indispensable requirement for such policy formation.

The present study, that's why, will focus mainly on the following objectives:

1. To portray the current situation of elderly population of Bangladesh in terms of magnitude and proportion of elderly population at the national and regional (district) level.
2. To explore the household structure to assess the family structure through age distribution of the family members and social positioning of the household with elderly population.
3. To portray the future situation of the elderly population at the national and regional (district) level.

1.5 Organization of the Monograph

While Chapter One introduced the justification and objectives of the monograph, Chapter Two describes the detailed methodology used in the monograph. In Chapter Three, an in-depth literature review is presented where different data and information regarding ageing is collected from various secondary sources and they were re-analyzed before presentation. The government and NGO initiatives for well beings of elderly in Bangladesh are extensively synthesized and summarized in Chapter Four. Chapter Five describes the elderly population scenario and Chapter Six looks into the family age structure by analyzing the Long Questionnaire Survey data. In Chapter Seven attempts has been made to project the future perspectives of elderly and provides a gap analysis in terms of government old age pension. Chapter Eight concludes the monograph with summarized relevant observations and recommendations.

2. DETAILED METHODOLOGY

2.1 Introduction

Population ageing is occurring because of declining fertility rates, lower infant mortality and increasing survival at older ages. As the study of population ageing is often driven by a concern over its burdening of retirement systems, the ageing of population is often measured by increases in the percentage of elderly people of retirement ages. There are numerous methodologies for the measurement of population ageing. The main methodologies utilized for different analysis in this monograph and the sources of the data are described in this chapter.

2.2 Data and Variables

The Current Scenario of socio-economic characteristics of elderly in Bangladesh is evaluated by analyzing the long questionnaire survey data of Census 2011. The current situation is portrayed in terms of number and proportion of elderly population at the national and regional (district) level focusing mainly on Demographic, Social and Economic characteristics. The family age structure is examined for an understanding of family structure and elderly proportion in the family. The indicators ageing index, dependence ratio and social positioning of the elderly population are also measured from the survey data. Descriptive analysis of demographic, social and economic characteristics is demonstrated using frequency tables, proportion and percentage focusing mainly on the following variables classified under three broad categories:

1. Demographic characteristics:
    a. Division
    b. District
    c. Place of Residence
    d. Gender
    e. Religion
    f. Education
    g. Marital Status

2. Social Characteristics
    a. Type of family
    b. Household composition
3. Economic Characteristics
    a. Asset quintile
    b. Living arrangement
    c. Current working status
    d. Reason for not working: can't find, health doesn't support, others

2.3 Long Questionnaire Survey Data of Census 2011

The fifth population and household census of Bangladesh had begun from midnight of 14 March, 2011, Monday. The total number of people living in the country was enumerated along with collection of concrete data on their age, gender, ethnicity, religion and social and economic status. As usual, the census was followed by a long questionnaire survey. The long questionnaire survey was required to be technically very sound so that it can be advantageously utilized to upgrade and enhance the census data by appropriate supplementation, synchronization and matching.

2.3.1 Sampling design

The sampling design for the long questionnaire data was a stratified two-stage cluster sampling method where at the first-stage enumeration areas, EAs, (Enumeration Area having about 100-120 households each, were created all over the country and GIS Maps were developed for each EA prior to the census) were selected and within the selected EA, households listed in the 2011 census were selected at the second stage. For the first stage a systematic sampling method was adopted and in the second stage a simple random sampling method was used.

2.3.2 Stratification

Since estimation was required for the district delineation without segregating for rural, urban and metropolitan region, primarily, the whole country was divided into 64 strata, each defined as an administrative district. At the national and divisional levels the estimations were required to be segregated for the rural, urban and metropolitan regions. The district sample was therefore

consisted of both rural and urban regions. In addition, for estimation at the city corporation level, six additional strata were defined as the 6 Metropolitan city corporations making a total of 6+64=70 strata in the population. Independent sampling is done within each stratum.

2.3.3 Sample size

From general theory the minimum required sample size was determined by the usual sample size determination formula and was obtained to be approximately 2335 households (HH) per stratum for allowing a maximum error of $\pm 25\%$ $(d = 0.0125)$ in estimating a characteristic as rare as 5% $(p = 0.05)$. This sample size would allow a narrower margin of error for estimating characteristics which are more common in nature and also for estimation for larger delineations. An equal allocation of sample size was applied since individual stratum estimation was required and the sample size was determined to address the minimum requirement. Each of the strata being very large, the sample size was not needed to be inflated for population size.

2.4 Analysis Plan

This study goes through an intensive analysis of the background materials on literature and methods available for meeting the objectives of the study. The investigation considers the present scenario of the elderly depending on availability of current and historical data related to elderly people in Bangladesh. Furthermore, population aged 60 years or more is projected using Cohort Component (CC) method which is an appropriate method for such scenario.

Background of the elderly people specifically the morbidity scenario and quality of life are obtained from secondary sources through extensive literature review. Government of Bangladesh and NGO initiatives are thoroughly examined for old home facilities, old age allowances and its impact on elderly people; a Gap Analysis is also performed.

2.5 Data Analysis

The raw data collected from the BBS are organized and analyzed for this monograph using descriptive statistics including frequency tables and different graphical techniques. The data

from other secondary sources are also synchronized with the long questionnaire survey data to obtain meaningful interpretations and policy directives. For portraying the ageing scenario, the following ageing indices are also computed:

1. The **ageing index** is calculated as the number of persons aged 60 years old and above per hundred persons under age 15 years.
2. The **total dependency ratio** is the number of persons under age 15 years plus persons aged 60 years or older per hundred persons aged 15 years to 59 years. It is the sum of the youth dependency ratio and the old-age dependency ratio.
3. The **median age** of the population is that age that divides a population into two groups of the same size, such that half the total population is younger than this age, and the other half older.
4. The **potential support ratio** is the number of persons aged 15 to 59 per thousand persons aged 60 or older.

2.5.1 Computation of asset index

To look into the ageing pattern in relation to the socio-economic background, household asset index was computed using the asset information collected in the BBS long questionnaire survey. The household Questionnaire covered information on household ownership of a number of consumer items, such as bicycle, motorcar, television, refrigerator, ownership of agricultural land, telephone (fixed and mobile) and cooking fuel, as well as dwelling characteristics, such as sources of drinking water, sanitation facilities and types of material used for flooring. Factor Analysis was used to assign the indicator weights. Also, factor analysis process has been used as follows: First standardized (normalized) the indicator variables; then the factor loadings are calculated; and finally, for each household, the indicator values are multiplied by the loadings and summed to produce the household's index value. In this process, only the first of the factors produced is used to represent the wealth index. We can write a result of the asset index derived from factor analysis for each household asset with the following formula:

$$A_j = \sum_{i=1}^{n} f_i * (a_{ji} - a_i)/S_i \,,$$

where

A_j is an asset index for each household ($j = 1,2, \ldots \ldots \ldots, n$),

f_i is the scoring factor for each durable asset of household ($i = 1,2, \ldots \ldots \ldots, n$),

a_{ji} is the i-th asset of j-th household ($i, j = 1,2, \ldots \ldots \ldots, n$),

a_i is the mean of i-th asset of household ($i = 1,2, \ldots \ldots \ldots, n$) and

s_i is the standard deviation of i-th asset of household ($i = 1,2, \ldots \ldots \ldots, n$).

The mean value of the index is zero by construction. Since all asset variables are dichotomous and take only a value of zero or one, then the weight is easy to be interpreted. A move from 0 to 1 changes the index by f_i/s_i . Using the asset index computed by this formula, each household would be assigned into quintiles. The cut points in the wealth index at which to form the quintiles are calculated by obtaining a weighted frequency distribution of households. The first quintile is the poorest, while the fifth quintile is the richest. Thus, the distribution represents the national household population, where each member is given the wealth index score of his or her household. The elderly persons are then ordered by the score (ranked), and the distribution is divided into five sections (20 percent for each). Then the household score is recoded into the quintile variable so that each member of a household also received that household's quintile category.

2.5.2 Projection of ageing population

The future sizes of the elderly population at the national and regional (district) level are estimated from secondary data and using existing methodologies for population projection. For the present study, 60+ years aged population at district level is projected for single year age. The Cohort-Component Method, which is a mathematically oriented method, is used for the projection and the statistical software R is used for all computations. For mapping future perspectives of the ageing population, a partial population projection using a cohort-component method was made in this monograph. In the cohort-component method, the components of population change (fertility, mortality, and net migration) are projected separately for each birth cohort (persons born in a given year). The technique projects the population by age groups, in addition to other demographic and regional attributes such as gender, ethnicity, division and district. This projection method is based on the components of demographic change including births, deaths, and migration. The cohort component summary equation based on the ideas of the demographic balancing equation is given by

$$P_{t+n} = P_t + B_t - D_t + I_t - E_t ,$$

where

P_t is the population at time *t*,

B_t is the number of births occurring in the time interval (*t*, *t+n)*,

D_t is the number of deaths occurring in the time interval (*t*, *t+n)*,

I_t is the number of immigrants in the country during the time interval (*t*, *t+n)*, and

E_t is the number of emigrants from the country during the time interval (*t*, *t+n)*.

To project a population in intervals of *n* years, one uses data on *n*-year age groups. Thus, populations are usually projected either one-year at a time, using data on single-year age groups or by five-years at a time, using data on five-year age groups. To carry out a cohort-component projection, detailed assumptions have to be made not just about the size and structure of the baseline population but also about each of the components of population growth throughout the period covered by the projection:

- *Base year population* subdivided by age and gender or region
- Age and gender specific life tables for each projection interval in the projection period (*mortality*)
- Age specific *fertility* rates for each projection interval in the projection period
- Age and gender specific net *migration* for each interval in the projection period.

In this study, due to lack of available data crude birth rate has been used instead of age specific fertility rates to project the future number of birth. It is also assumed that the population is closed to migration in Bangladesh and that is why the migration component in the cohort component method of population projection is not considered. Given the base-year population, the efficiency and reliability of projection depend completely on the quality of projected value of the components of population change i.e. birth and death in this case.

For obtaining the current and future forecast of each of the components of population growth required for the cohort component method, a forecasting method, named Singular Spectrum Analysis (SSA) has been used (Hassani and Thomakos 2010). This is a relatively recent and powerful technique to model time series with no assumptions of underlying process, i.e. nonparametric time series analysis and forecasting. The SSA method is able to decompose the

original time series into the sum of a small number of independent and interpretable components, which represent the trend, oscillatory behavior (periodic or quasi-periodic components) and noise. Some of these components are selected and then used to forecast. The SSA technique consists of two complementary stages: decomposition and reconstruction. At the first stage we decompose the original series into a sum of series, so that each component in this sum can be identified as either a trend, periodic or quasi-periodic (perhaps, amplitude-modulated), or noise and at the second stage we reconstruct the original time series from some of the components and use the reconstructed time series for forecasting.

2.6 Analysis of Information from Secondary Sources

Information from other secondary sources were also searched for information regarding use of health care facilities by elderly people, health status of the elderly and bearing of medical expenditure by family members. Reports and records are consulted for the current situation of GOB and NGO facilities for elderly people in Bangladesh including pension benefits, old age allowance, old home, etc. A comparison of the existing situation and projected future scenario will also be made to identify some of the gaps.

3. BACKGROUND AND AVAILABLE LITERATURES

3.1 Introduction

The elderly population in Asia is projected to reach 922.7 million by the year 2050 putting Asia at risk to become one of the oldest regions in the world in the next few decades (ADB 2013). In the year 2000, the average age in Asia was 29 years (United Nations 2001). An estimated 6 percent of the region's total population was aged 65 years and older, 30 percent were under age 15 years, and 64 percent were in the working-age group of 15 years to 64 years (United Nations 2001). The United Nations medium projections estimate that in Asia, the proportion in the working-age group will be the same in 2050, at 64 percent with a dramatic shift in the proportion of children and the elderly but the proportion under age 15 will drop to 19 percent, and the proportion 65 and older will rise to 18 percent. The average age in Asia will be 40 years (Report by East West Centre 2008).

Bangladesh has the youngest population of any major country in the Asian region, with 3 percent 65 years or older population in 2000. However, even Bangladesh and Asia's other young populations will experience rapid population ageing during the coming decades. Bangladesh's 65-and-older population is projected to rise to 5 percent in 2025 and 11 percent in 2050 (United Nation 2007).

It is important for the Government to find innovative ways to sustain its economic expansion, and to provide more comprehensive support for its growing elderly population by introducing new and strengthening of existing policy, institutions and economic structures. The actual size of this elderly population along with its changing behavior is an indispensable requirement for such policy formation. Policy planners must better understand the complex interrelationships of the health, economic status and available facilities of the ageing population in order to address the challenges of growing older more proficiently. In this chapter the situation of elderly people in the country, morbidity scenario, use of health care facilities, Land and/or Asset Ownership and Quality of Life of the elderly people of Bangladesh are portrayed as found in literature.

3.2 Situation of the Elderly Population

The age distribution of the elderly population in Bangladesh and some selected countries in Asia is shown in Table 3.1.

Table 3.1: Estimated percentage of elderly in some selected Asian countries. (United Nations, 2013)

Region	60 years or over			65 years or over			80 years or over		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
World	11.7	10.7	12.8	8.0	7.0	8.9	1.7	1.3	2.1
Asia	10.9	10.1	11.7	7.2	6.5	7.9	1.3	1.1	1.6
Eastern Asia	15.5	14.5	16.5	10.3	9.4	11.3	2.1	1.6	2.6
South Central Asia	7.9	7.4	8.5	5.1	4.7	5.6	0.8	0.7	0.9
South Eastern Asia	8.8	7.9	9.7	5.7	5.0	6.5	1.1	0.8	1.3
Western Asia	7.7	6.7	8.7	5.1	4.4	5.9	1.0	0.7	1.3

According to the United Nations, 2013, there exists an interesting variation in the ageing scenario in different Asian regions in comparison with the overall ageing scenario of the world as shown in Table 3.1. In all these regions, the percentage of people falls from 60+ people and 65+ people this percentage gradually decreases in the older age groups.

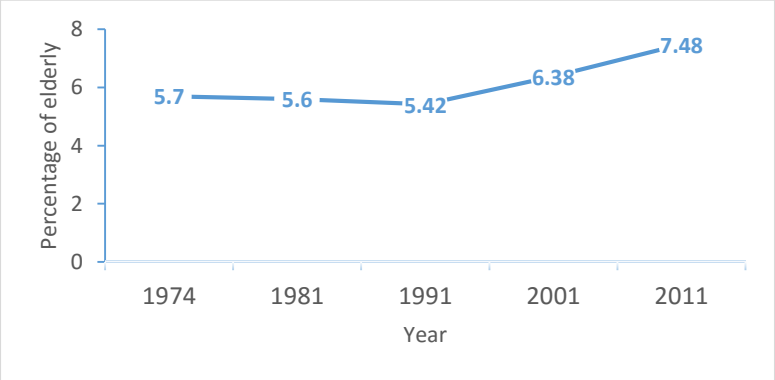


Figure 3.1: Trend in percentage of elderly population in Bangladesh

Figure 3.1 shows the percentages of elderly population from census data in Bangladesh (BBS 2012). This figure shows a slightly different scenario from the one shown in previous table., The percentages of elderly people in Bangladesh projected by United Nations for the year 2010 based on 2001 census (Table 3.1) seems to be lower than the true scenario of elderly people in Bangladesh in 2010.

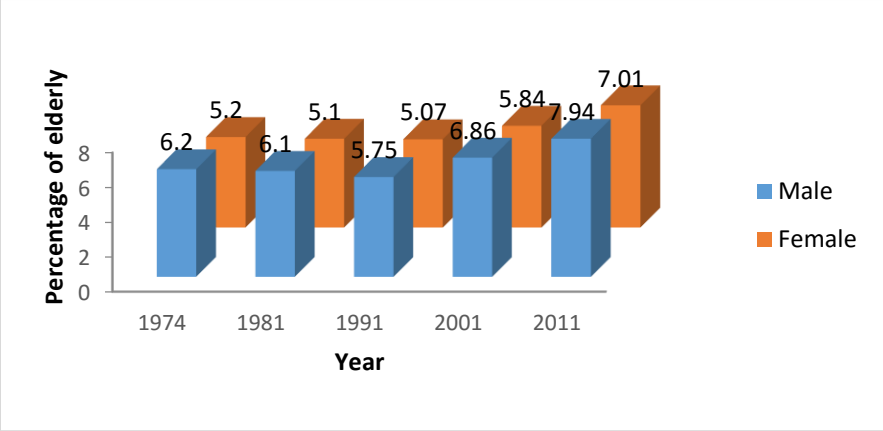


Figure 3.2: Percentage of elderly population in Bangladesh by gender

Figure 3.2 indicates no substantial difference in the percentages of male and female elderly population in Bangladesh since 1974 and the following census years.

3.2.1 Morbidity scenario

Elderly people suffer from numerous health problems. Khanam *et al.* (2011) reported the prevalence and distribution patterns of multi-morbidity among the elderly people in rural Bangladesh based on a cross-sectional study conducted among persons aged 60 years or more in Matlab, Bangladesh. In their study, multi-morbidity was defined as suffering from two or more of nine chronic medical conditions, such as arthritis, stroke, obesity, signs of thyroid hypo function, obstructive pulmonary symptoms, symptoms of heart failure, impaired vision, hearing impairment, and high blood pressure. The overall prevalence of multi-morbidity among the study population was 53.8 percent, and it was significantly higher among women, illiterates, persons who were single, and persons in the non-poorest quintile. The study sheds new light on the need of primary care for the elderly people with multi-morbidity in rural Bangladesh by identifying the group more likely to observe high prevalence of multi-morbidity among the elderly people in rural Bangladesh.

3.2.2 Land and/or asset ownership

Land and/or asset ownership could be an indicator of the economic status of an elderly person. However, literatures do not provide any substantial information regarding land and/or asset ownership of elderly people in Bangladesh.

3.2.3 Quality of life

The literature on quality of life of elderly in Bangladesh is also scanty. Very few studies were done on this particular area and most of them were conducted with small purposive samples limiting the scope of making stringent statistical inference about the quality of life of elderly in Bangladesh (for example, see Khanam *et al.* 2011, Islam and Rahman 2010).

The results of a cross sectional study by Khan *et al.* (2014) on 250 elderly people from three villages of Pabna district conducted to assess the background profile, pattern of morbidity and overall quality of life (QoL) of the elderly revealed that most common health complications are insomnia and eye problems in that particular area. It might be noted that although the eye problem was identified as one of the top ten morbidities of the elderly in the morbidity scenario section of this chapter, insomnia was not. The study suggested that the elderly who are presently workless but live in a joint family have a better quality of life. The study emphasized on improving the financial condition of the elderly and traditional family bond in order to ensure better quality of life of the elderly people.

Rana and Ahmed (2014) examined the impact of a small-scale old age allowance (per capita US$3 per month in cash) on health-related quality of life (HRQoL) of elderly persons initiated by the government of Bangladesh in 1998. The beneficiaries have been increased from 0.5 million in 1998 to 1.6 million in 2006. HRQoL was assessed using a multi-dimensional generic instrument through a cross-sectional study conducted in 10 of the 64 districts of Bangladesh including 4,498 elderly persons (≥60 years) where BRAC has been maintaining a demographic surveillance. The study found that receiving old age allowance was significantly associated with attaining higher scores in the social and economic dimensions and lower scores in the physical dimension of HRQoL compared to the eligible non-beneficiaries (adjusted for gender, age, education and marital status). A significant impact of old age allowance on some specific dimensions of HRQoL, although small, justifies its continuation and expansion to bring more individuals in its net.

4. Government and Non-Government Organization Initiatives

4.1 Introduction

The countries with a moderate level of success in reductions in infant mortality and fertility levels, improvements in nutritional status of the population and universal access to education and health care are presumably facing the ageing pressures in recent years. These successful developmental outcomes are achieved mainly by implying special policies covering family planning, health and education. Despite these advances, the social security coverage has not been comprehensive enough in the low income countries where formal retirement institutions are limited both in number and coverage. Being a developing country, in spite of several initiatives taken by the Government, supports available for elderly people are not adequate in Bangladesh. In this chapter, the initiatives taken by GOB and NGOs who are working for elderly are discussed.

4.2 Some Initiatives by GOB and NGO

At this backdrop, it is important to look at the initiatives taken by Government of Peoples Republic of Bangladesh and the NGOs to study the current level of support the elderly are receiving from these organizations. Moreover from the policy perspective it is also of importance to project the future number of elderly and the budgetary requirement for offering adequate support for the elderly both in terms of old age allowance and accommodation.

4.2.1 Old home

Very limited number of old homes are available for taking care of the older persons in Bangladesh. The ones that exist are often having too few members of staff to operate effectively and not having the necessary resources to deal with the problems of senior citizens. They are unable to be reached for people who cannot afford to pay even the minimum fees for an upshot of resource limitation. However, none of the old homes in the country, whether run by the government or NGOs, offers places for disabled or invalid old citizens.

Support to poor and handicapped elderly in community level with a primary focus on older women, as well as cooperating the commemoration of International Older Person's Day. Starting in 1960, Bangladesh Association for the Aged and Institute of Geriatric Medicine (BAAIGM) popularly known as "Probin Hitoishi Sangha" established an old home in the capital's Agargaon in the early 1990s, which can accommodate 50 retired senior citizens with no bed-ridden people, aged from 60 years to 80 years. Suberta trust has two branches. One branch is in Shaymoli and the other one is in Savar and about 30 elderly people can get accommodation there. These three organizations favor money to provide services.

There are two government old homes in Faridpur and Barisal. Among the few old homes run by private initiatives is the rehabilitation center (Boyoshko Punorbashon Kendro) for the older persons established in 1987, at Gazipur. Poverty-stricken older people (aged 60 years and above) from any religious faith can live in this more or less full-grown old home, which is the biggest in terms of size and probably the first of its kind in the country. This centre currently supplies housing facilities for about 1200 old people. Besides free residence, food, and clothing, they provide free medical care for the elderly people and involve them in the activity of tending and cultivating a garden, growing crops and raising livestock, controlled breeding and rearing of fish and other recreational activities. Another branch of this centre is in Rangamati, but that centre only acknowledges people who are able to move around. (Daily Star, 2010). Besides the above mentioned there are some other small old homes in the country, we do not go into any further details of such mainly to restrict us from deviation of the scope of the study.

