PAPERS IN POPULATION AGEING

4

Demographic Change in China:

Ageing of the World's Largest Population

UNFPA China
and Country Technical Services Team
for East and South–East Asia
Bangkok, Thailand

Demographic Change in China: Ageing of the World's Largest Population

UNFPA, the United Nations Population Fund, is an international development agency that promotes the right of every woman, man and child to enjoy a life of health and equal opportunity. UNFPA supports countries in using population data for policies and programmes to reduce poverty and to ensure that every pregnancy is wanted, every birth is safe, every young person is free of HIV/AIDS, and every girl and woman is treated with dignity and respect.

"The issues of ageing must be at the centre of the global development agenda. Today, the elderly are the world's fastest–growing population group, and among the poorest. One person in ten is 60 years or older, but by 2050, the rate will be one person in five. We must meet the needs of the older persons who are alive today and plan ahead to meet the needs of the elderly tomorrow. In the developing world, there are almost 400 million people over age 60, the majority of whom are women, and this figure is expected to rise dramatically in the coming decade".

UNFPA Executive Director Ms. Thoraya Obaid's address to the Second World Assembly on Ageing in Madrid in 2002

Front Cover
Photo Credits: UNFPA Viet Nam and UNFPA Thailand
Cover Design: Thitiporn Winijmongkolsin, UNFPA Thailand

Papers in Population Ageing No. 4

Demographic Change in China:
Ageing of the World's Largest Population

China Research Center on Aging

UNFPA China
and Country Technical Services Team
for East and South-East Asia, Bangkok
December 2007

Acknowledgements

Being entrusted by the Department of International Affairs of the China National Committee on Aging (CNCA) to undertake a situation analysis of population ageing in China as a component of the Papers in Population Ageing series, we have had enthusiastic help and cooperation of many international and domestic leaders, scholars and colleagues. Foremost, we express sincerely our appreciation to Mr. Ghazy Mujahid, Adviser on Population Policies and Development, UNFPA CST-Bangkok for his pioneering work on population ageing in East and South-East Asia for this series and, in particular, for his suggestions and recommendations on this issue. We would like to thank Dr. Bernard Coquelin, UNFPA Representative in China and Ms. Jin Hua of UNFPA Office in Beijing for their support. We are grateful to Mr. Xiao Caiwei, Director of the Department of International Affairs, CNCA; and Ms. Xiao Hongyan and Ms. Zhang Xiaoya in the International Programme Office of CNCA. For the academic collaboration and help, we thank Mr. Wang Dewen, senior researcher in the Population Institute, China Academy of Social Sciences and Chen Gong, Associate Professor in the Population Institute, Peking University. Finally, thanks are due to Ma Fengli, Tao Liqun, Wang Lili and Zhang Qiuxia who have worked hard on finalizing the draft report. Finally, our appreciation to Ms. Duangurai Sukvichai of UNFPA CST-Bangkok who has painstakingly guided the printing of this document.

Zhang Kaiti
Director
China Research Center on Aging

Foreword

This report is the 4th publication in the series titled Papers in Population Ageing initiated by the UNFPA Country Technical Services Team (CST) for East and South-East Asia based in Bangkok. The first covered a sub-regional overview, the second analyzed the implications of rural-urban migration for intergenerational solidarity and the third provided an in-depth analysis of the ageing situation in Indonesia.

This report focuses on the rapid demographic change that has been taking place in China since the last three to four decades and has resulted in an unprecedented increase in the proportion of older persons in the population of the World's most populous country. China is already home to the world's largest population of older persons with those aged 60 years and over now totaling more than 150 million. This number is projected to increase to 430 million by 2050. By that year older persons will account for almost a third of China's population. With improving life expectancy among the older age groups, the average age of China's older population is also increasing and the number of oldest old, that is those, aged 80 years and more is expected to increase from the current 12 million to more than 100 million by 2050. Moreover, women comprise more than 50 per cent of the older population and almost 60 per cent of the oldest old population. Both these dimensions add to the task facing policy makers in addressing the socio-economic consequences of population ageing in China.