4.2.2 Health care of the elderly

Bangladesh Women's Health Coalition (BWHC) has taken an initiative where older women are progressively incorporated in education services for women and children through clinics located in urban and rural areas by taking a "life cycle approach" to health care (The Independent 2014).

BAAIGM is furnishing health care and welfare of the elderly persons regardless of cast collaboration with the Government of the Bangladesh and other national and international organizations. Recently it provides services at 34 locations. Its program will moderately be expanded to all the 64 districts. BAAIGM is the instance and manifestation of the

consciousness about the ageing issue during the 1960's in the country. Hospital facilities of BAAIGM include outdoor and indoor medical services and divisional health centers (BAAIGM web page).

Out Door Medical Services

In the outdoor department of the Geriatric Hospital Examinations and treatment of diseases of the patients are done for all the general ailments and free medicines given to the General Medicine, Eye, Dental, Diabetes, ENT, Cardiology, Dermatology, Surgery, Physiotherapy treatment etc. and almost all kinds of Ultra Sonogram, X-Ray, ECG, Color Doppler. 24 hours Halter ECG and pathological test are carried out here.

In Door Medical Services

Geriatric Hospital is performing with providing a four storied building with 50 beds where patients are endorsed for treatment. For providing medical care to the patients, Skilled and knowledgeable doctors and support staff are accessible at the hospital being 24 hours on duty. There is one lift and two ambulances available for the patients and residence.

Divisional Health Centers

Five divisional medical centers have been established in five Divisional Head Quarters i.e., at Khulna, Rajshahi, Sylhet, Barisal and Chittagong. Elderly are getting outdoor medical services in Medicine, Cardiology, Pathology, physiotherapy, Dental, Eye and ENT departments.

4.2.3 Old age allowances by GOB

The Government of Bangladesh (Old age allowance, Ministry of Social Welfare web page) took an initiative for paying a subsidy to the poor and vulnerable older persons by establishing Old-age Allowance Program ((Boyoshko Bhata Karmashuchi) from the revenue budget in 1998. Beneficiary of the Old Age Allowances must have the age of 65 and above. Age limit is relaxable for the women recipients. A women recipient is having the right to get the same allowance when they are 62 years old. In the financial year 2011-2012 the Bangladesh Government assigned 891 crore Taka. The overall legatee of this is 2.475 million. Beneficiaries are getting Tk. 400/- monthly per head (From January 2015) which is receivable in every 3 months.

Old age allowance was 980.10 crore BDT for the fiscal year 2013-14 which was 10 percent additional than 2012-13 fiscal year. There were 24,75,000 beneficiaries among which 12,02,448 were female. The old age allowance strategy is enforced in the rural areas of all Upazila at union level and for all wards of the municipalities of the 64 districts of the country. The Ministry of Social Welfare of the government shoulders the authority of the strategy. A study conveys information that almost half of the beneficiaries of the government-sponsored Old Age Allowance consume their full receipt in buying medicines. The study also expresses that the beneficiaries of the Social Safety Net Program (SSNP) spend 39 and 28 percents of their SSNP supports on consumption and healthcare respectively, followed by household items (13 percent), investment (8 percent), school cost (5 percent), others (5 percent) and savings (2 percent).

Limited number of programs for elderly people, including the Elderly Initiative for Development, Bangladesh Retired Government Employees Welfare Association and Training Task Group are available in a number of other organizations. Bangladesh Retired Government Employee Welfare Association is a registered organization since 1976 that provides the facilities of medical services to the elderly population. Currently 62 district level organizations are running as associated bodies. Very recently, Bangladesh Girls Guides Association, Bangladesh Education Board Retired Employee's Welfare Association and Bangladesh Society of Gerontology are also functioning for the wellbeing of the elderly population. The threshold of taxable income for 65 or more years old taxpayers was proposed to be relaxed to 2,75,000 BDT from the current amount of 2,50,000 BDT.

4.3 The Rate and Amount of the Old Age Allowance

The rate of the Old Age Allowance since inception is given below given in Table 4.1, and in Figures 4.1 and 4.2, the total number of recipient of the old age allowance and total amount spent in this purpose are presented.

Table 4.1: The rate of the old age allowance since establishment
(Ministry of Social Welfare Webpage 2015)

Year	Monthly
1997-2002	100
2002-2003	125
2003-2004	150
2004-2005	165
2005-2006	180
2006-2007	200
2007-2008	220
2008-2009	250
2009-2014	300
2015	400

The old age allowance program started in the fiscal year 1997-98 with a monthly allocation of taka 100 per month per head. The amount remained the same till the year 2001-2002 and then increased gradually in the following years. Although the change in the amount of monthly allocation per head was positive, but the amount is inadequate to even meet the basic needs for an elderly person.

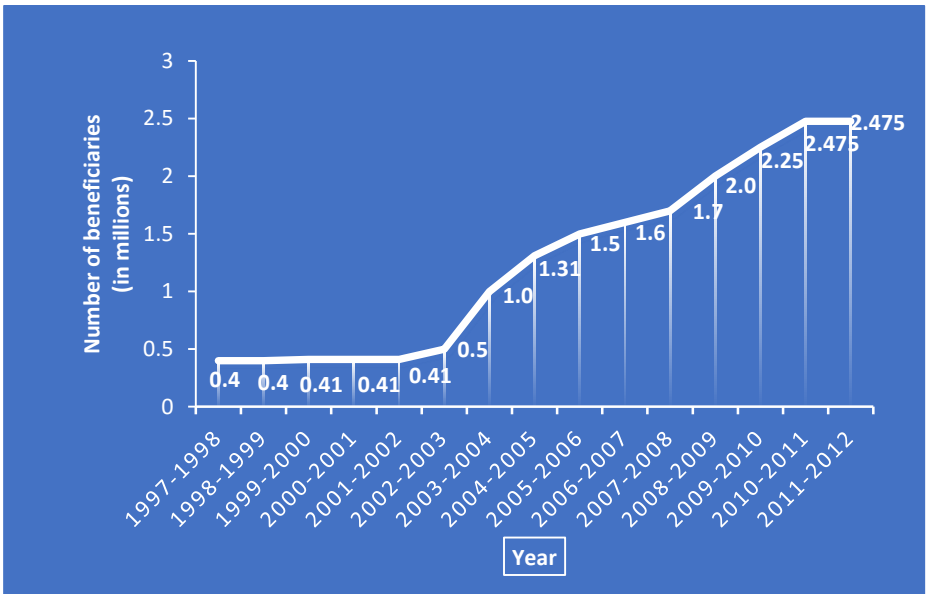


Figure 4.1: Number of recipients of the old age allowance since establishment (Ministry of Social Welfare Webpage 2015)

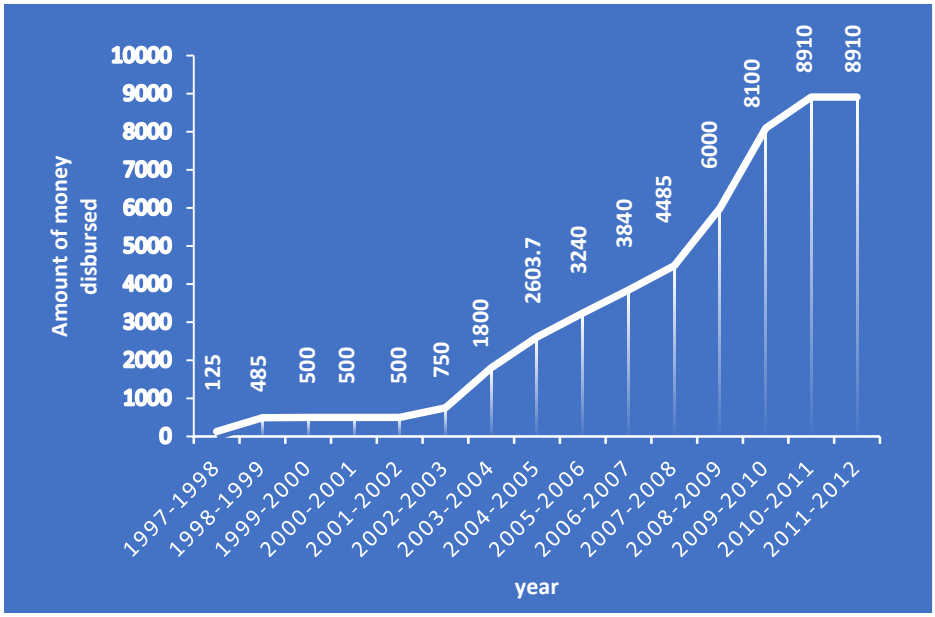


Figure 4.2: Amount of money issued as old age allowance (in million Taka) (Ministry of Social Welfare Webpage 2015)

The number of recipients of the old age allowances was 0.40 million in the fiscal year 1997-98; the number remained the same until 2001-2002 and then gradually increased in each of the following years. After the end of fiscal year 2011-12, the number of recipients reached to 2.5 million.

The amount of money disbursed to the recipients of the old age allowances was 125 million in the fiscal year 1997-98 and remained unchanged until 2001-2002; the amount then gradually increased in each of the following years. After the end of fiscal year 2011-12, the amount of money disbursed to elderly recipients reached to 9000 million.

5. Socio-economic Characteristics of Elderly in Bangladesh: The Current Scenario from Long Questionnaire Survey 2011

5.1. Background

Bangladesh has recently made some intensifications in the basic condition of people's lives. Between 1990 and 2010 life expectancy has increased by 10 years, from 59 to 69 years. Infant mortality has more than halved, from 97 deaths per thousand live births in 1990 to 37 per thousand in 2010. Over the same period child mortality has decreased by two-thirds and maternal mortality has declined by three-quarters (The Economist 2012). Because of this, Bangladesh is about to reap a "demographic dividend"; the number of people entering adulthood will handsomely exceed the number of children being born, increasing the share of the total population that works. According to the long questionnaire survey, census 2011, the percentage of elderly in Bangladesh is 7.7 percent (7.46 according to the census). Hence, ageing issues need to be addressed at the policy level and a detail association and cohesion of the socio-demographic matters with the ageing need to be studied.

To study and examine the socio-economic and demographic matters presumably associated with ageing, both census data and long questionnaire survey following the Census 2011 have been analyzed here. Since age-reporting in census data are historically less reliable because of the quick interviewing and that too by an interviewer with very short training. The Difficulties in age reporting are all too real particularly in countries where exact age is not a salient social fact (United Nations, 2013). Moreover, the Census 2011 data do not include many variables that are relevant to the objectives of this monograph. The long questionnaire data of Census 2011, however, include most of these variables and presumably more reliable due to the extensive quality control phenomenon of the survey. In this chapter, mainly, the long questionnaire survey data are analyzed and findings are presented in tabular and graphical forms. The percentage of elderly in different divisions obtained from long questionnaire survey is compared with the same obtained from census data. Most of the detail tables are given in the appendix.

Bangladeshis now have a life expectancy four years longer than Indians (WHO, 2013) despite the Indians being, on average, twice as rich. Even more remarkably, the improvement in life

expectancy has been great for both rich and poor. The increasing proportion of the oldest old population is explained by improving survival rates among the older cohorts. A higher proportion of older people is expected to reach age 75 years and, once they have entered the oldest old cohorts, they live longer. Figure 5.3 shows the proportion of elderly at or above age 75 years. The proportion of population that is expected to reach age 75 years is projected to increase during the next 50 years. The number of years an oldest old person is expected to live is also projected to increase during this period. As such the progressive ageing of the older population and the longer period of their further survival will call for extra attention to the health status of the oldest old persons.

5.2 Engendering of Ageing

Although women constitute a majority of the global older populations (see Papers in Population Ageing 1, UNFPA), the Bangladesh scenario is observed to be different. Figure 5.1 shows the male and female elderly (in percentage of the total division population) for the seven divisions of Bangladesh.

Figure 5.1 shows that in each of the divisions, the male elderly population exceeds the female elderly population. Among all the divisions, the number of elderly is the highest in Barisal, with highest proportions of male and female elderly among the whole country. The difference between the male and female elderly populations seems to be very trivial except for the Barisal division where the male and female elderly population consist of 4.84 percent and 4.18 percent of the division population. Dhaka although is the most populous city in Bangladesh has a lower percentage of elderly male or female relative to the Barisal and Khulna divisions.

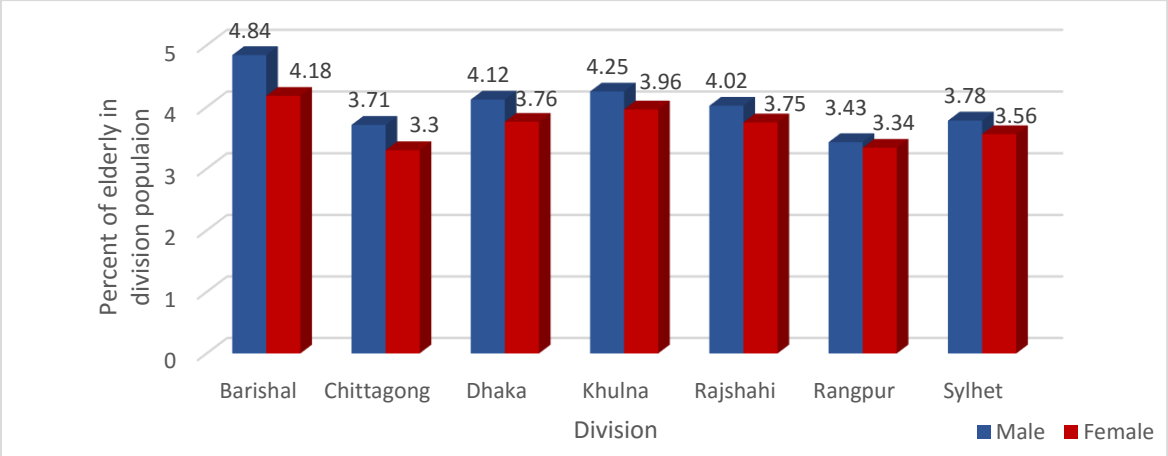


Figure 5.1: Comparative percentage of elderly by gender in each division

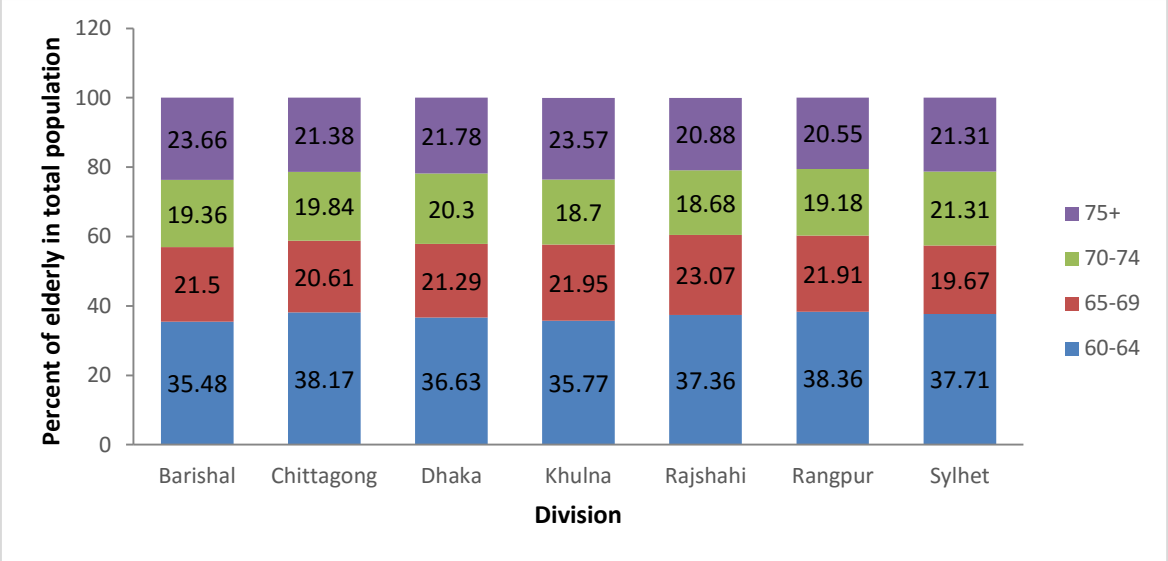


Figure 5.2: Percentage of elderly by age group in each division

Figure 5.2 describes the age distribution of elderly people of Bangladesh in different division. The figure shows that there is not much difference in the age distribution of elderlies among different divisions. It also supports the fact that most of the elderly people in Bangladesh, in each of the divisions, are at their early sixties.

5.2.1 Engendering of the oldest old population

The age and gender distribution of the elderly population of Bangladesh are examined and presented in Figures 5.3 and 5.4.

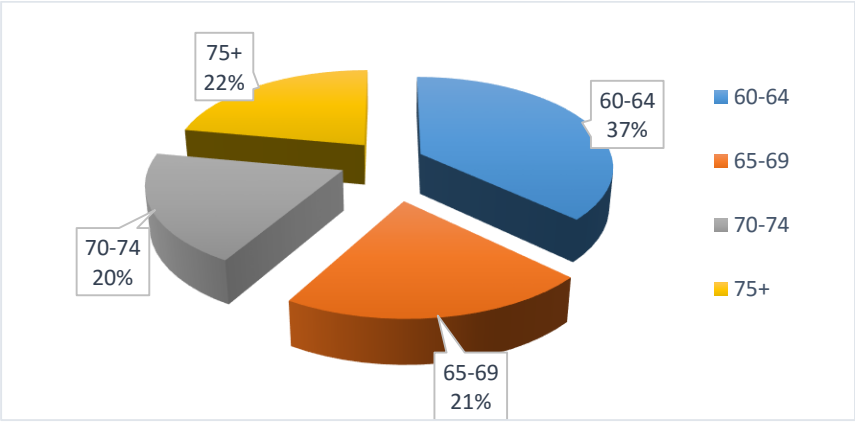


Figure 5.3: Percentage of elderly by age group

Figure 5.3 shows the percentage of elderly by age. More than one third of the elderly (37 percent) are the youngest of the elderly population and belong to the age group 60-64. A little less than one fourth of the elderly people belong to the 75+ age group.

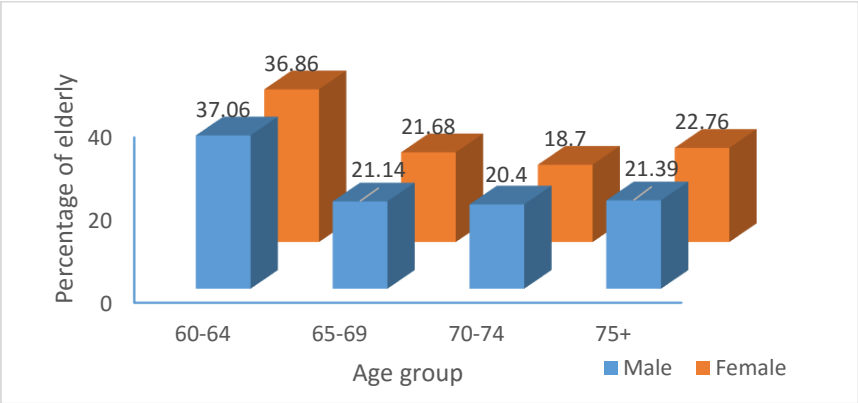


Figure 5.4: Percentage of elderly by age group and gender

Figure 5.4 shows the percentage of elderly by age and gender. Among the male elderly population, 37.06 percent belong to the age group 60-64. The distribution of male elderly is almost uniform in the age groups 65-69, 70-74 and 75+ years. Age distribution of female elderly has almost a similar pattern. Among the female elderly population, 36.86 percent belong to the age group 60-64. The distribution of female elderly in the age groups 65-69, 70-74 and 75+ years is almost uniform. Percentage of people in higher age groups is relatively smaller for both male and female genders.

5.2.2 Marital status of elderly by gender

Figure 5.5 shows the marital status of elderly by gender. The figure shows that greater percentages of older women are widowed as compared to older men.

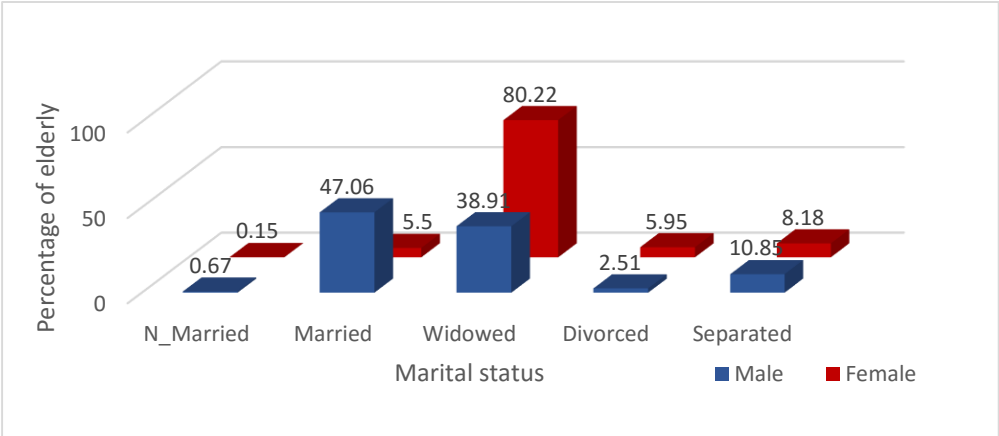


Figure 5.5: Percentage of marital status of elderly by gender

If all the categories of marital status that describe those who do not have a spouse including widowed, divorced, separated as well as the never married (often termed as "single") are collapsed together, the proportion of single older women is observed to be higher than that of single older male. To distinguish this feature with people of other age group, the table in the Appendix A1.23 can be observed, where it is seen that in the nearest age group 50-60, difference of percentage of married in male and female group are lowered.

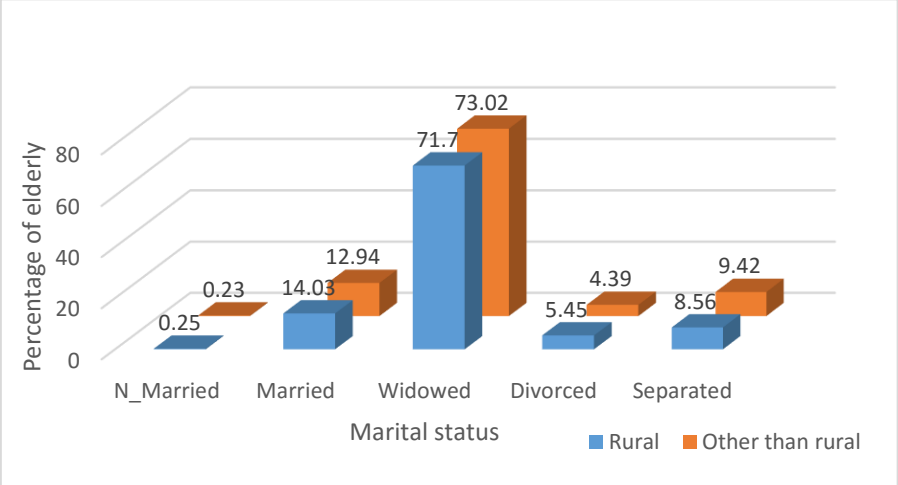


Figure 5.6: Percentage of marital status of elderly by region of residence

The pattern of gender dissimilarities in marital status is very similar across the region of residence (Figure 5.6). Older females who are single are likely to be psychologically strained and financially less secured and do not enjoy as much care in illness and disability as those having a spouse. The high percentage of female with widowhood results from several presumable factors. First, in nuptial bonding, the husband is usually older which increases the chances that the husband will die before the wife; secondly, in the social context of Bangladesh the widowed men have higher remarriage rates than the widowed women. This could be explained partly by cultural norms and partly by the excess of older single women over older single men. While comparing with the other age groups, a similar differential is observed (See table A1.24).

5.3 Economic Activity of Elderly Population

Figure 5.7 on economic activity of overall elderly population indicates that there is a low proportion of economically active persons among the 60+ population in Bangladesh and more than two-third (68 percent) of the elderly are economically inactive whereas the percentage of economically inactive people in the workforce of legitimate age (age group of 19-60 years) is less namely 51.62 percent (Table A1.25). About one-fourth are self-employed in agriculture (16 percent) or other enterprises (7 percent). The others are employer, employed or involved in other economic activities.

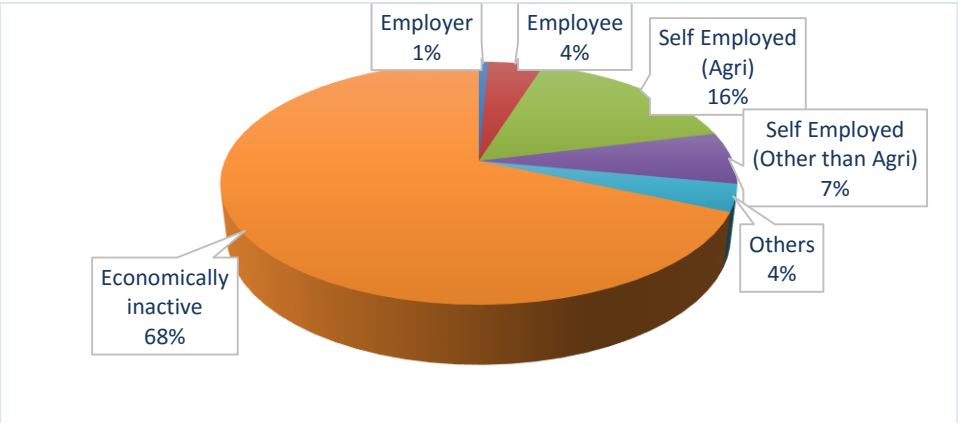


Figure 5.7: Distribution of economic activity of elderly people

Economic activity of "older" persons has always raised controversies. Should a higher labor force participation rate in old age be interpreted as positive or negative? An economically active person is productive, feels more confident and is financially independent. Hence, it could be presumed that an employed "older" person earning an income would be better off than one not employed. However, it could be that those who are not economically active may not need to work as they may be able to rely on accumulated wealth, pensions or other means of support and care. With the wider coverage of pension and old age security schemes in the developed countries, gainful employment may be a necessity for only a small proportion of older persons. However, in the developing countries like Bangladesh, where pension and old age security schemes have, at best, very limited coverage, economic activity could be the only means to financial security and independence.

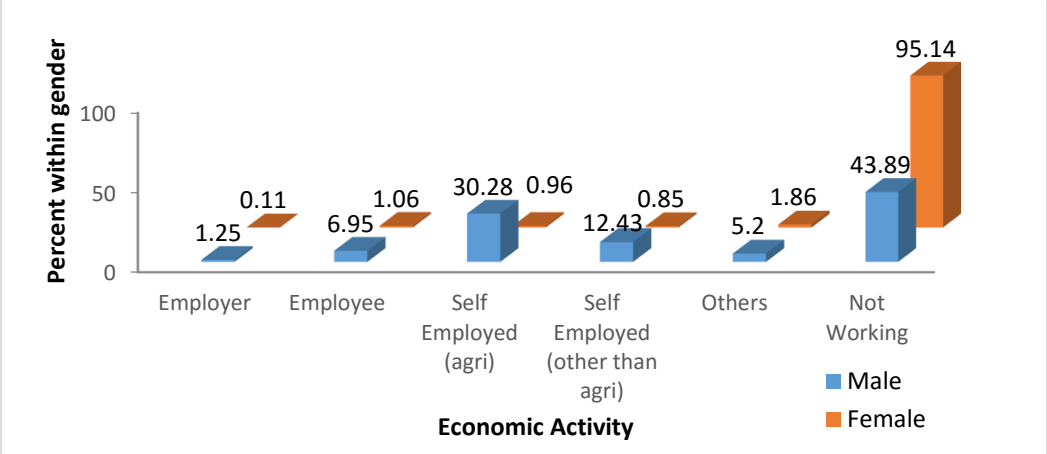


Figure 5.8: Distribution of economic activity of elderly people by gender

Figure 5.8 shows that 95 percent of the female elderly are not involved in any kind of economic activities while the corresponding percentage for the male is 43.89 percent. Notwithstanding from Table A1.25 that in age group 19-50 years these percentages are 87.43 percent (female) and 13.0 percent (male) and for age group 51-60 years, the same are 91.53 percent (female) and 12.5 percent (male). The table also indicates that the proportion of economically inactive among male falls drastically in the elderly group. These findings are in accordance with the fact that in both East and South-East Asia, the labor force participation rates for the elderly (defined as 65 years and over) are much lower for female than for male. Possible reasons for this difference could be due to the under reporting of females' economic activity, particularly in the LDCs where much of females' work is either not captured in censuses and surveys or is not considered "economic activity". Moreover, the lower rates in East Asia could also be explained by the relatively more developed pension and social security systems in China, Japan and the Republic of Korea compared to those in most countries of South-East Asia. However, the gender differences in the labor force participation rates in South-East Asia (and also the LDCs) could also be explained by the greater inability of older female to work due to a shortage of suitable work opportunities, an unsupportive attitude of employers or a lack of appropriate qualifications. The lower participation rates of older female could therefore be interpreted as indication that more older female than older male would be dependent and vulnerable to financial insecurity and economic dependence.

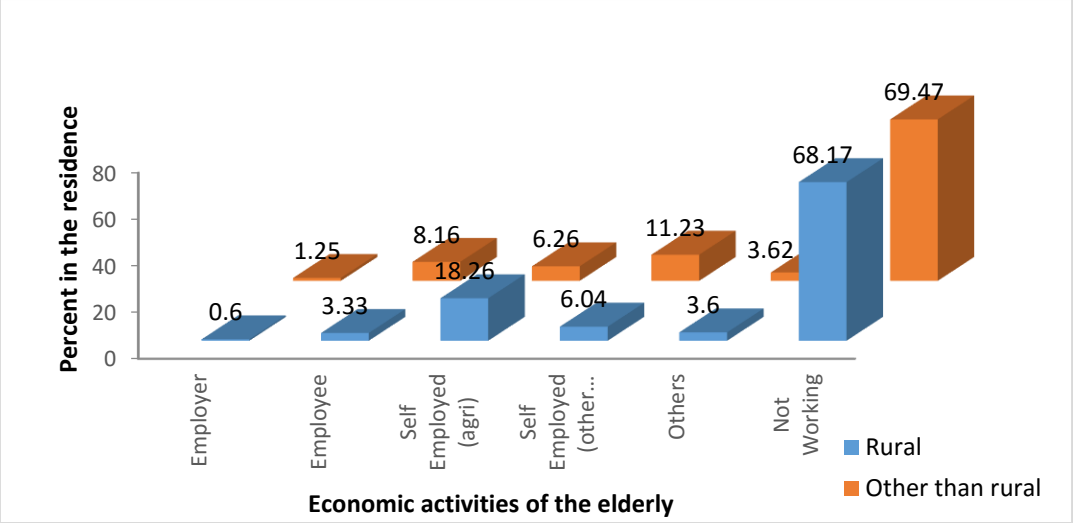


Figure 5.9: Distribution of economic activity of elderly people by place of residence

Figure 5.9 shows that in both rural and other than rural area, the percentage of economically inactive people is significantly higher as compared to their counterpart. The distribution of elderly according to their economic activity is almost the same except the fact that in rural area, a good number of elderly people are involved in agricultural activities.

5.4 Spatial Dimension of Ageing

Bangladesh population is spread over seven administrative divisions, and for policy purpose the distribution of elderly population over the divisions may be required, Figure 6 gives this distribution.

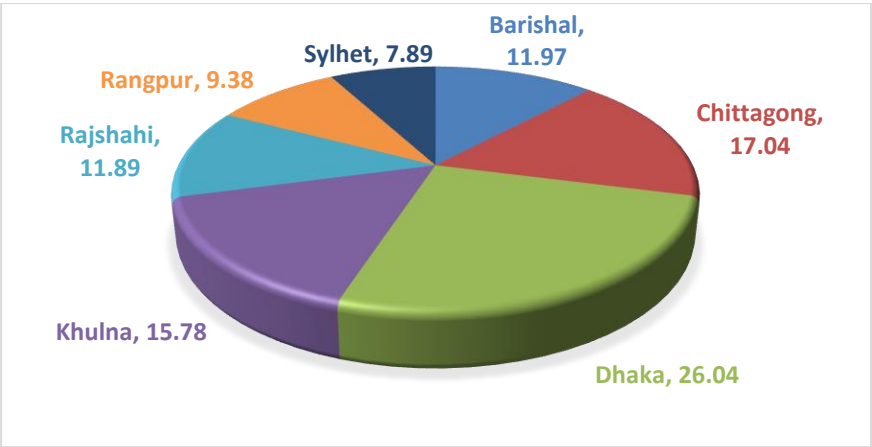


Figure 5.10: Comparative percentage of elderly by division

Of all the elderly population in Bangladesh, the major chunk is from the Dhaka division, about 26 percent of the elderly lives in this division, however, it does not necessarily imply that the proportion of elderly in this division is any higher than that in other divisions which is evident from Figures 5.1 to 5.11.

Population ageing is a consequence of both fertility and mortality declines. With both fertility and mortality rates known to be lower and to decline more gradually in other than rural areas than in rural areas, an *a priori* assumption would be that other than rural population are ageing faster than the rural populations. Figure 5.10 gives the comparative percentage of elderly populations in rural and other than rural areas in the seven divisions.

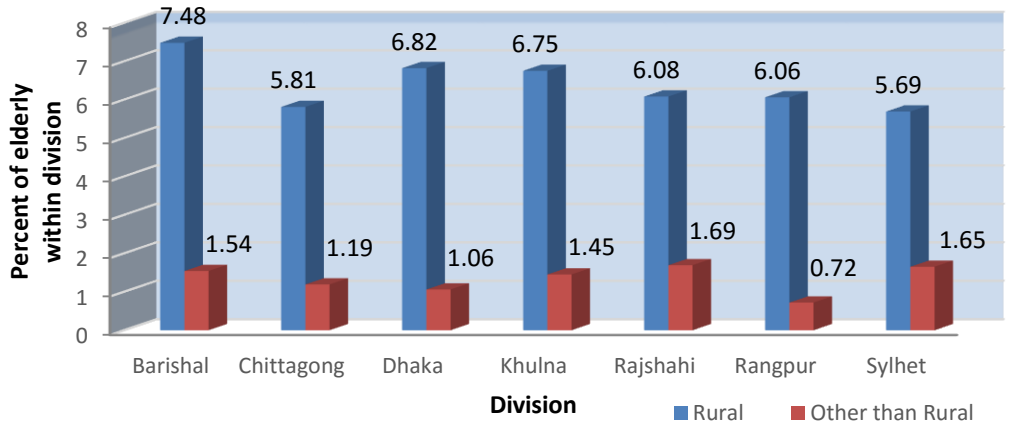


Figure 5.11: Comparative percentage of elderly by region of residence in each division

Figure 5.11 shows that population ageing has been observed to manifest itself earlier and advances more rapidly in rural areas of all the divisions. As younger family members migrate to the cities more and more of the elderly are likely to be left to look after themselves. Urbanization and the transition to industrial societies might therefore be seen as contributing to weaken family ties. In the absence of adequate welfare systems, those left behind in the rural areas are likely to suffer from relative, if not absolute, deprivation.

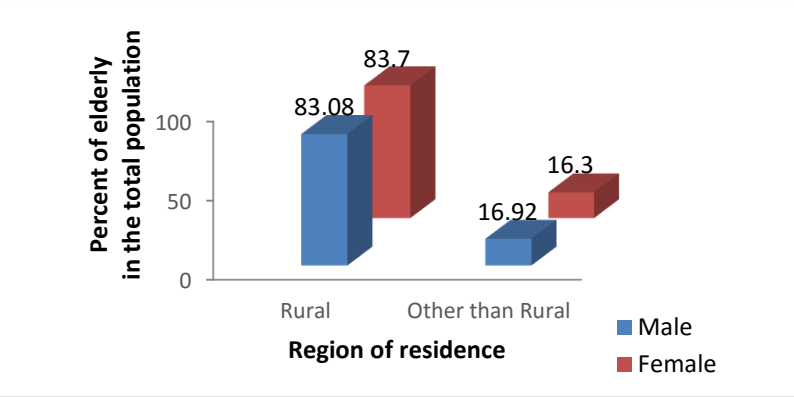


Figure 5.12: Percentage of elderly population by region of residence and gender

Figure 5.12 shows that irrespective of gender, elderly population mostly live in rural areas in Bangladesh. Of the elderly population for both male and female, about 83 percent are living in rural area and the remaining elderly are living in other than rural area.

5.4.1 District scenario

Figures 5.13 and 5.14 show the district wise percentage of elderly people in Bangladesh. The pictures show that the percentages of elderly vary across 64 districts ranging from 5 to 11 percent. It is also evident from these pictures that percentage of elderly among male and female are different in the same district.

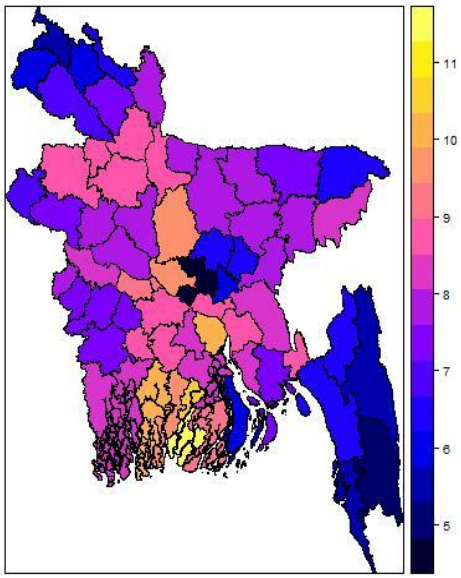


Figure 5.13: District wise percentage of elderly people

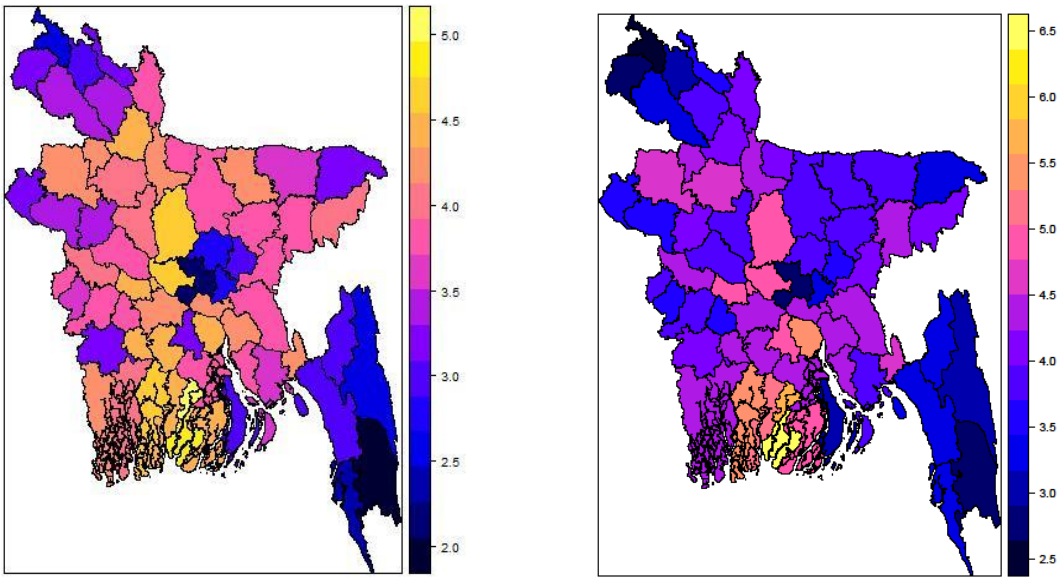


Figure 5.14: District wise percentage of female and male elderly people

5.5 Ageing and Religion

Figure 5.15 shows the distribution of elderly according to their religion. Among all elderly 85 percent are Muslims, 12 percent are Hindu and remaining 3 percent belongs to other religions. This proportion, more or less, reflects the proportion of people following different religions in the country.

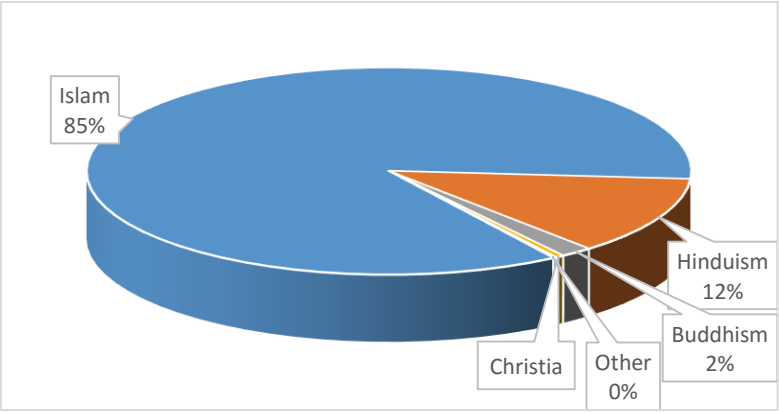


Figure 5.15: Religion of the elderly

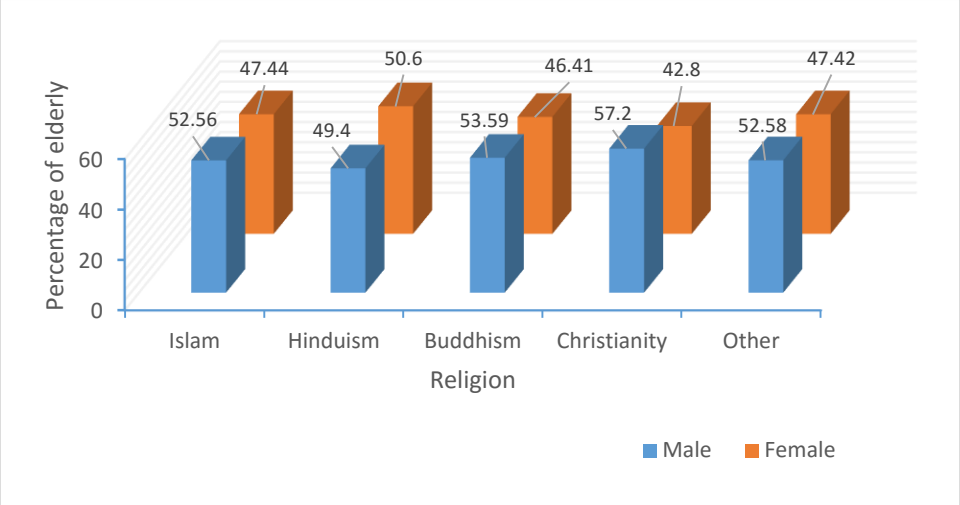


Figure 5.16: Distribution of elderly by gender among religion

Figure 5.16 shows the percentage of elderly within religion split by their gender. The percentages of elderly male and female vary substantially among different religions. Among the Christians religion, percentage of elderly males is relatively higher than the percentage of elderly females. In all religions except Hindus, the percentage of males is noticeably higher than the corresponding percentage of females.

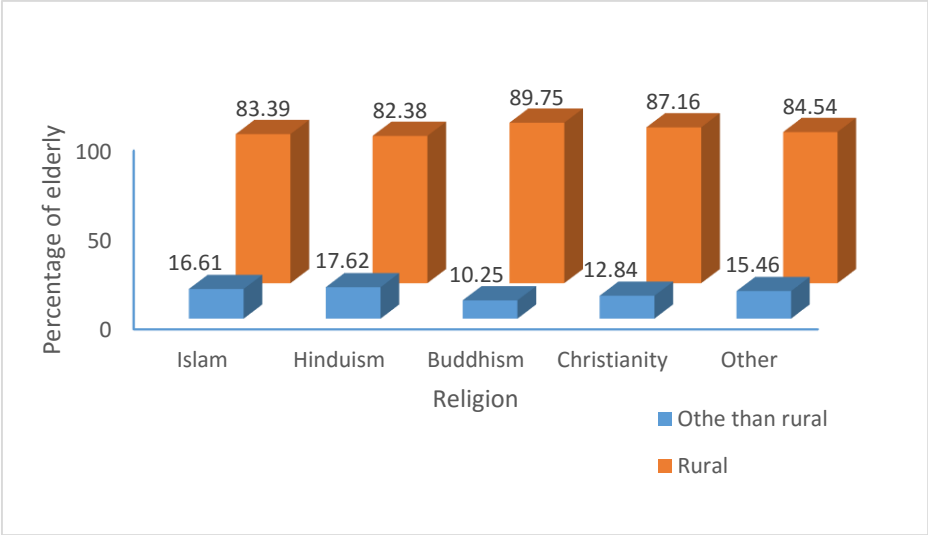


Figure 5.17: Distribution of elderly by residence among religion

Figure 5.17 shows the percentage of elderly by their place of residence within religion. The percentages of elderly of other than rural areas among all the religions are found to be much smaller than that in the rural area. The percentages of elderly in rural areas vary meaningfully among different religions.