The fact that such trends are taking place when China is opening up as a market economy during these times of globalization add to the risk of increasing dependency and impoverishment among the older population as an increasing number of younger persons migrate to urban areas in search of employment. Offsetting the adverse consequences of these trends calls for increased social protection, community involvement and changing mindsets of older persons themselves. This report identifies the several important socio-economic challenges which need to be addressed for effective management of the ageing-related issues and emphasizes the priority that should be given to this rapidly changing demographic situation. The report also shows that the Government of China has been fully aware of the importance of population ageing and initiated action more than two decades ago with participation in the World Assembly on Ageing held in Vienna in 1982. However, given the large numbers involved, the Government needs to step up action to counter challenges that do exist – such as inadequate health and care services and a lack of universal social protection.

The Government of China has been active in dealing with the emerging issues and it is our hope that this report can contribute towards preparing China to address population ageing more effectively. Moreover, given China's size and its experience of more than two decades in dealing with this issue, the report will also be useful for other countries to draw upon in addressing the ageing of their own populations. Of particular interest would be Chinese government's pioneering initiatives in the region such as University of the Third Age (U3A) and the "Silver Age Action". UNFPA is supporting the Chinese Government and civil society with focus on health and active ageing. Guided by the International Conference on Population and Development (1994) and the Madrid International Plan of Action on Ageing (MIPAA) adopted at the Second World Assembly on Ageing in Madrid 2002, the UNFPA Country Office in China is now in its second year of implementing the 6th cycle of cooperation (2006-2010) on ageing, thereby continuing its efforts in this area since the 1980s. UNFPA will continue to support further work in this area.

Many colleagues have provided invaluable inputs and guidance in preparing this report. Mr. Ghazy Mujahid, Adviser on Population Policies and Development in CST Bangkok has been instrumental in providing technical assistance at all stages of the preparation of this report. Ms. Jin Hua of the UNFPA Country Office in China has provided valuable inputs in coordinating the production of this report. Finally, we wish to express our sincere thanks to the team of experts from the China Research Center on Aging for drafting, under the leadership of its Director, Mr. Zhang Kaiti, this very useful report.

Bernard Coquelin
UNFPA Representative,
China

G. Giridhar
Director CST for E & SE Asia
and UNFPA Representative in Thailand

Acronyms

AIDS	Acquired Immune Deficiency Syndrome
AIUTA	Association of Third Age Universities
BSB	Beijing Statistical Bureau
CASS	China Academy of Social Sciences
CAUA	China Association of Universities for the Aged
CBR	Crude Birth Rate
CDR	Crude Death Rate
CICA	Corpus of International Conferences on Aging
CNCA	China National Committee on Aging
CNWCA	China National Working Commission on Aging
CP	Country Programme (UNFPA)
CPC	Communist Party of China
CRCA	China Research Center on Aging
DPF	Department of Planning and Finance
EU	European Union
GDP	Gross Domestic Product
HIV	Human Immuno-Deficiency Virus
HSB	Hubei Statistical Bureau
IPRC	Institute of Population Research (China Academy of Social Sciences)
LDR	Less Developed Regions
MDR	More Developed Regions
MIPAA	Madrid International Plan of Action on Ageing
NSB	National Statistics Bureau
OPCJ	Office for Population Census of Jiangsu Province
SBC	Statistics Bureau of the People's Republic of China
SMRCA	Shanghai Municipality Research Center on Aging
STD	Sexually Transmitted Disease
TFR	Total Fertility Rate
U3A	University of the Third Age
UNDESA	United Nations Department of Economic and Social Affairs
UNFPA	United Nations Population Fund

Contents

Contents *(continued)*

List of Tables

Page

List of Figures

Page

Executive Summary

Introduction

By the end of the 1990s more than 10 per cent of the Chinese population was 60 years or older in age. After entering the 21st century, the ageing process has quickened. At the end of 2005, the number of people aged 60 years or over came close to 0.144 billion, reaching 11 per cent of the total population. The theme of the Population Ageing Series is 'promoting a society for all ages'. As a volume in this series, this study reviews the historic evolution and examines the prospect of population ageing in China, which is the world's most populous country, through 1950-2050.

1. Overview of population ageing in China

Today, China is listed among those countries with an ageing population. Compared with other countries, ageing of the Chinese population is characterized by: (1) large size of the older population: the total number of older persons in China has reached 144 million, which makes China the only country with an older population exceeding 100 million. As the UN estimates, in the first half of the 21st century, China will continue to be the country, which has the most older persons in the world, that is one-fifth of the world's older population; and (2) rapid advances in ageing process: according to the Research Report on Projection of Development Trends in Population Ageing in China, issued by the China National Committee on Ageing in February, 2006, the number of older persons will increase by an average of 6 million per year during 2001-2020 at an annual rate of about 3.3 per cent, well above the 0.8 per cent growth rate of the total population. By 2020, the size of the older population will reach 243 million, with older persons constituting 17.1 per cent of total population. The ageing problem of the Chinese population is not a problem of this country alone, but rather a matter concerning the global progress of population ageing, which, therefore, draws worldwide attention.