The rural- other than rural distribution of elderly by religions is similar except Buddhism. A relatively higher proportion of elderly among Buddhism lives in other than rural region. However, the number of people following a religion other than Islam, Hinduism, Buddhism or Christianity is very small in Bangladesh and this figure, hence, does not contribute much to the overall elderly population.

5.6 Education of Elderly Population

Among the elderly people in Bangladesh, about one-third are illiterate (15 percent) or under primary (17 percent) and half of the elderly population have only primary education. The above graph is a clear picture of the poor educational qualification of the elderly people in Bangladesh. However, several policies (scholarships, free studentship upto primary level, etc.) taken by the Government has helped to increase the percentage of educated people at different levels and it is expected that this figure will show a different pattern in the near future.

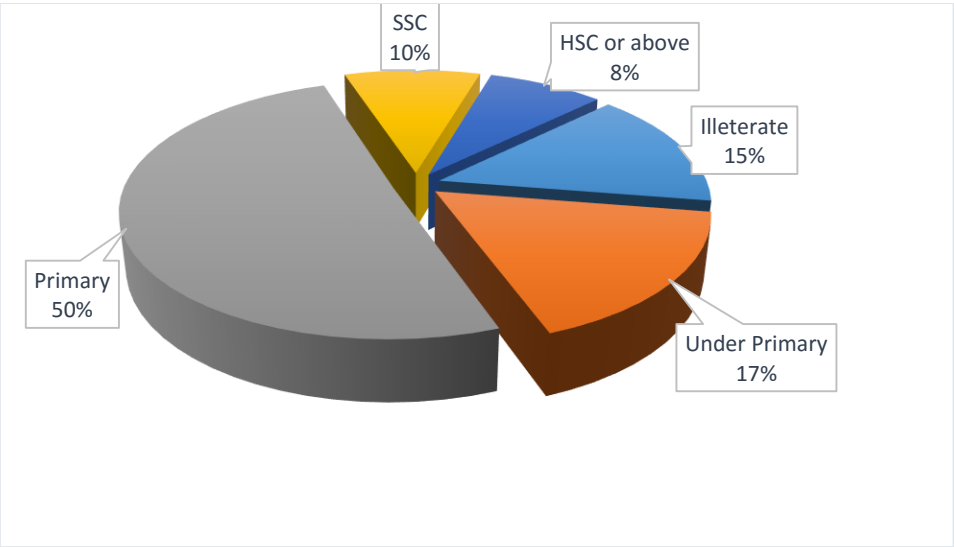


Figure 5.18: Distribution of elderly by education

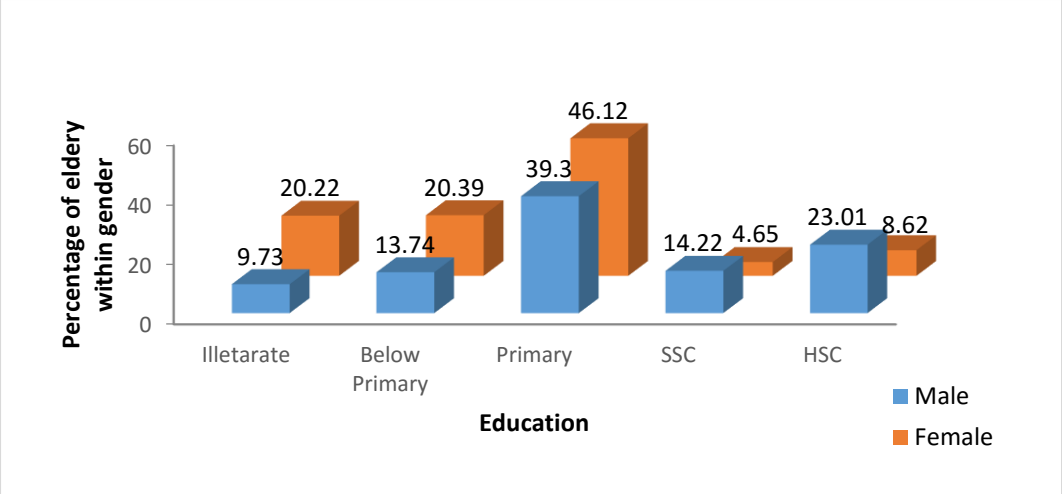


Figure 5.19: Percentage of elderly according to education and gender

The level of education of the elderly people by gender gives a good picture of gender bias in this context. Among the male elderly in Bangladesh, less than one-fourth are illiterate (9.73 percent) or under primary (13.74 percent) and about 40 percent have only primary education. On the other hand, among the female elderly, a little more than 40 percent are illiterate (20.22 percent) or under primary (20.39 percent) and 46.12 percent have primary education. Although more than one-third of the male have SSC, HSC or higher degree, connection of female with education after primary was very low as shown in the picture. Less than 15 percent of the female could complete SSC or higher degree.

However, several initiatives (scholarships, free studentship up to primary level, etc.) have been initiated by the Government that already has increased the percentage of females at different levels of education and it is expected that this figure will show a radically different pattern within a short span of time. Figure 5.20 shows the level of education of the elderly people with respect to their place of residence. Among the elderly living in rural areas of Bangladesh, less than one-fourth have SSC or higher degree (SSC 9.28 percent, HSC 14.26 percent) and a little more than 40 percent have only primary education. Others are below primary or illiterate.

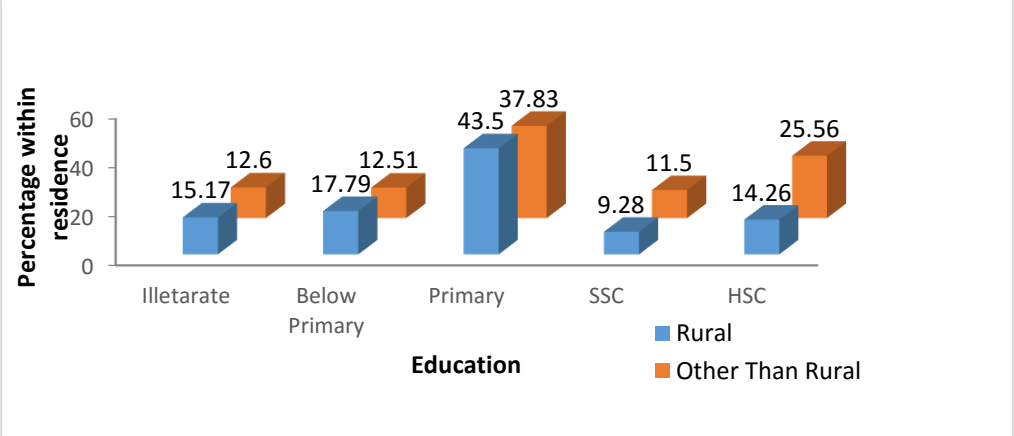


Figure 5.20: Percentage of elderly according to education and residence

On the other hand, among the elderly living in other than rural areas, about one-fourth have HSC or higher degree, and almost half have primary education or SSC. Less than one-fourth of the elderly living in other than rural areas are illiterate or have below primary education. This picture could be an indication of the context that the people with SSC or higher education are less interested to be involved in agriculture or farm related economic activities which is more common in rural areas and are more interested to get a job and hence prefers to migrate to areas other than rural areas.

5.7 Disability and Elderly

The information on disabled elderly were not available in long questionnaire data and were collected from the sample of 5 percent census data. According to a sample taken from the census data, out of 7,204,659 people, 7.46 percent belong to the elderly group. A comparison of percentage of disabled among different age groups (Table A1.31) shows a slight higher percentage of disability among the 60 years or over which is apparently natural. In the following sections, the different types of disability observed among the elderly by division, gender and place of residence are presented.

5.7.1 Division wise disability at age group 60+

The elderly people with disability are classified by the types of disability in different divisions. The findings are shown in Figure 5.21.

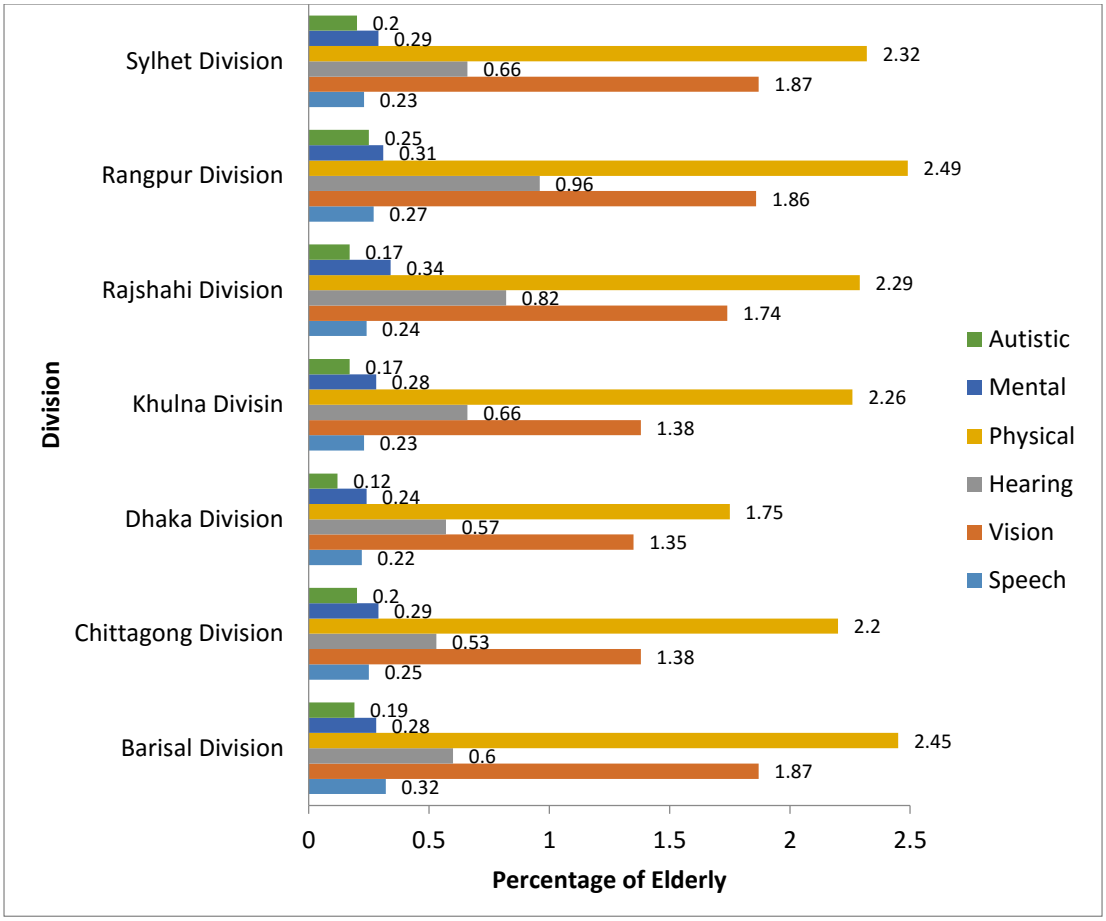


Figure 5.21: Division wise types of disability at age group 60+

According to the sample data from the census, the overall percentage of disabled among elderly population is 5.02. Elderly people suffer from different types of disability including Speech, Vision, Hearing, Physical, Mental and Autistic. The highest proportion of disabled among elderly population is observed in Rangpur division (6.14 percent) and the lowest in Dhaka division (4.25 percent). The proportion of disabled elderly is almost equal Sylhet (5.58 percent), Barisal (5.7 percent), and Rajshahi (5.59 percent) divisions. Percentage of disabled among elderly people is relatively lower in Chittagong (4.84 percent) and Khulna (4.98 percent) divisions. However, patterns of different types of disability among different divisions are apparently similar.

5.7.2 Gender wise disability at age group 60+

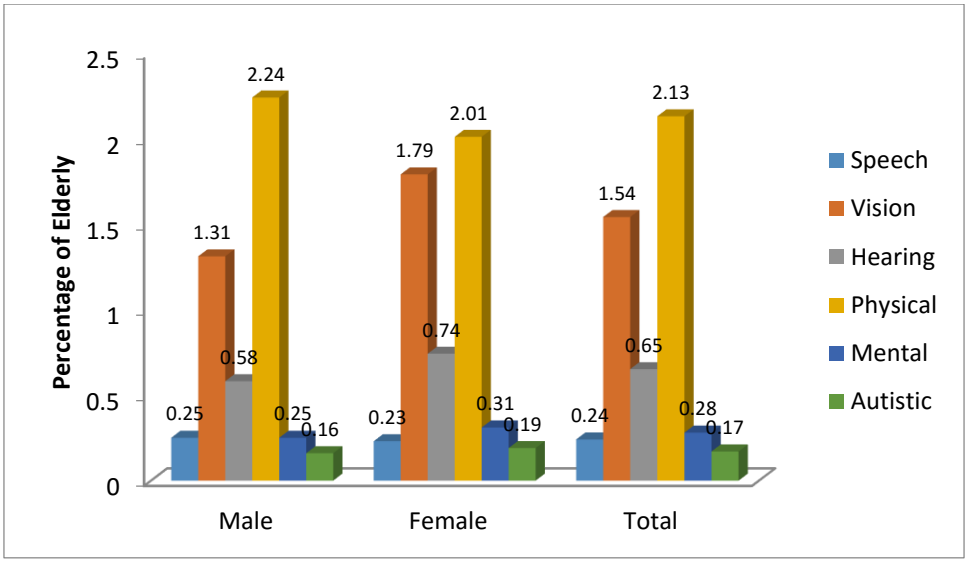


Figure 5.22: Gender wise different types of disability at age group 60+

A gender-based classification of elderly people having any kind of disability is shown in Figure 5.22. Patterns of different types of disability among males and females are apparently similar.

5.7.3 Residence wise disability at age group 60+

A classification of elderly people having any kind of disability by their place of residence is shown in figure 5.23. The figure shows that percentage of elderly with different types of disability in other than rural areas is little lower than that in rural areas. However, the patterns of different types of disability are seemingly indifferent in rural and other than rural area.

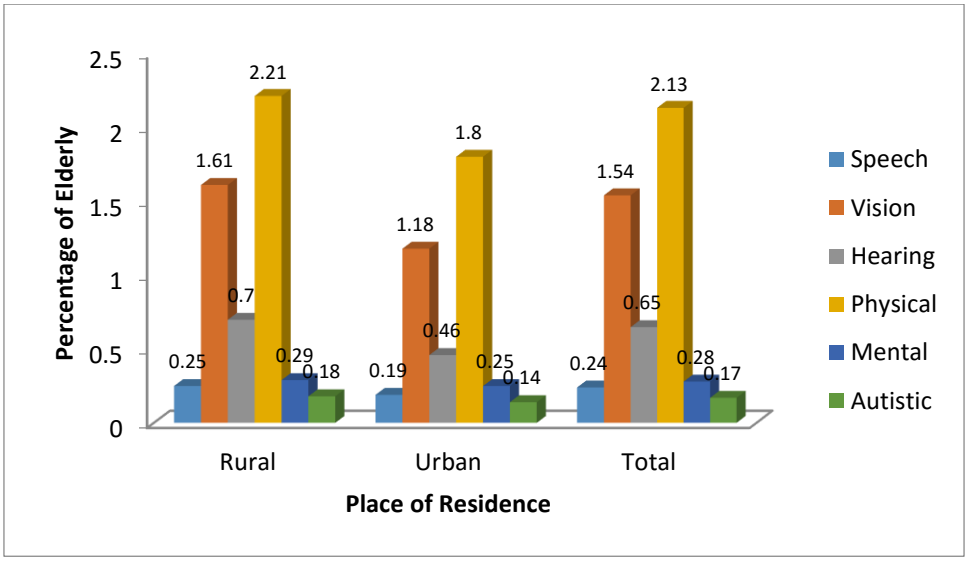


Figure 5.23: Residence wise different types of disability at age group 60+

5.8 Socio-economic Status of Elderly

The asset quintiles are calculated for all the households (including the households having no elderly) and the percentages of elderly belonging to household of different asset quintiles are obtained. Figure 5.24 displays the spilt of elderly population belonging to asset quintiles. Among the elderly, the highest proportion (21.13 percent) lives in a household belonging to fourth quintile and the least proportion (18.81 percent) lives in a household belonging to fifth quintile.

The percentages of elderly belonging to different asset quintiles are obtained with respect to gender. The difference among the proportions of elderly in different quintiles (Figure 5.24) is trivial. In addition, the proportions of elderly among different quintile females vary to a noticeable extent although the same among males seems to be trivial. (Figure 5.25).

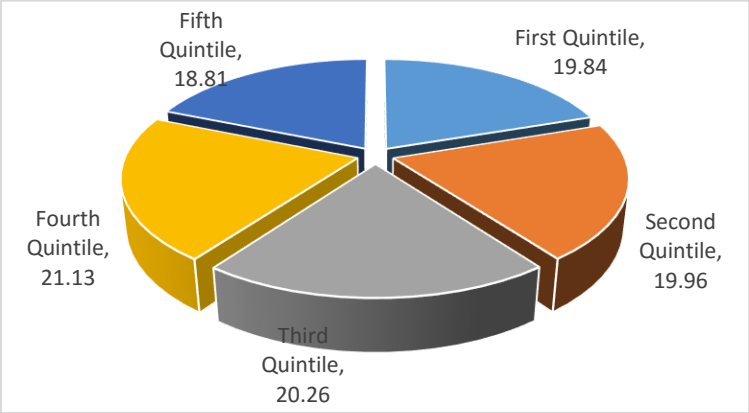


Figure 5.24: Proportion of elderly in different asset quintiles

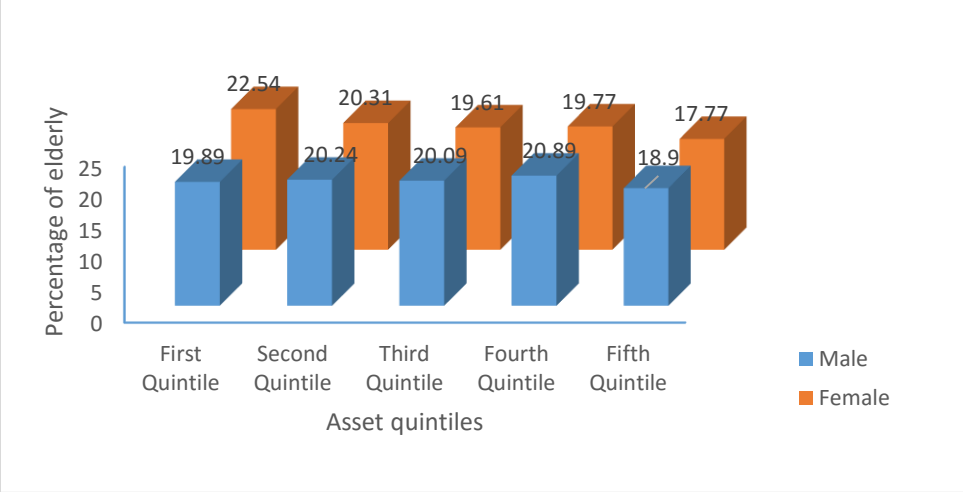


Figure 5.25: Proportion of elderly by gender in different asset quintiles

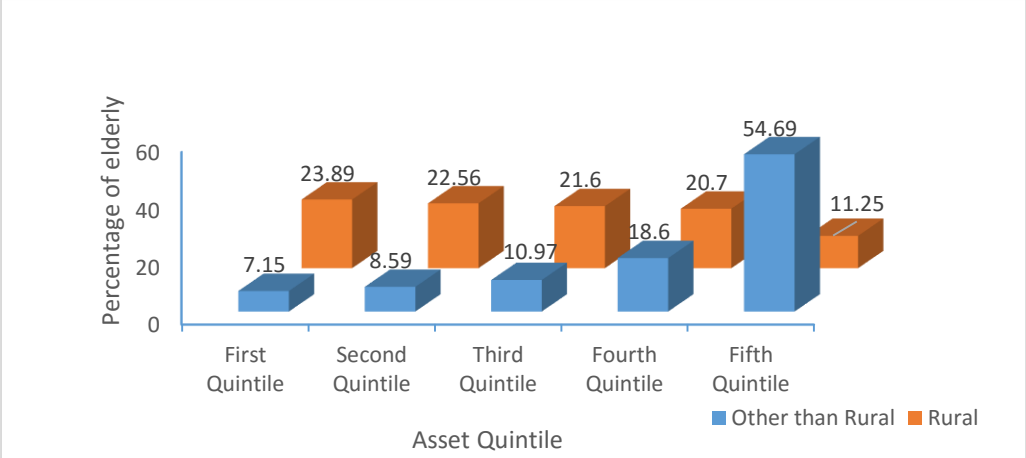


Figure 5.26: Proportion of elderly by residence in different asset quintiles

The percentages of elderly belonging to different asset quintiles are obtained with respect to their place of residence too. The difference among the proportions of elderly in different quintiles living in rural areas is significant. In rural areas, percentages of elderly in households belonging to first through fourth quintile are high and almost equal while the percentage of elderly in households belonging to the fifth quintile is almost half of that belonging to any other quintile. However, a different picture is seen in other than rural areas. In other than rural areas, the proportion of elderly is the highest (55 percent) in households belonging to the fifth quintile and the lowest (7 percent) in households belonging to the first quintiles.

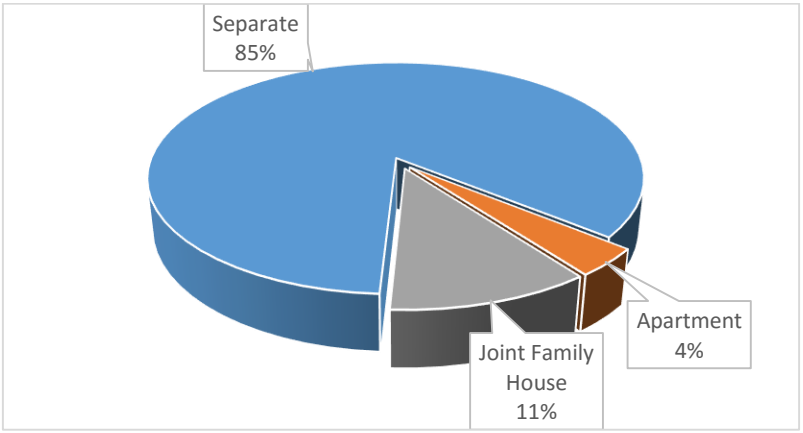


Figure 5.27: Percent of elderly in order to their types of family

Figure 5.27 is indeed the reflection of the household patterns usually seen in Bangladesh. Among the elderly, majority live in single family households (separate 85 percent and apartment 4 percent) and only 11 percent live in joint family households. In general, single families have fewer members and often are in short of members to look after an elderly in the family. On the contrary, a joint family has more members as compared to a single family and

when an elderly belongs to a joint family, the possibility of taking care of the elderly member is higher.

5.9 The Ageing Indicators

The ageing of population is often measured by enlarges in the percentage of elderly people of retirement ages as the study of population ageing is often operated by a concern over its burdening of retirement systems. A relative measure of population ageing is the elderly dependency ratio, the number of individuals of retirement ages compared to the number of those of working ages. The ratio of the elderly dependent population to the economically active (working) population is also known as old-age dependency ratio, age-dependency ratio or elderly dependency burden. For social and economic development, dependency ratios manifest the potential effects of changes in population age structures, showing wide movement in social support needs. The dependency ratio is crucial because it reflects the ratio of economically inactive compared to economically active.

5.9.1 Dependency ratio and ageing index in the recent past

Information on elderly child ratio and dependency ratio were obtained from the statistical yearbook 2012 for previous census years and presented in Figure 5.28 and 5.26.

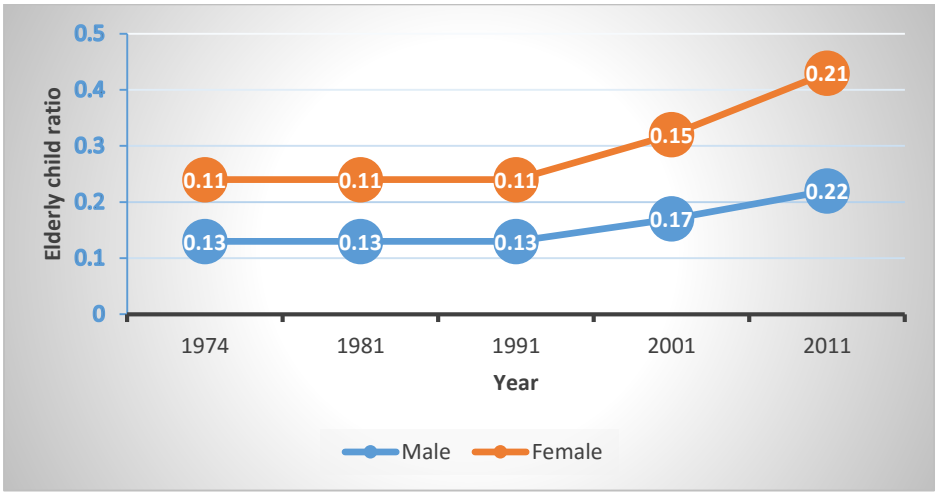


Figure 5.28: Elderly child ratio in census years

An increasing trend in elderly child ratio for both the male and female population, presumably, is an indication of lower birth rate and increased life expectancy (see Figure 5.28).

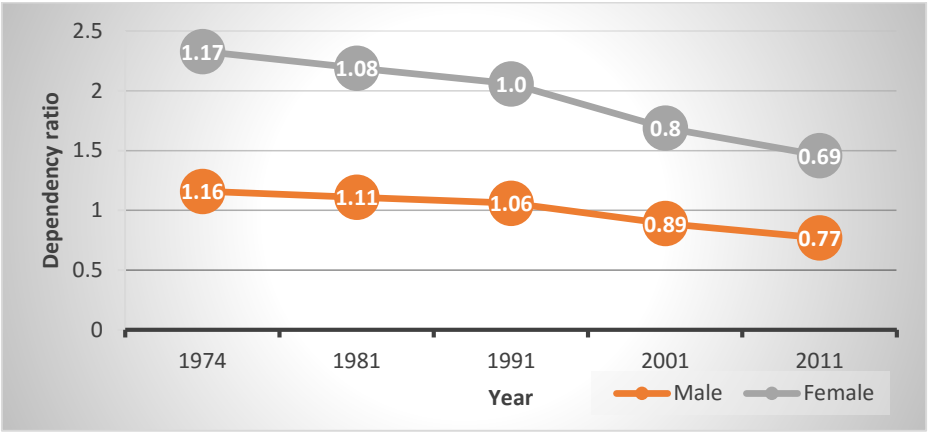


Figure 5.29: Dependency ratio in census years

Again a downward trend in dependency ratio for both the male and female population, presumably, is an indication of lower birth rate and comparatively bigger proportion of working age people (Figure 5.29).

5.9.2 Current scenario of ageing indicators

Table 5.1 presents the ageing index, total dependency ratio, old-age dependency ratio, median age, parent support ratio and potential support ratio computed from the long questionnaire survey of census, 2011. The number of people aged 60 and over per 100 children under age 15 is measured by the ageing index, which for Bangladesh is computed to be 22.5 as shown in Table 5.1. A total dependency ratio is measured at 64 percent indicating that there are 64 dependents over every 100 working aged population. From an old age dependency ratio of 8, we can also say that there are eight individuals of retirement age among 100 individuals of working ages.

Table 5.1: Different ageing indices in Bangladesh, 2011

Ageing index	22.57
Total dependency ratio	63.93
Old-age dependency ratio	7.96
Median age	23
Parent support ratio	4.63
Potential support ratio	1255.96

Table 5.1 also depicts the median age of Bangladesh population as 23 years revealing that fifty per cent of the people are younger than 23 years of age. This, however, shows the youth dominance of the population. Every couple of parents have 4.6 off springs indicating a strong parent support basis. The number of people aged 15-59 years per 100 older person aged 60 or more is the measure of potential support ratio (PSR). For Bangladesh, it is found to be 1256 (Table 5.1), which reflects a lesser level of burden placed on the working population. However, the theoretical dynamics says, as a population ages, the potential support ratio tends to fall.

6. FAMILY AGE STRUCTURE

In this chapter we attempt to measure the house hold level dependency ratio, elderly-child ratio and house hold mean and median age for demonstrating the family structure in terms of elderly population. Long questionnaire survey (Census 2011) of Bangladesh Bureau of Statistics (BBS) recorded data on a total of 167, 295 households.

6.1 Dependency Ratio and Ageing Index

Table 6.1 exhibits the data shown as the frequency distribution of proportion of dependents per 100 working-age population.

Table 6.1: Distribution of house hold dependency ratio

Dependency Ratio	Number of Households	Percentage out of all Households
0 to 0.4	45637	28.07
0.4 to 0.8	42370	26.06
0.8 to 1.2	39837	24.50
1.2 to 1.6	18343	11.28
1.6 to 2.0	10932	6.72
Above 2	5463	3.36
Total	162582	99.99

Of the total household with valid information on dependency ratio (162, 582 households), 45637 households, i.e., almost 28 percent households have dependency ratio between 0 and 0.4, and about 26 percent households have dependency ratio from 0.4 to 0.8, it indicates that the maximum number of households has almost 4 dependent over every 5 working aged population. We can also say that the five to six individuals of retirement ages compared to 100 individuals of working ages exists in nearly 24.5 percent households in Bangladesh. Only 8 percent households have nearly 4 retired people over 6 working people per 100 persons of working age group.

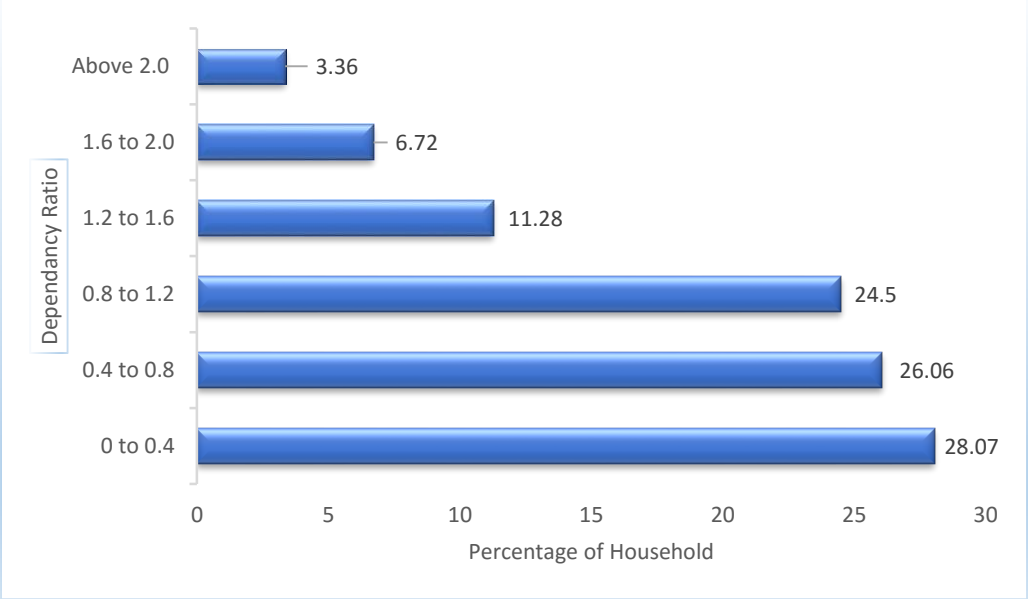


Figure 6.1: Distribution of household dependency ratio

The horizontal bar diagram (Figure 6.1) of dependency ratio presents that the maximum households have dependency ratio from 0 to 0.4 and 0.4 to 0.8 which is an evidence of more working age group person than elder person.

Ageing index is another indicator of the age structure (sometimes referred to as the elder-child ratio), defined as the ratio of people aged 60 and over to youths under age 15. The distribution of households by elderly child ratio is presented in Table 6.2.

Table 6.2: Distribution of household elderly child ratio

Elderly child ratio	Number of households	Percentage out of all households
0 to 0.5	112750	88.33
0.5 to 1	12342	9.67
1 to 2	2441	1.91
2 to 3	93	0.07
3+	21	0.02

In the BBS 2011 sample census data set, as shown in Table 6.2, the ageing index or the proportion of persons aged 60 years and over per 100 persons under the age of 15 years was computed at 0 to 50 percent in about 88 percent households. Only a small number of households are found to have ageing index 3+ (more than three children per elderly person). Figure 6.2 graphically demonstrates the distribution of these household ageing indices.

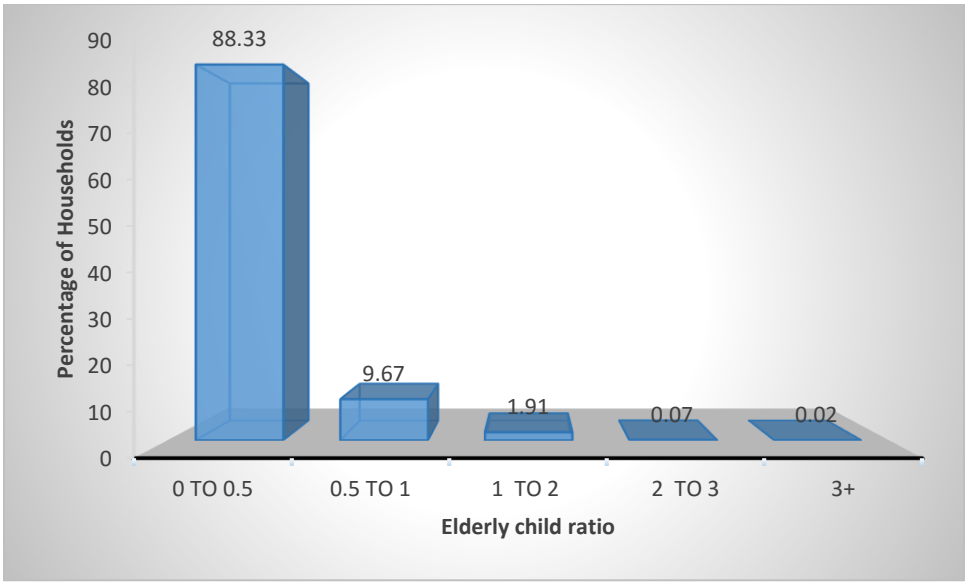


Figure 6.2: Distribution of house hold elderly-child ratio

6.2 Mean and Median Age of Households

Another class of indicators for population ageing is the measures of location (median, mean and mode ages) parameter. The frequency distribution of family median age (Table 6.3) reveals that the maximum number of households has median age 20 to 29. This means, the number of people under age 20-29 equals the number who has already celebrated their 20-29th birthday. It is the simplest and most widely used indicator of the ageing of any population.

Table 6.3: Distribution of household median age

Median age	Number of households	Percentage of households
0 to 9	10079	6.02
10 to 19	54631	32.66
20 to 29	60346	36.07
30 to 39	21007	12.56
40 to 49	10112	6.04
50 to 59	5923	3.54
60 to 69	3615	2.16
70 to 79	1257	0.75
80 to 89	267	0.16
90 +	58	0.03

Figure 6.3 also stipulates the same picture as like as the above table. After age 29, as long as lower median age approaches to higher median age, the percentage of household gradually reduces.

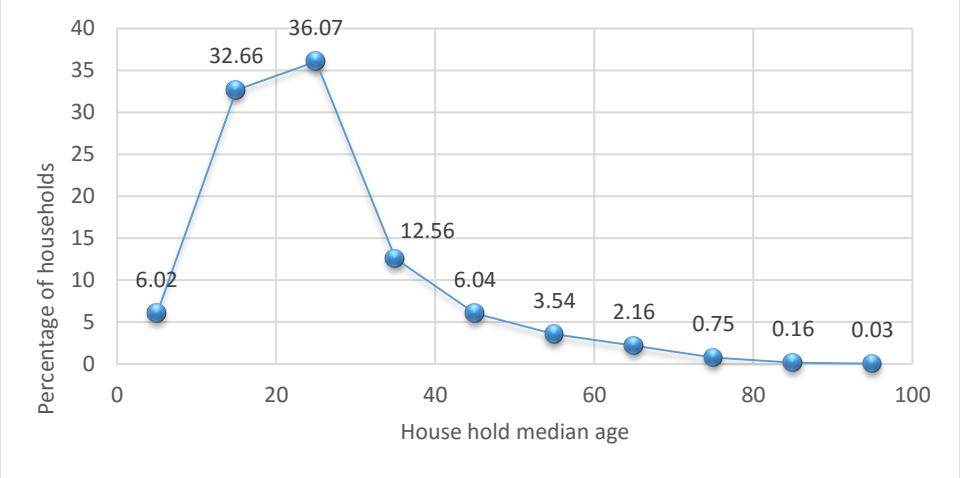


Figure 6.3: Distribution of households by median age

The mean age of population might sometimes be preferred to the median age to study the dynamics of population ageing. Table 6.4 represents the frequency distribution of mean age of family which depicts the same canvass like median age. Almost 66 percent households contain mean age up to 30-39 whereas only 11 percent households have mean age from 40 years to 90 years or above.

Table 6.4: Distribution of house hold mean age

Mean age	Number of households	Percentage of households
0 to 9	176	0.11
10 to 19	44853	26.81
20 to 29	68000	40.65
30 to 39	34107	20.39
40 to 49	10808	6.46
50 to 59	4782	2.86
60 to 69	3097	1.85
70 to 79	1167	0.7
80 to 89	249	0.15
90 +	56	0.03

The graphical distribution of mean age of population shows the right-hand tail of the age distribution is present in a small number of household. About 40 percent of the total households

show that the mean age is 25 to 29. That means that the younger population is larger than the older population.

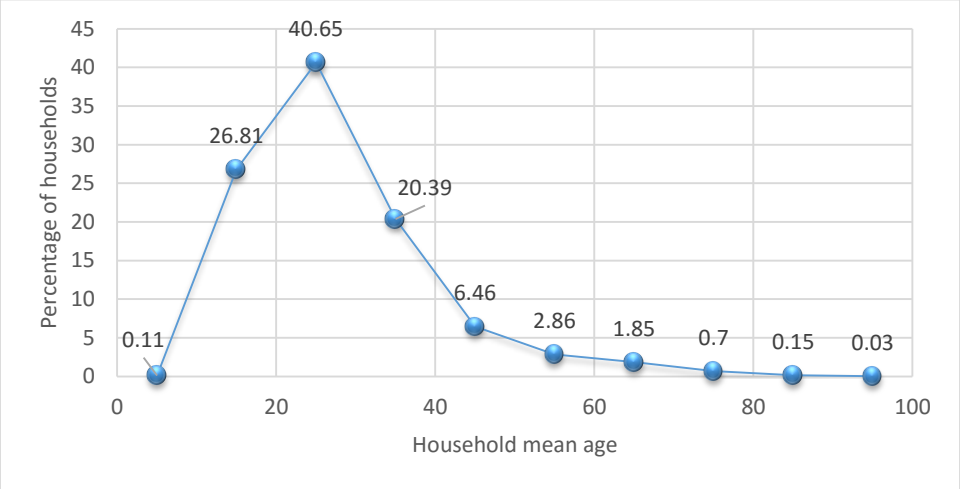


Figure 6.4: Distribution of household mean age

6.3 Living Arrangement

One of the key issues regarding supports for the elderly people is to consider living arrangement for elderly in a manner where the elderly people live in a family support. The long questionnaire data is analyzed to see the proportion of elderly living without support of younger aged people. Table 6.5 shows the number of households occupied by only elderly people.

Table 6.5: Family support situation of elderly

Number of elderly living in household with no one from other age group	Number of household	Percentage of total household with elderly
1	1867	4.08
2	2175	4.75
3	54	0.12
4	9	0.02
Total	4105	8.97

Altogether about 9 percent of the elderly living households are occupied with elderly only. While a single elderly person is found to live in 4.08 percent of the total households with elderly, 4.75 percent of these households have two elderly people living by themselves. This feature definitely rings the alarm of the social push for elderly people towards solitude.

7. Future Perspectives of Elderly People in Bangladesh

7.1 Projection of Elderly Population

It is undoubtedly established that an increasing trend in elderly population of any country is the result of country's decreasing mortality rate along with the low fertility rate. Though, decreasing mortality seems to be an achievement for the country, accurate information regarding its consequence in the elderly may affect the country's development extensively. However, proper knowledge and necessary actions at the appropriate time can alter the consequences. Moreover, the size and structure of the elderly people achieved public and private interest from both social and economic aspects. As a result, the future perspective of elderly people reveals as a growing concern in almost every country of the world.

The cohort component method is commonly used technique to measure the future size of the population. This technique can easily depict the future perspective of elderly people with respect to different dimensions. The future elderly population in Bangladesh is projected by this method. The size of the elderly people would be more than 12.8 million in 2015 which would increase to almost 14 million in 2020 and in 2025 the size of elderly is expected to be 17.2 million.

The bars in Figure 7.1 represent the projected numbers of elderly in different divisions of Bangladesh. In all the divisions, the number of elderly is increasing with time. It is clear that the elderly people in Dhaka division would be approximately double than any other division at 2025. The increment in the size of elderly during these three half-decades would remain same in all divisions except Dhaka. In addition, the Sylhet division would have a small number of elderly people during these periods. Moreover, the increment during these half-decades observed for Sylhet division is also smaller than the other divisions.

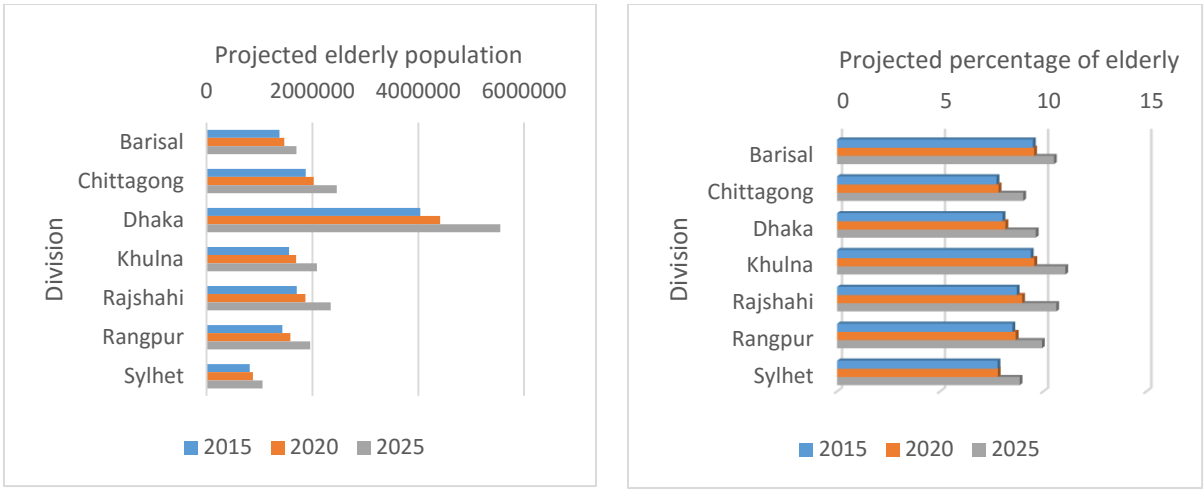


Figure 7.1: Number and percentage of elderly in divisions at years 2015, 2020 and 2025

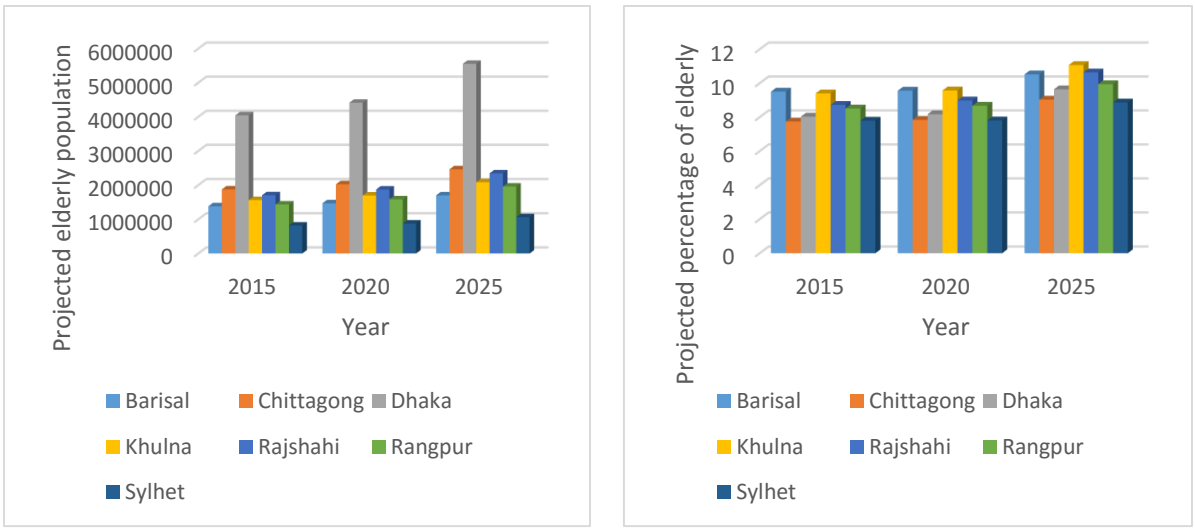


Figure 7.2: Number and percentage of elderly in divisions at years 2015, 2020 and 2025

The division wise distribution of elderly people in 2015, 2020 and 2025 are displayed in Figure 7.2. The change of elderly people in all the division except the Dhaka division is increasing but not too substantial. Instead for the Dhaka division the change is positive and the rate of increase is more than the others. In addition, for each of the years the number of elderly people in Dhaka division is far greater relative to the other divisions.

The composition of the elderly population in 2015 by gender for each division is represented in Figure 7.3 in which each bar represents the total number of elderly in each division and the components represent the elderly people by gender. From this bar diagram it is clear that the 2015's elderly population of a given division would be composed of almost same number of

males and females. Furthermore, in 2015 Sylhet division would have the minimum number of elderly population.

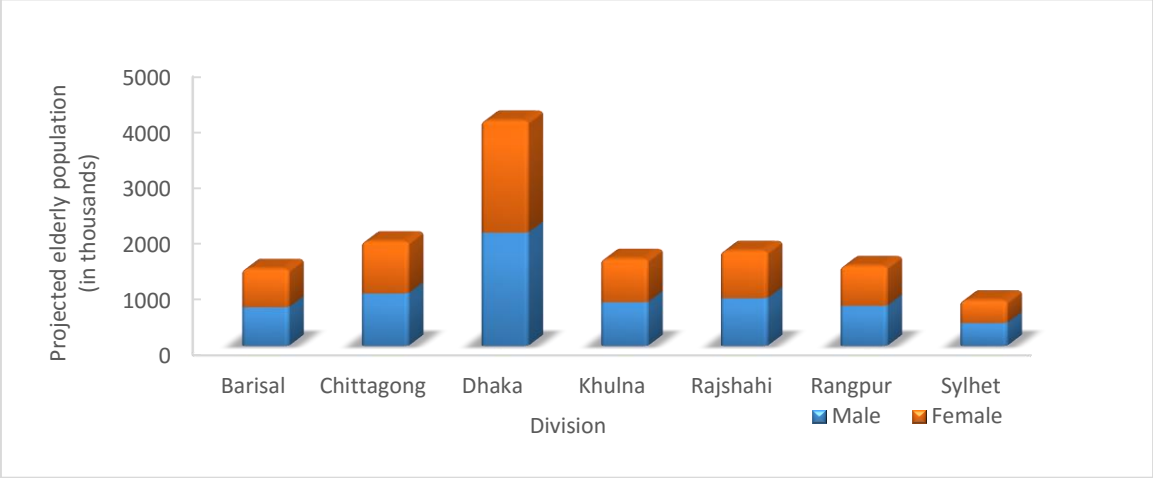


Figure 7.3: Division wise distribution of elderly by gender in 2015

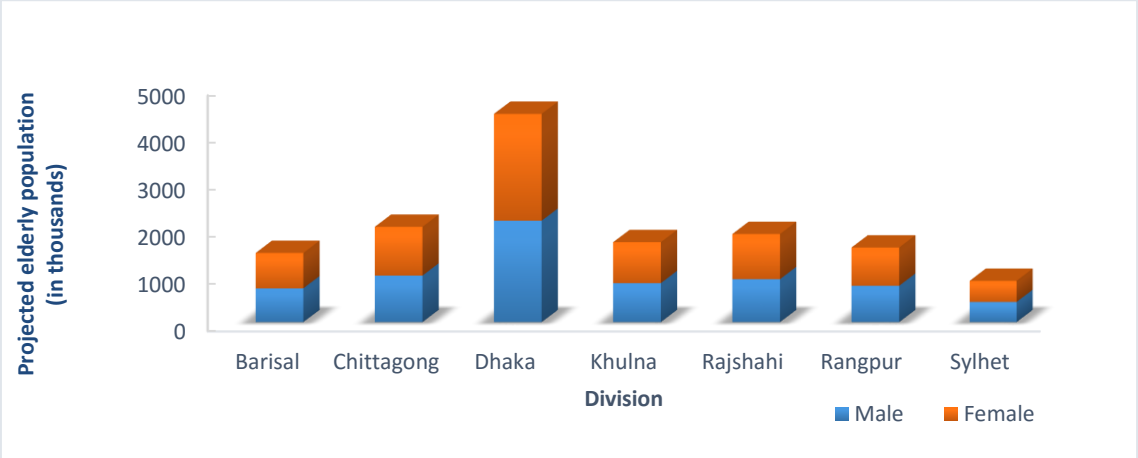


Figure 7.4: Division wise distribution of elderly by gender in 2020

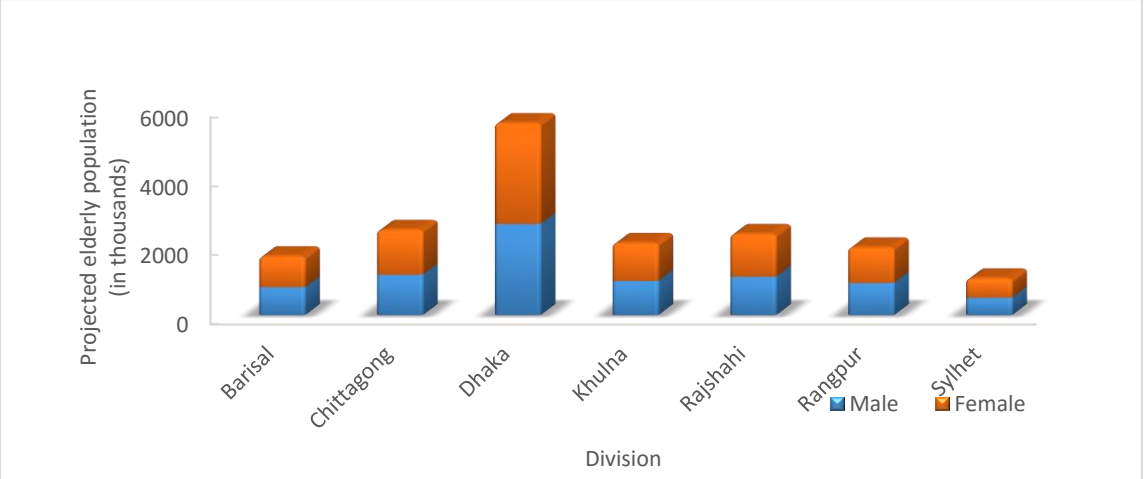


Figure 7.5: Division wise distribution of elderly by gender in 2025

Moreover, the compositions of the projected elderly population of year 2020 and 2025 are also shown in Figure 7.4 and Figure 7.5. Comparing the projected elderly population, it is observed that the size of the elderly population would increase substantially from 2020 to 2025. Furthermore, the increment in female elderly would contribute greatly. In each of the divisions, increment in female elderly is larger than the increment in male elderly. It is important to note that the elderly population in 2015 contains more male elderly in every division which gradually altered in 2020 and 2025 as well. This leads to the conclusion that in the near future the life expectancy of the female of Bangladesh would increase than the male population of the country. In particular, the elderly population of year 2025 would have 111 female elders against 100 male elders which is expected in the year 2020 is approximately 105 and for year 2015 is 99.

The projected elderly population of years 2015, 2020 and 2025 by division and their type of residence are displayed in Figures 7.6 through 7.8. Investigating the projected elderly of year 2015 it is seen that for every division the number of elderly lives in rural areas is greater than the number of elderly lives in other than rural areas. But this share of rural elderly decreases in the years 2020 and 2025.

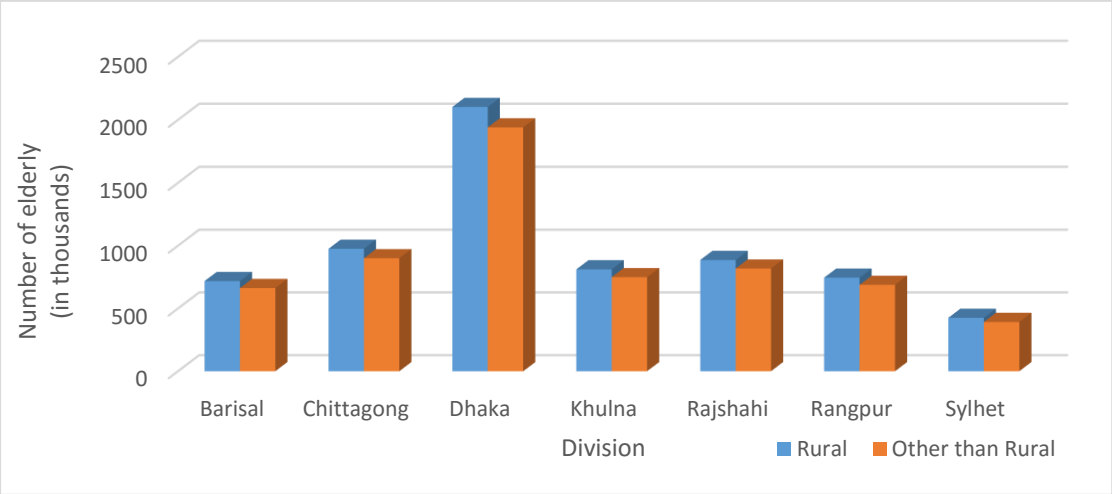


Figure 7.6: Elderly population of Bangladesh in 2015 by division and residence.

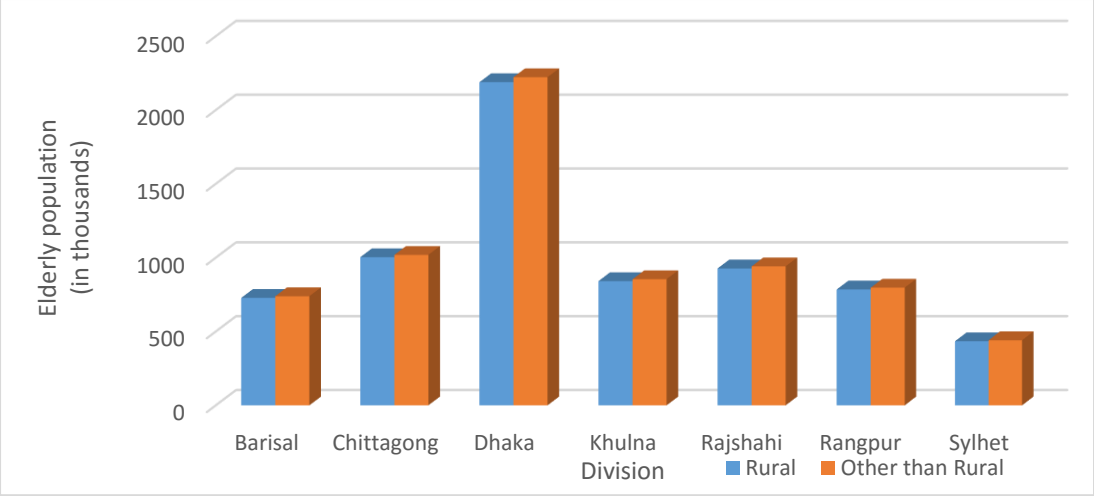


Figure 7.7: Elderly population of Bangladesh in 2020 by division and residence.

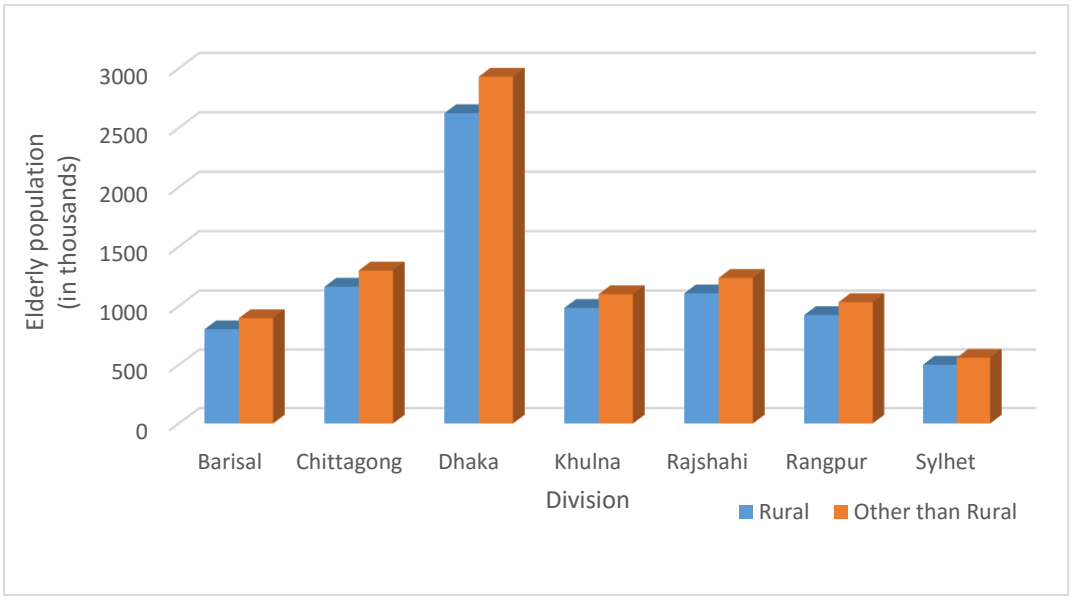
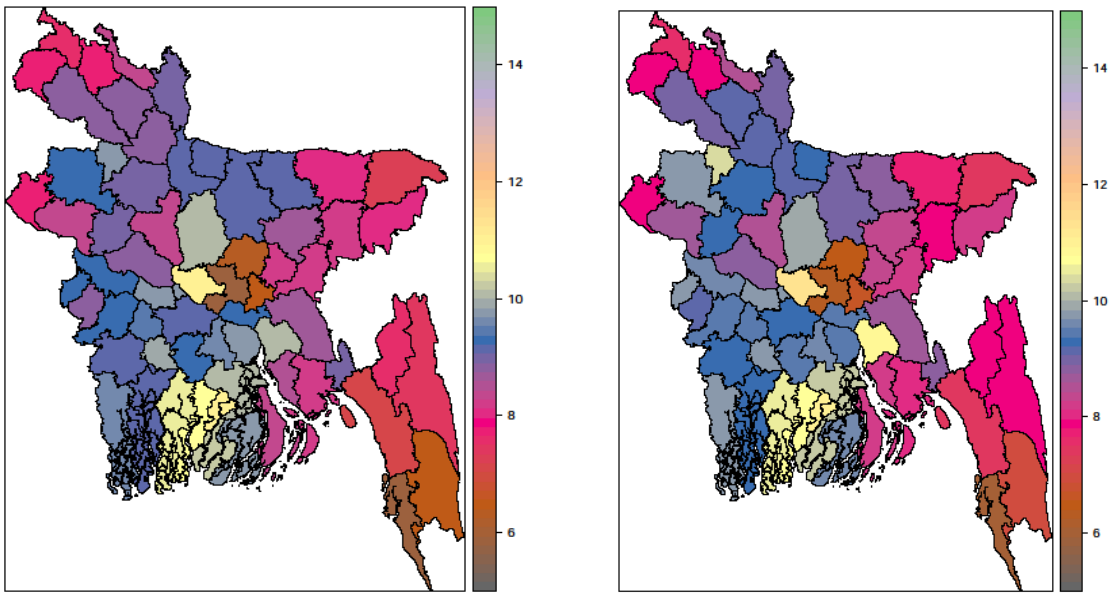


Figure 7.8: Elderly population of Bangladesh in 2020 by division and residence.

Though, the number rural elderly in each of the divisions is increasing over time, the rate of increase in other than rural elderly is higher than the rate for the rural elderly. For instance, in Khulna division, the rural elderly from 2015 to 2020 is increased by 29985 whereas this number for other than rural elderly is 105609. Moreover, for Khulna division, the relative rate of increment in rural elderly from year 2015 to 2020 is 3.69 percent which would be approximately 16.94 percent from year 2020 to 2025. In contrast, these quantities for other than rural elderly are approximately 14 percent and 28.64 percent respectively. It is clear that relative rate is increased approximately by 4.5 times for the rural elderly, but 2 times for other

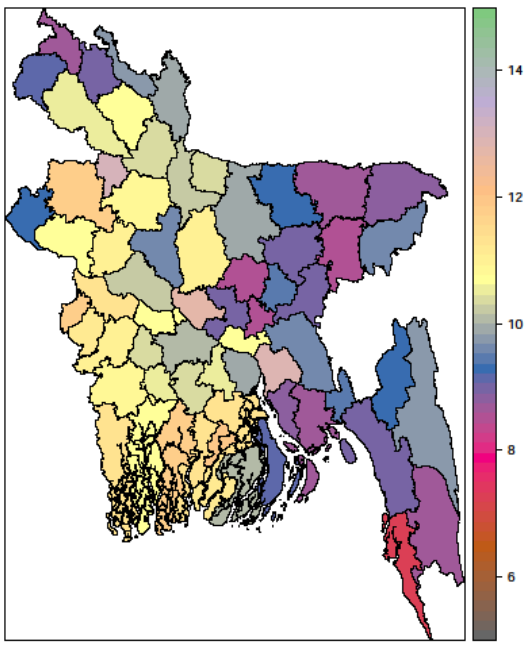
than rural elderly. In the other divisions, the elderly population both in rural and other than rural areas increase approximately in a similar fashion as the case of Khulna division.

The three maps in Figure 7.9 represent the spatial distribution of percentage of elderly people in Bangladesh for the year 2015, 2020 and 2025.



2015

2020



2025

Figure 7.9: The district wise percentage of projected elderly population in years 2015, 2020 and 2025.

The first map in Figure 7.9 depicts that among the 64 districts of Bangladesh, only the districts Manikganj and Bagerhat have more than 10 percent elderly of their total population in 2015. Moreover, in 2020 the districts Jaipurhat and Chandpur along with the two districts mentioned earlier would have more than 10 percent elderly of their total population. In contrast, at the year 2025, most of the districts of the west region of the country would have more than 10 percent elderly population of the respective total population. Furthermore, in the remaining part of the country except Cox's-bazar district at 2025 would have 8 percent to 10 percent elderly people.

7.2 A Gap Analysis

A Gap analysis is performed to determine the steps need to be taken by the Government in order to move from the current state of support in terms of old age allowance provided for the elderly to its desired, future state.

In this study the gap analysis consists of

(1) Estimating the present number of elderly, number of elderly covered under old age allowance program by the Government and amount of money spent
(2) Estimating number of elderly in 2015, 2020 and 2025, number of elderly that would be covered under old age allowance program taken by the Government if the current trend is followed and amount of money that would be required to execute such initiatives as well as amount of money that would be required to bring all elderly under the umbrella of such Government initiatives
(3) Highlighting the gaps that exist and need to be filled.

Table 7.1 shows the division wise elderly population projected for 2015, 2020 and 2025 based on 2011 census data. In each of the divisions, the number of elderly is expected to increase gradually over time.

Table 7.1: Division wise elderly population projected for 2015, 2020 and 2025.

Division	Elderly Population		
	2015	2020	2025
Barisal	1380794	1467353	1700115
Chittagong	1875135	2023209	2461620
Dhaka	4041861	4411832	5552352
Khulna	1560889	1696483	2083849
Rajshahi	1703592	1869272	2343683
Rangpur	1433173	1582674	1956639
Sylhet	817853	875941	1060443
Total	12813297	13926764	17158701

Figures 7.10 and 7.11 shows the change in basic pay scale over years and the CPI (including projections for the year 2020 and 2025). The two pictures reveal that the change in basic pay scale was accompanied with similar change in CPI.

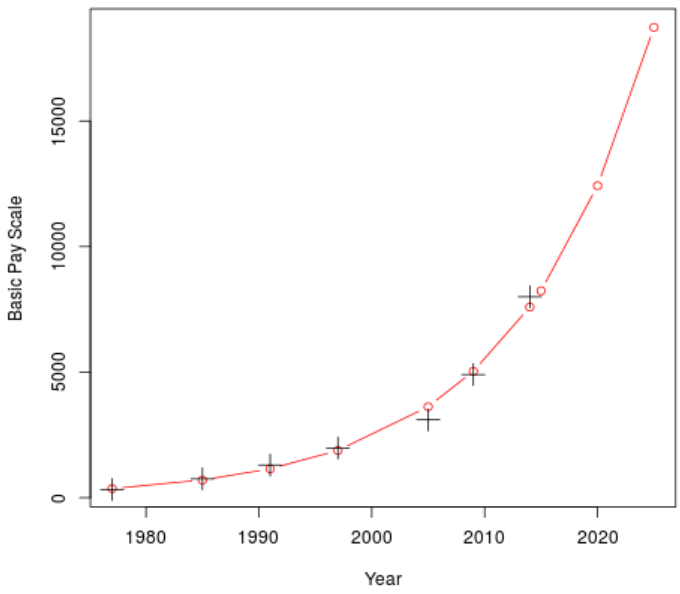


Figure 7.10: Basic pay scale over 1975 to 2015

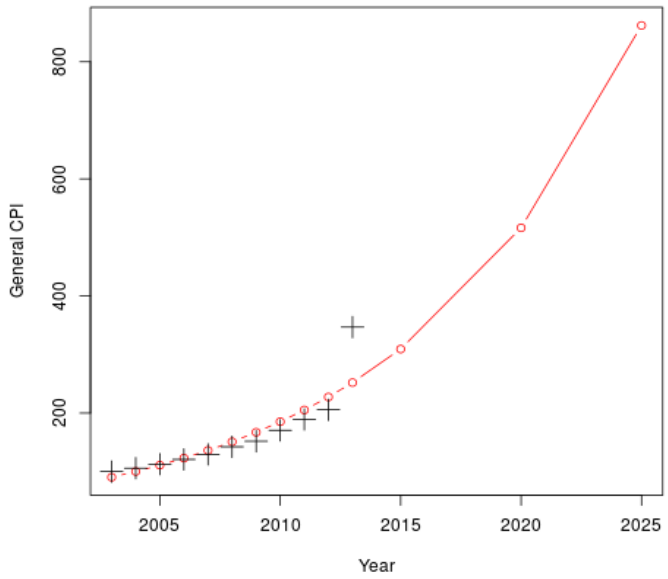


Figure 7.11: General CPI in 2005, 2010, 2015, 2020 and 2025

Table 7.2 shows the forecasted basic pay of the last GOB pay grade, forecasted General CPI (with 2002 base) and for forecasted monthly amount for old age pension (in BDT) for 2015, 2020 and 2025.

Table 7.2: Forecasted monthly amount for old age pension (in BDT) for 2015, 2020 and 2025

Year	Forecasted basic pay of the last GOB pay grade	Forecasted General CPI with base year 2002	Forecasted monthly amount for old age pension (in BDT)	
			GOB pay scale based	General CPI based
2015	8239	309.30	504	928
2020	12424	516.37	761	1549
2025	18733	862.05	1147	2586

From Table 7.2, it can be seen that the basic pay of the GOB pay grade is likely to increase and is expected to be more than doubled in a very short period of 10 years. The last two columns of the above table shows that the expected monthly amount for old age pension based on GOB pay scale would be 504 BDT in 2015 and would be 1147 BDT in the year 2025. However, if the old age pension is determined based on general CPI, the monthly amount for old age pension would be 2586 BDT.

Table 7.3: Forecasted monthly amount required for old age pension (in million BDT)

Division	Forecasted monthly amount required for old age pension (in million BDT)					
	2015		2020		2025	
	GOB pay scale based	General CPI based	GOB pay scale based	General CPI based	GOB pay scale based	General CPI based
Barisal	695.92	1281.38	1116.66	2272.93	1950.03	4396.5
Chittagong	945.07	1740.13	1539.66	3133.95	2823.48	6365.75
Dhaka	2037.1	3750.85	3357.4	6833.93	6368.55	14358.38
Khulna	786.69	1448.5	1291.02	2627.85	2390.17	5388.83
Rajshahi	858.61	1580.93	1422.52	2895.5	2688.2	6060.76
Rangpur	722.32	1329.98	1204.41	2451.56	2244.26	5059.87
Sylhet	412.2	758.97	666.59	1356.83	1216.33	2742.31
Total	6457.91	11890.74	10598.26	21572.55	19681.02	44372.4

Table 7.3 summarizes the monthly amount required for old age pension in million BDT for each of the seven divisions of Bangladesh in the year 2015, 2020 and 2025. The amount required is calculated based on GOB pay scale as well as based on general CPI.

Table 7.4: Estimated number of elderly, number of old age pensions and percentage of coverage

Year	Estimated number of elderly	Number of old age pensions	Percentage of coverage (estimated)
2011	12112100	2470000	20.39
2015	12813297	3377000	26.36
2020	13926764	4505000	32.35
2025	17158701	5633000	32.83

The number of elderly is increasing over the years and Table 7.4 shows the estimated number of elderly in 2011, 2015, 2020 and 2025 along with the number of old age pensions the Government of Bangladesh would offer. The number of old age pensions is gradually increasing over time as can be seen from the above table, however, as compared to the need, this coverage is not adequate.

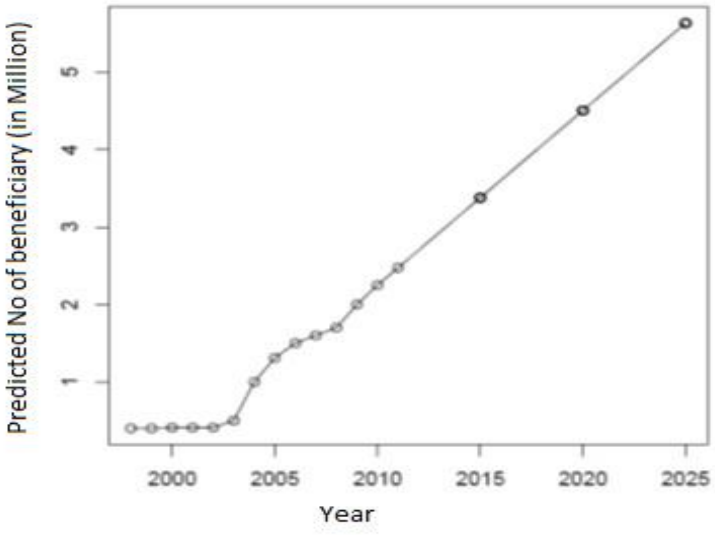


Figure 7.12: Predicted number of old age pension beneficiary over years

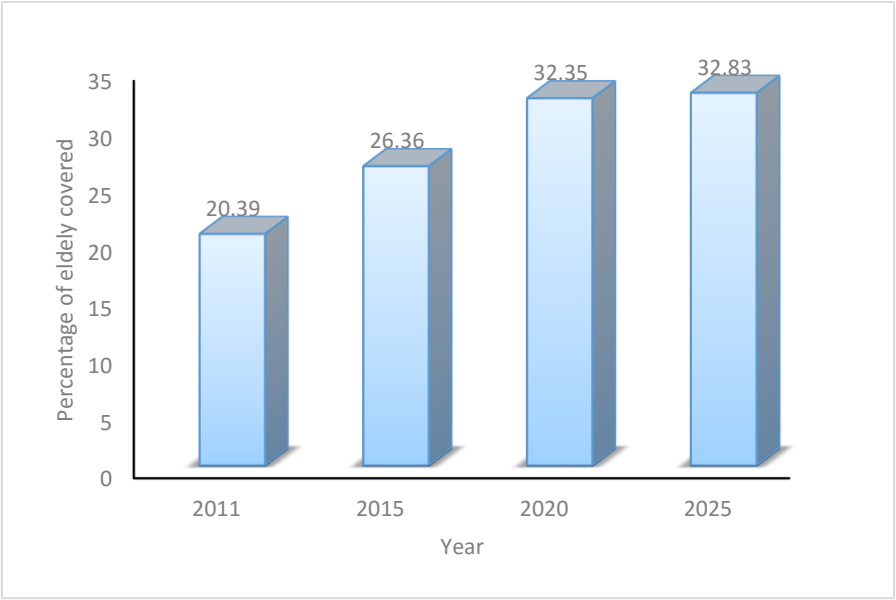


Figure 7.13: Projected coverage of old age pension over years

Figures 7.12 and 7.13 give the predicted number of old age pension beneficiaries and the percentage of beneficiaries in the respective years. The Figures, however, clearly depicts that in spite of several efforts and of initiatives taken by the Government of Bangladesh, in the year 2011, only 20 percent of the elderly could be brought under the umbrella of old age pension program and this percentage is expected to reach only 32.83 percent by year 2025 if the current trend follows. So more than half of the elderly will still be out of the coverage while might be

in need of it, note from the Figure 5.27 that 42 percent of the elderly belong to the house hold of third and fourth quintiles. Table 7.5 displays the estimated amount of money needed for old age pension considering the forecasted trend of coverage of number of elderly under the umbrella.

Table 7.5: Estimated number of elderly, number of old age pensions and coverage percentage

Year	Forecasted monthly amount required for old age pension (in million BDT) for the forecasted coverage	
	GOB pay scale based	General CPI based
2015	170.2	313.39
2020	342.83	697.82
2025	646.11	1456.69

This study forecasts that Bangladesh Government needs an amount of 170.2 million BDT for old age pension in the year 2015, 342.83 millions in the year 2020 and 646.11 million BDT for the year 2025. However, if the amount required is adjusted for CPI, then the revised amount would be 313.39 million, 697.82 million and 1456.69 million BDT respectively.

8. CONCLUSION AND RECOMMENDATIONS

8.1 Current Status of Elderly

The current situation in terms of number and proportion of elderly population at the national and regional (district) level was assessed, the key findings reflected the followings:

A. Proportion

1. The Elderly percentage in Bangladesh historically was not very alarming in comparison with that in most of the other Asian countries (2010 data), and according to the long questionnaire survey data it appears so at a level of 7.7 percent.
2. The age-specific distribution of elderly in Bangladesh does not seem to differ by gender although at a global perspective, there had been speculation in literature that percentage of female elderly may exceed the percentage of male elderly.
3. The elderly percentages, both for males and females, are found to be higher in other than rural area than that in rural area, however, and there is little observable differences among elderly percentages in districts.

B. Ageing and Life Expectancy

1. The age distribution of the people with age 60 years or above shows that the biggest proportion of the elderly population in Bangladesh are in the age group 60-64 years.
2. About 1.7 percent of the total population (22 percent of the elderly) with 75 years of age gives a clear indication of increasing life expectancy
3. A median age of 23 gives an indication that the population of Bangladesh is young hence ageing is not that a burden yet for Bangladesh. The other ageing indices like ageing index 23, total dependency ratio 64 etc. also support the fact.

C. Family Structure and Elderly Population

1. The household level ageing indexes show that more than 50 percent households have a dependence ratio less than 100 percent.
2. About 75 percent households have an elderly child ratio less than 100 percent.

3. The pattern of gender differentials in marital status is very similar across the regions of residence (see Table 5.6). The proportion of single among older women is observed to be higher than that among older male.

D. Education

1. While 50 percent of the elderly population completed primary education, only 15 percent are found to be illiterate.
2. Proportions of educated elderly population are similar for both rural and other than rural regions.
3. Percentage of educated among male elderly population in Bangladesh is higher than that among female elderly population.

E. Socio-economic Status and Economic Activities

1. All socio-economic class contains almost similar proportion of elderly. In other words, there is no apparent indication of households with elderly population being poor or rich.
2. Only a few elderly are involved in economic activities, while 68 percent of the elderly do not take part in any income generating activities.
3. Economic activities do not differ much between rural and other than rural regions. A slight but obvious difference is observed in agriculture based self-employment which is found to be rural dominant.

F. Morbidity, Treatment Received and Health Care Facilities

1. More than 80 percent of the elderly people suffer from at least four health problems.
2. Female morbidity is reported to be less than male morbidity (450 in comparison with 500 per thousand elderly), while other than rural elderly have higher morbidity (470 per thousand elderly) than the rural elderly have (500 per thousand elderly).
3. Reportedly elderly of age group 60-64 seems to have higher proportion of health problems than other elderly groups.
4. Of the reported diseases or complications other than fever, Arthritis and High blood pressure are the most common ones, however, eye problem was also being noted by a common disease by some researchers.
5. More or less 30 percent of the elderly people do not receive any treatment for morbidities irrespective of gender or place of residence.

6. Health care facilities for elderly are scarce and mainly by private entrepreneurship.

G. Existing Facilities for Elderly in Bangladesh

1. There are initiatives by the GOB and different NGOs for wellbeing and betterment of elderly life in the forms of old homes and old age allowances.
2. However, the old homes (both GOB and NGO) for taking care of the older persons in Bangladesh are very limited in numbers and old age allowances do not seem to be ample either in size (400) or in coverage (about 20 percent).

8.2 General Recommendations

1. Policies are needed to be developed for collection of age, gender, region of residence disaggregated data on people 60 years and over. Local government may be given the responsibility to register older people. Policy formation are required to be made at a local level, at least, at the district level. Spatial mapping of the district and gender disaggregated elderly proportion is needed to be taken under consideration.
2. Public programs, including pension schemes and the national healthcare systems are needed to be enhanced both in terms of size and coverage. The access to the old age allowance may be increased in accordance with the projected elderly population and target a number of 13 million people in 2020. The old age allowance is needed to be increased to an amount of between 500 to 1000 Taka per month in year 2015 and about 1500 Taka per month by the year 2020. Improvement of the allowance distribution systems may also be looked into to reduce issuing problems and delays.
3. Needs are felt for research on forecasting ageing, growth and structure of family pattern and care and living arrangements of the elderly.

8.3 Specific Recommendations

1. There seems to be need for policy reform that encourages the elderly who are still capable to remain in the work force. The GOB initiatives to re-set the retirement age of some Government jobs to 65 years is a timely one. Retirement age of other Government jobs can be accordingly increased. Side by side the elderly people may be encouraged to be involved in self-employment in sectors other than Agriculture.

Increasing access to interest-free micro-credit for older people at both GOB and NGO financial institutions are desirable.

2. Institutions and systems that support high levels of personal saving with higher level of benefits may be catered for the elderly people with greater emphasis. Even a tax rebate or lower level of taxation for elderly investment may keep a larger number of elderly people active and indulged in income generating activities.
3. Subsidized healthcare and medicine for the older people on presentation of ID card may be initiated with a long run target of providing free healthcare and medicine for the elderly.
4. Specialized doctors with expertise in geriatric issues in increasing number is also a necessity.

Tables

Table A1.1: Percentage of elderly by division

Division	% of elderly	Elderly % in Total Population	Elderly % within District	Gender		Residential	
				% within division male	% within division female	% within division rural	% within division not rural
Barishal	11.97	0.92	9.02	9.65	8.39	9.61	6.95
Chittagong	17.04	1.31	7.01	7.47	6.55	7.29	5.89
Dhaka	26.04	2.01	7.87	8.24	7.51	8.29	5.94
Khulna	15.78	1.22	8.20	8.48	7.92	8.50	7.05
Rajshahi	11.89	0.92	7.77	8.04	7.49	7.98	7.09
Rangpur	9.38	0.72	6.78	6.77	6.78	6.83	6.39
Sylhet	7.89	0.61	7.34	7.62	7.07	7.60	6.58

Table A1.2: Within division percetage of elderly by gender and residence type

Division	Within division % of elderly	Male	Female	Rural	Not Rural
Barishal	9.02	4.84	4.18	7.48	1.54
Chittagong	7.01	3.71	3.30	5.81	1.19
Dhaka	7.87	4.12	3.76	6.82	1.06
Khulna	8.20	4.25	3.96	6.75	1.45
Rajshahi	7.77	4.02	3.75	6.08	1.69
Rangpur	6.78	3.43	3.34	6.06	0.72
Sylhet	7.34	3.78	3.56	5.69	1.65

Table A1.3: Percentage of elderly by district

District	% of elderly	% of Elderly in Total Population	% of elderly in district population	Male	Female	Rural	Not Rural
Bagerhat	1.86	0.14	10.15	10.79	9.50	10.59	7.36
Bandarban	0.98	0.08	4.84	5.42	4.22	4.76	5.73
Barguna	1.98	0.15	11.27	12.77	9.77	11.47	9.38
Barisal	3.09	0.24	8.18	8.68	7.68	10.08	6.46
Bhola	1.28	0.10	6.20	6.17	6.22	6.33	4.13
Bogra	1.39	0.11	8.52	9.15	7.90	9.15	5.58
Brahmanbaria	1.69	0.13	7.92	8.31	7.55	7.97	7.28
Chandpur	1.77	0.14	8.78	9.11	8.46	9.12	6.91

District	% of elderly	% of Elderly in Total Population	% of elderly in district population	Male	Female	Rural	Not Rural
Chittagong	2.45	0.19	6.20	6.65	5.76	7.45	5.13
Chuadanga	1.20	0.09	7.21	7.41	7.00	7.48	6.39
Comilla	1.75	0.13	8.28	9.00	7.59	8.49	6.82
Cox's bazar	1.22	0.09	5.64	6.45	4.82	5.56	6.14
Dhaka	1.71	0.13	4.81	5.40	4.24	5.08	4.60
Dinajpur	1.15	0.09	6.75	6.85	6.65	6.75	6.78
Faridpur	1.61	0.12	8.53	8.64	8.43	8.73	6.34
Feni	1.73	0.13	8.88	9.42	8.37	9.43	6.58
Gaibandha	1.39	0.11	8.58	8.30	8.86	8.62	7.97
Gazipur	1.10	0.08	6.61	7.64	5.61	7.48	4.64
Gopalganj	1.79	0.14	8.75	8.65	8.86	8.75	8.77
Habiganj	1.70	0.13	8.03	8.63	7.45	8.16	6.64
Joypurhat	1.33	0.10	8.65	8.75	8.56	9.08	5.78
Jamalpur	1.50	0.12	8.72	8.85	8.58	8.82	8.14
Jessore	1.25	0.10	7.20	8.08	6.32	7.60	4.91
Jhalokati	1.95	0.15	10.70	11.63	9.79	11.00	8.90
Jhenaidah	1.28	0.10	7.55	7.62	7.48	7.64	6.97
Khagrachhari	1.24	0.10	6.30	6.53	6.08	6.82	4.88
Khulna	3.00	0.23	8.37	8.86	7.87	9.45	7.34
Kishoreganj	1.49	0.12	7.74	7.66	7.83	7.80	7.35
Kurugram	1.36	0.10	7.95	8.29	7.59	8.13	6.88
Kushtia	1.40	0.11	8.45	8.91	8.00	8.50	8.10
Kakshmipur	1.60	0.12	8.07	8.86	7.31	7.98	8.77
Lalmonirhat	1.13	0.09	6.59	6.82	6.34	6.53	7.14
Madaripur	1.55	0.12	8.10	9.65	6.52	8.31	6.20
Magura	1.34	0.10	7.50	7.25	7.76	7.53	7.28
Manikganj	1.72	0.13	9.63	9.90	9.37	9.70	8.68
Meherpur	1.29	0.10	7.83	8.03	7.64	7.79	8.10
Moulvibazar	1.66	0.13	8.14	8.29	7.99	8.30	6.24
Munshiganj	1.56	0.12	8.57	8.84	8.32	8.92	5.32
Mymensingh	1.43	0.11	7.62	7.54	7.70	7.69	7.14
Naogaon	1.42	0.11	8.74	9.13	8.35	8.62	10.00
Narail	1.62	0.12	8.89	8.81	8.97	9.33	5.75
Narayanganj	1.03	0.08	5.95	6.51	5.39	5.89	6.07
Narsingdi	1.26	0.10	6.58	7.06	6.11	6.77	5.72
Natore	1.27	0.10	7.65	8.26	7.02	7.68	7.43
Chapai Nawabganj	1.27	0.10	6.76	7.24	6.28	6.55	7.92

District	% of elderly	% of Elderly in Total Population	% of elderly in district population	Male	Female	Rural	Not Rural
Netrokonaq	1.55	0.12	8.01	7.41	8.66	8.09	7.22
Nilphamari	1.11	0.09	6.10	6.09	6.12	6.18	5.69
Noakhali	1.60	0.12	7.36	7.69	7.03	7.28	7.96
Pabna	1.40	0.11	7.71	7.85	7.57	7.85	6.92
Panchagarh	0.97	0.07	5.29	5.21	5.37	5.31	5.06
Patuakhali	1.85	0.14	9.30	9.78	8.81	9.44	8.20
Pirojpur	1.82	0.14	9.81	10.57	9.04	10.04	7.64
Rajshahi	2.38	0.18	7.16	7.36	6.95	7.44	6.98
Rajbari	1.69	0.13	9.19	9.55	8.83	9.30	8.25
Rangamati	1.03	0.08	5.51	5.71	5.29	5.51	5.48
Rangpur	1.20	0.09	7.19	7.36	7.03	7.32	6.56
Shariatpur	2.01	0.15	9.93	10.92	8.92	10.04	8.23
Satkhira	1.54	0.12	8.50	8.49	8.51	8.58	7.52
Sirajganj	1.43	0.11	7.81	7.57	8.05	7.75	8.23
Sherpur	1.34	0.10	7.92	8.11	7.73	8.31	4.86
Sunamganj	1.67	0.13	7.31	7.49	7.12	7.38	5.90
Sylhet	2.87	0.22	6.65	6.88	6.42	6.67	6.63
Tangail	1.69	0.13	9.77	10.16	9.39	10.00	8.18
Thakurgaon	1.08	0.08	6.05	5.60	6.53	6.11	5.59

Table A1.4: Within district percentage of elderly

District	% of elderly within district	Male	Female	Rural	Not Rural
Barisal	8.18	5.43	4.73	9.14	1.01
Bandarban	4.84	2.80	2.04	4.39	0.45
Barguna	11.27	6.37	4.90	10.37	0.90
Barisal	8.18	4.35	3.83	4.79	3.39
Bhola	6.20	3.14	3.06	5.94	0.26
Bogra	8.52	4.54	3.98	7.54	0.98
Brahmanbaria	7.92	4.06	3.87	7.41	0.51
Chandpur	8.78	4.46	4.31	7.71	1.07
Chittagong	6.20	3.30	2.90	3.45	2.75
Chuadanga	7.21	3.66	3.55	5.60	1.60
Comilla	8.28	4.36	3.91	7.39	0.88
Cox's bazar	5.64	3.26	2.39	4.73	0.91

District	% of elderly within distric	Male	Female	Rural	Not Rural
Dhaka	4.81	2.67	2.14	2.25	2.56
Dinajpur	6.75	3.44	3.31	5.94	0.81
Faridpur	8.53	4.31	4.22	8.01	0.52
Feni	8.88	4.59	4.29	7.61	1.26
Gaibandha	8.58	4.14	4.44	8.11	0.48
Gazipur	6.61	3.76	2.85	5.19	1.42
Gopalganj	8.75	4.38	4.37	7.85	0.91
Habiganj	8.03	4.28	3.76	7.48	0.56
Joypurhat	8.65	4.37	4.29	7.91	0.74
Jamalpur	8.72	4.41	4.31	7.51	1.20
Jessore	7.20	4.04	3.16	6.46	0.73
Jhalokati	10.70	5.74	4.96	9.40	1.29
Jhenaidah	7.55	3.84	3.71	6.64	0.91
Khagrachhari	6.30	3.28	3.03	5.00	1.30
Khulna	8.37	4.45	3.93	4.61	3.76
Kishoreganj	7.74	3.83	3.91	6.78	0.96
Kurugram	7.95	4.24	3.71	6.95	1.00
Kushtia	8.45	4.45	4.00	7.56	0.89
Kakshmipur	8.07	4.34	3.73	7.13	0.94
Lalmonirhat	6.59	3.46	3.13	5.98	0.61
Madaripur	8.10	4.89	3.21	7.50	0.61
Magura	7.50	3.67	3.84	6.63	0.88
Manikganj	9.63	4.90	4.73	9.10	0.53
Meherpur	7.83	3.97	3.86	6.74	1.09
Moulvibazar	8.14	4.08	4.06	7.65	0.49
Munshiganj	8.57	4.31	4.26	8.06	0.51
Mymensingh	7.62	3.82	3.80	6.62	1.00
Naogaon	8.74	4.53	4.21	7.92	0.81
Narail	8.89	4.37	4.52	8.18	0.71
Narayanganj	5.95	3.24	2.71	3.97	1.98
Narsingdi	6.58	3.50	3.08	5.53	1.05
Natore	7.65	4.17	3.48	6.62	1.03
Chapai Nawabganj	6.76	3.63	3.13	5.55	1.21
Netrokonaq	8.01	3.81	4.20	7.37	0.64
Nilphamari	6.10	3.11	2.99	5.25	0.85
Noakhali	7.36	3.82	3.54	6.38	0.98

District	% of elderly within distric	Male	Female	Rural	Not Rural
Pabna	7.71	3.95	3.76	6.70	1.01
Panchagarh	5.29	2.64	2.65	4.94	0.36
Patuakhali	9.30	4.96	4.35	8.38	0.92
Pirojpur	9.81	5.30	4.51	9.07	0.74
Rajshahi	7.16	3.66	3.49	2.91	4.25
Rajbari	9.19	4.80	4.39	8.38	0.81
Rangamati	5.51	2.92	2.58	4.87	0.63
Rangpur	7.19	3.73	3.46	6.10	1.09
Shariatpur	9.93	5.49	4.43	9.41	0.51
Satkhira	8.50	4.28	4.22	7.93	0.57
Sirajganj	7.81	3.83	3.98	6.82	0.99
Sherpur	7.92	4.05	3.87	7.37	0.55
Sunamganj	7.31	3.76	3.55	7.02	0.29
Sylhet	6.65	3.41	3.24	3.20	3.45
Tangail	9.77	5.03	4.74	8.77	1.00
Thakurgaon	6.05	2.86	3.19	5.46	0.59

Table A1.5: Percentage of elderly people by marital status

Marital Status	% of elderly	%of elderly within total population	Within category % of elderly people	Male	Female	Rural	Not Rural
N_Married	1.27	0.10	0.21	0.20	0.22	0.21	0.18
Married	71.12	5.48	11.26	16.14	6.83	11.79	9.13
Widowed	27.25	2.10	58.53	70.66	57.33	59.71	53.54
Divorced	0.15	0.01	4.29	3.62	4.37	4.56	3.17
Separated	0.23	0.02	7.09	10.49	6.40	7.85	4.99

Table A1.6: Percentage of elderly within marital group

Marital Status	Within group % of elderly	Male	Female	Rural	Not Rural
N_Married	0.21	0.11	0.10	0.17	0.04
Married	11.26	7.68	3.58	9.44	1.83
Widowed	58.53	6.35	52.18	48.24	10.28
Divorced	4.29	0.41	3.87	3.67	0.62
Separated	7.09	1.77	5.32	5.76	1.33

Table A1.7: Percentage of elderly by gender

Gender	% of elderly	%of elderly in total population	Within gender % of elderly	Components		Rural	Not Rural
				Rural	Not Rural		
Male	52.21	4.02	8.05	6.69	1.36	8.32	6.92
Female	47.79	3.68	7.36	6.16	1.20	7.69	6.04

Table A1.8: Percentage of elderly by residence type

Type of Residence	% of elderly	% of elderly in total population	% of elderly within type	Components		Male	Female
				Male	Female		
Rural	83.40	6.43	8.01	4.17	3.84	8.32	7.69
Urban	8.29	0.64	6.72	3.51	3.20	7.05	6.39
Other Urban	1.52	0.12	7.10	3.68	3.43	7.38	6.83
City Corporation	6.79	0.52	6.10	3.31	2.79	6.70	5.51

Table A1.9: Percentage of elderly by religion

Religion	% of elderly	% of elderly in total population	% of elderly within religion	Male	Female	Rural	Not rural
Islam	85.41	6.58	7.57	7.97	7.17	7.90	6.25
Hinduism	12.25	0.94	9.32	9.13	9.52	9.58	8.29
Buddhism	1.72	0.13	5.99	6.33	5.63	5.91	6.80
Christianity	0.45	0.03	6.66	7.45	5.84	6.44	8.71
Other	0.17	0.01	7.60	7.70	7.48	7.12	11.90

Table A1.10: Within religion percent of elderly

Religion	Within religion % of elderly	Male	Female	Rural	Not Rural
Islam	7.57	3.98	3.59	6.31	1.26
Hinduism	9.32	4.60	4.72	7.68	1.64
Buddhism	5.99	3.21	2.78	5.37	0.61
Christianity	6.66	3.81	2.85	5.81	0.86
Other	7.60	3.99	3.60	6.42	1.17

Table A1.11: Percentage of elderly by current working status

Working status	% of elderly	Valid % of elderly	% of elderly in total population	% of elderly within category	Male	Female	Rural	Not Rural
Employer	0.71	2.23	0.05	8.73	8.89	7.19	9.11	7.94
Employee	4.13	13.08	0.32	4.10	4.51	2.50	4.39	3.61
SE_agri	16.27	51.46	1.25	13.74	14.19	6.60	13.75	13.72
SE_nagri	6.90	21.82	0.53	7.25	7.46	4.99	7.19	7.44
F_helper	0.66	2.10	0.05	3.34	2.67	4.27	3.24	3.98
Others	2.94	9.31	0.23	7.42	7.07	9.52	7.43	7.35
Nonresponse	68.38	-	5.27	7.47	7.23	7.59	7.66	6.62

Table A1.12: Percentage of elderly within the job category

Working Status	Within category % of elderly	Male	Female	Rural	Not rural
Employer	8.73	8.06	0.68	6.16	2.57
Employee	4.10	3.60	0.50	2.76	1.34
SE_agri	13.74	13.35	0.39	12.86	0.88
SE_nagri	7.25	6.83	0.43	5.29	1.96
F_helper	3.34	1.55	1.79	2.82	0.51
Others	7.42	6.07	1.35	6.16	1.26
Nonresponse	7.47	2.50	4.96	6.21	1.26

Table A1.13: Percentage of elderly by the reason for not working

Reasons	% of elderly	Valid % of elderly	% of elderly in total population	Within reason % of elderly	Male	Female	Rural	Not rural
Student	0.31	0.45	0.02	0.15	0.08	0.22	0.16	0.12
HF_SC	12.94	18.92	1.00	4.33	3.34	4.35	4.59	3.22
OA_Retired	50.47	73.80	3.89	76.74	84.56	72.39	77.88	71.86
P_M_Problem	1.28	1.87	0.10	16.97	17.74	16.16	17.59	14.21
Sick_Accidnt	2.70	3.95	0.21	32.45	32.97	31.70	33.51	27.66
NWF	0.69	1.01	0.05	1.85	1.99	1.59	1.99	1.27
NA	31.62	-	2.44	4.69	6.10	1.20	4.90	3.80

Table A1.14: Percentage of elderly in the reasons for not working

Reasons	Within reason % of elderly	Male	Female	Rural	Not rural
Student	0.15	0.04	0.11	0.12	0.03
HW/SideCare	4.33	0.06	4.27	3.72	0.61
Old age/Retired	76.74	30.23	46.51	63.12	13.61
P_M_Problem	16.97	9.10	7.86	14.35	2.61
Sick/Accident	32.45	19.29	13.15	27.40	5.05
NWF	1.85	1.28	0.57	1.60	0.25
NA	4.69	4.34	0.34	3.94	0.75

Table A1.15: Percent of elderly by educational status

Level Passed	% of elderly	% of elderly in total population	Within level % of elderly	Male	Female	Rural	Not rural
0	14.74	1.14	21.78	18.54	23.99	22.49	18.29
1	1.65	0.13	3.31	2.48	4.16	3.55	2.04
2	3.53	0.27	5.61	4.64	6.62	5.95	3.76
3	4.46	0.34	6.49	5.83	7.15	6.54	6.23
4	7.28	0.56	8.19	7.19	9.12	8.55	6.18
5	25.17	1.94	12.38	11.85	12.84	12.58	11.29
6	3.89	0.30	6.12	6.49	5.81	6.28	5.35
7	4.47	0.34	6.13	7.28	5.20	6.40	4.77
8	9.04	0.70	8.59	10.34	7.05	8.87	7.39
9	7.93	0.61	7.52	9.65	5.43	7.92	5.86
10	9.65	0.74	8.93	12.14	4.74	9.76	6.64
12	4.12	0.32	6.49	8.67	3.09	7.00	5.58
15	2.43	0.19	9.89	12.29	3.59	10.02	9.72
16	0.74	0.06	8.22	10.03	3.98	9.81	6.37
18	0.92	0.07	8.23	9.93	3.60	8.16	8.29

Table A1.16: Within education level percentage of elderly

Level passed	Within level % of elderly	Male	Female	Rural	Not rural
0	21.78	7.51	14.27	18.69	3.09
1	3.31	1.25	2.05	2.97	0.33
2	5.61	2.36	3.25	5.02	0.59
3	6.49	2.90	3.59	5.47	1.03
4	8.19	3.45	4.74	7.25	0.94

Level passed	Within level % of elderly	Male	Female	Rural	Not rural
5	12.38	5.50	6.88	10.59	1.79
6	6.12	2.98	3.14	5.23	0.90
7	6.13	3.25	2.88	5.33	0.80
8	8.59	4.84	3.75	7.17	1.42
9	7.52	4.77	2.75	6.37	1.15
10	8.93	6.87	2.06	7.16	1.77
12	6.49	5.28	1.21	4.49	2.00
15	9.89	8.91	0.99	5.89	4.01
16	8.22	7.03	1.19	5.28	2.94
18	8.23	7.27	0.96	3.62	4.62

Table A1.17: Percent of elderly by their education field

Education Field	% of elderly	% of elderly in total population	Within field % of elderly	Male	Female	Rural	Not rural
General	95.79	7.38	9.19	9.67	8.71	9.59	7.60
Tech/Voca.	0.38	0.03	4.52	5.00	3.42	4.94	3.90
Religious	3.84	0.30	7.16	7.05	7.30	7.41	5.44

Table A1.18: Percent of elderly in education field

Education Field	Within field % of elderly	Male	Female	Rural	Not Rural
General	9.19	4.77	4.41	7.64	1.54
Tech/Voca.	4.52	3.49	1.04	2.94	1.58
Religious	7.16	4.00	3.15	6.45	0.70

Table A1.19: Percent of elderly by their types of family

Family Types	% of elderly	% of elderly in total population	Within type % of elderly	Male	Female	Rural	Not rural
Separate	85.03	6.55	8.00	8.31	7.69	8.11	7.31
Apartment	3.87	0.30	6.09	6.87	5.35	6.65	5.90
Joint_BH	11.10	0.85	6.47	6.84	6.11	7.33	5.11

Table A1.20: Percent of elderly in each type of family

Family Types	Within type % of elderly	Male	Female	Rural	Not rural
Separate	8.00	4.16	3.84	7.02	0.98
Apartment	6.09	3.35	2.74	1.68	4.40
Joint_BH	6.47	3.40	3.07	4.50	1.98

Table A1.21: Percent of elderly by asset quintile

Quinitle	% of elderly	% of elderly in total population	Within quintile % of elderly	Male	Female	Rural	Not Rural
First	19.84	1.53	8.16	8.03	8.29	8.16	8.17
Second	19.96	1.54	7.82	8.12	7.52	7.86	7.32
Third	20.26	1.56	7.66	8.01	7.31	7.70	7.27
Fourth	21.13	1.63	7.85	8.38	7.31	8.12	6.57
Fifth	18.81	1.45	7.08	7.68	6.48	8.42	6.06

Table A1.22: Percent of elderly in each of the asset quintiles

Quintile	Within quintile % of elderly	Male	Female	Rural	Not Rural
First	8.16	4.00	4.16	7.71	0.45
Second	7.82	4.07	3.75	7.28	0.54
Third	7.66	4.04	3.62	6.97	0.69
Fourth	7.85	4.20	3.65	6.68	1.17
Fifth	7.08	3.80	3.28	3.63	3.44

Table A1.23: Percentage of adult (19-50, 50-60 and 60+) people by marital status and gender

	19-50		50-60		60+	
Marital Status	Male	Female	Male	Female	Male	Female
Never Married	22.20	5.86	1.12	0.69	0.67	0.15
Married	77.25	88.77	97.54	76.59	47.06	5.5
Widowed	0.29	3.86	1.17	21.58	38.91	80.22
Divorced	0.11	0.82	0.09	0.44	2.51	5.95
Separated	0.15	0.70	0.07	0.73	10.89	8.18

Table A1.24: Percentage of adult (19-50, 50-60 and 60+) people by marital status and place of residence

Marital Status	19-50		50-60		60+	
	rural	Not rural	Rural	Not rural	Rural	Not rural
Never Married	12.83	16.85	0.87	1.09	0.25	0.23
Married	84.16	79.91	87.64	87.07	14.03	12.94
Widowed	2.13	2.21	10.86	11.13	71.7	73.02
Divorced	0.48	0.46	0.26	0.25	5.45	4.39
Separated	0.40	0.57	0.37	0.46	8.56	9.42

Table A1.25: Percentage of adult (19-50, 50-60 and 60+) by working status and gender

Working Status	19-60	19-50		50-60		60+	
		Male	Female	Male	Female	Male	Female
Employer	1.08	2.00	0.20	2.22	0.09	1.25	0.11
Employee	12.95	21.98	5.19	16.81	2.62	6.95	1.06
SE_agri	14.77	27.50	1.77	39.82	1.54	30.28	0.96
SE_nagri	12.46	23.84	2.14	21.0	1.36	12.43	0.85
Family Helper /others	7.12	11.68	3.26	7.64	1.86	5.20	1.86
Not working	51.62	13.0	87.43	12.50	91.53	43.89	95.14

Table A1.26: Percentage of adult (19-50, 50-60 and 60+) by working status and place of residence

Working Status	19-50		50-60		60+	
	Rural	Not rural	Rural	Not Rural	Rural	Not Rural
Employer	0.91	1.62	0.87	2.49	0.6	1.25
Employee	10.50	23.30	7.07	21.72	3.33	8.16
SE_agri	16.80	4.20	25.06	7.54	18.26	6.26
SE_nagri	11.73	15.53	10.16	17.34	6.04	11.23
Family helper or Others	7.80	5.41	5.53	4.70	3.6	3.62
Not working	52.25	49.94	51.31	46.20	68.17	69.47

Table A1.27: Percentage of adult (19-50, 50-60 and 60+) by the reason for not working and gender

Reasons	19-50		50-60		60+	
	Male	Female	Male	Female	Male	Female
Student	5.66	3.19	0.10	0.36	0.16	0.46
Housewife/Side care	1.40	79.96	0.33	64.03	0.34	26.70
Old Age/ Retired	0.42	1.58	7.40	23.79	38.08	64.00
Physical or Mental Problem	0.62	0.56	0.92	0.99	1.31	1.24
Sick/Accident	0.71	0.45	2.03	1.57	3.08	2.29
No Work Found	4.18	1.69	1.66	0.79	0.91	0.44
NA	87.0	12.57	87.50	8.47	56.11	4.85

Table A1.28: Percentage of adult (19-50, 50-60 and 60+) in the reasons for not working and place of residence

Reasons	19-50		50-60		60+	
	Rural	Not rural	Rural	Not rural	Rural	Not rural
Student	3.76	6.64	0.24	0.16	0.30	0.32
Housewife/Side care	43.43	38.19	32.12	25.49	13.33	10.95
Old Age/ Retired	1.00	1.10	14.81	16.94	49.78	53.93
Physical or Mental Problem	0.60	0.55	0.17	0.86	1.30	1.19
Sick/Accident	0.58	0.54	1.88	1.68	2.74	2.53
No Work Found	2.88	2.92	1.29	1.06	0.71	0.56
NA	47.75	50.06	48.69	53.80	31.83	30.53

Table A1.29: Percent of adult (19-50, 50-60 and 60+) by their types of family and gender

Family Types	19-50		50-60		60+	
	Male	Female	Male	Female	Male	Female
Separate	80.57	80.55	82.72	83.76	84.75	85.34
Apartment	5.34	5.56	6.49	4.93	4.08	3.64
Joint_BH	14.10	13.89	10.70	11.31	11.17	11.02

Table A1.30: Percent of adult (19-50, 50-60 and 60+) in each type of family

Family Types	19-50		50-60		60+	
	Rural	Not rural	Rural	Not rural	Rural	Not rural
Separate	87.79	53.94	89.61	57.97	89.47	62.71
Apartment	1.63	19.51	1.51	22.48	1.28	16.87
Joint_BH	10.58	26.55	8.88	19.55	9.24	20.42

Table A1.31: Prevalence of disability by age group (from Census 2011)

Age (in years)	Overall Disability	Type of disability						Population Size
		Speech	Vision	Hearing	Physical	Mental	Autistic	
0-4	0.5	0.1	0.05	0.03	0.23	0.03	0.06	7,52,660
5-9	0.9	0.22	0.1	0.06	0.33	0.1	0.08	9,08,701
10-19	1.1	0.23	0.12	0.07	0.37	0.19	0.1	12,66,784
20-29	0.99	0.19	0.12	0.07	0.35	0.19	0.07	13,39,266
30-39	1.12	0.16	0.18	0.09	0.42	0.19	0.07	10,03,821
40-49	1.56	0.16	0.33	0.15	0.63	0.22	0.07	7,33,156
50-59	2.27	0.17	0.57	0.25	0.97	0.23	0.08	4,52,487
60-69	3.57	0.21	1.02	0.43	1.52	0.26	0.13	3,02,765
70-79	5.7	0.25	1.78	0.77	2.43	0.28	0.18	1,54,761
80+	3.35	0.27	0.91	0.41	1.37	0.22	0.16	2,90,258
Total	**1.41**	**0.19**	**0.27**	**0.19**	**0.55**	**0.18**	**0.09**	**7,204,659**

Table A1.32: Prevalence of disability by age group (from HIES, 2010)

Age (in years)	Intensity of disabilities (%)			Total Sample
	Some	Severe	Fully unable	
0-4	0.49	0.3	0.14	5,687
5-9	1.29	0.34	0.16	6,809
10-19	2.04	0.55	0.14	12,109
20-29	2.59	0.47	0.16	9,361
30-39	6.72	0.77	0.11	7,484
40-49	13.35	1.21	0.18	6,047
50-59	20.48	2.6	0.23	3,892
60-69	27.7	5.08	0.54	2,422
70-79	39.65	10.1	0.67	1,188
80+	43.52	18.83	2.94	579
Total	**7.39**	**1.32**	**0.21**	**55, 578**

Abbreviations

ADB	Asian Development Bank
BAAIGM	Bangladesh Association for the Aged and Institute of Geriatric Medicine
BBS	Bangladesh Bureau of Statistics
BWHC	Bangladesh Women's Health Coalition
CC	Cohor Component
GOB	Government of Bangladesh
HMSS	Health and Morbidity Status Survey
HRQoL	Health Related Quality of Life
NGO	Non-Government Organizations
SSA	Singular Spectrum Analysis
SSNP	Social Safety Net Program
UN	United Nations

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Subject: Selection of Expert Panel to Review Population Monographs

The following distinguished persons have been nominated as experts to review the Population Monographs being prepared under Population and housing census-2011 Project of Bangladesh Bureau of Statistics:

Expert Panel for Population Monographs

No	Broad Area	Monographs	Expert Pannel
01	Reproductive Behavior of Population	1. Population Composition: age and sex. 2. Fertility 3.Marriage& Family	Prof.M. Nurul Islam Ex. Professor ,DU Syeda Shahanara Huq, Prof.JNU Dr. Ahmed-Al-Sabbir,USAID Dr.Obidur Rob, Country Director, Population Council, Bangladesh
02	Special Protection Groups	1.Elderly Population 2.Disabled Population 3. Children and Youth 4. Population Density and Vulnerability	Dr.Nazma Ahmed Social Protection Specialist Dr.Sharifa Begum, SRF BIDS Prof. Mahmuda, Khatoon,DU Dr. A.J Faisal Country Representative Engender Health Dr.Eshani Ruwan Pura Programme Specialist UNFPA
03	Household and Housing Characteristics, Education& Literacy	1.Housing Condition 2.Household Facilities 3.Education & Literacy	Prof. Kazi Saleh Ahmed Ex.VC JNU Mr. Abdur Rashid Sikder Former DDG ,BBS Dr. Anwara Begum SRF BIDS
04	Economic and Social Aspects of Population	1.Urbanization 2.Labour Force Participation 3.Characteristics of International Migrant Households 4. Population Distribution and Internal Migration	Mr.Nichole MALPAS, Programme Manager Human and Social Development, Delegation to the European Union to Bangladesh. Prof. Kazi Saleh Ahmed Ex.VC JNU Dr.Sarwar Jahan Prof. Department of URP,BUET Prof. Nurul Islam Najem Dept. of Geography, DU

Terms of Reference:

i) The members of the panel will remain present in the presentation of the monographs and will act as a co-opt member of the Technical Committee;
ii) They will review the draft of the Monographs;
iii) They will provide guidance in improving the draft;
iv) They will get financial benefit as per provision in the AWP of the Population and Housing Census -2011 Project.

12/5/15

Mohammad Abdul Wazed
(Additional Secretary)
Director General

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