2. Determinants and demographic impact of population ageing in China

The development state of the Chinese population has immediate impact on the current status of as well as the future development trends in its ageing. As a result of the grave effects of overly rapid growth of population upon Chinese economy and society, the Chinese Government has regarded control of rapid population growth as a basic state policy. Since the 1970s, the family planning policies delivered by the government have curbed rapid population growth. From 1992, both the birth and death rates have continued to drop in China, and the TFR has stayed below the level of replacement. The crude birth rate fell to 15 per thousand, the crude death rate to 6.4 per thousand and the TFR to 1.8 in 2000, bringing population development into a phase of lower birth rate, lower death rate and lower growth. The changes have resulted in the ongoing changes in the age structure of population. In 1950, the Median Age of Chinese population was 23.9 years, the same as the global level and higher than the values in the less developed regions and Asia. By 2000, the Median Age of population in China had increased 6.1 years to 30 years. The median age will increase more quickly between 2000 and 2050, with another 15 years added reach 45 years, just 0.7 year lower than the Median Age in the more developed regions.

3. Characteristics of older population in China

As the Chinese population ages, the number of the 'oldest' old (age 80 years and above) tends to increase and a trend of feminization is gradually visible in the older population. At

present, there is already a clear sex gap in the older population, with 3 million more older women than men. The difference will widen to 26 million by 2050. Chinese oldest old number about 16 million at present and constitute 11 per cent of the older population. As projected, after some 50-year rapid growth, there will be more than 100 million oldest old by 2050 and will constitute 24 per cent of the older population. The second largest population of the oldest old in 2050 will be about 30 million in USA.

4. Regional differences in population ageing in China

The development of Chinese population ageing shows clear regional differences in the distribution of older population, mostly featured by its stair-like distribution from the east to the west; the rate of ageing has been markedly more rapid in the eastern coastal regions with better developed economy than in the less developed regions in the west. There is a 33-year difference between Shanghai, where the proportion of older population reached 10 per cent in 1979 and Ningxia which will reach this stage in 2012. Moreover, as in other less developed regions, the level of ageing is higher in rural than in urban areas due to the out-migration of younger adults for purposes of education and employment.

5. Social and economic implications of population ageing

The developed countries turned into aged societies after they had generally become modernized; that is turning wealthy before being aged or turning wealthy and aged at the same time. China, in sharp contrast, enters her aged stage before modernization, when the economy is not developed, turning aged before being rich. The per capita GDP of developed countries on entry into aged society was typically 5,000 to 10,000 USD, while it was barely 1,000 USD in China when the population became aged in 2000. China therefore had relatively weak economic strength to cope with ageing. Given such a basic state condition, population ageing in China inevitably comes with new conflicts and pressures, posing new challenges to social and economic development. Pressure is enormous in building a social security system meeting the requirements of the Socialist Market Economy. It is also enormous for quickening appropriate allocation of social resources, increasing service facilities for the old, and improving the old age service network, in the aspect of building a social service mechanism for the old to meet the massive demands of the older population; Pressure is building up for resolving the conflicts of interest between the huge older group and the working age group, in the aspect of management of intergenerational relations and for solving the rural ageing problems, especially problems in the middle and western regions and the former revolutionary and minority groups and remote and poverty-stricken areas. At the same time, the Chinese Government and society also have to adjust the consumption structure, industrial structure, social administration system, etc., to the massive changes in the age structure of population.

6. Positive contribution of older persons to economy and society

The state pays attention to and values the older persons' knowledge, experience and skills, respects their qualities, and takes active efforts to create conditions for them to utilize their advantages, encouraging and supporting older individuals to be involved in community and continue to participate in social development. The Law of The People's Republic of China on Protection of The Rights and Interests of The Elderly has a special chapter on protecting the rights and interests of older persons regarding participating in social development. Programmes and plans on development of old age enterprise issued in China all encourage the older persons to take part in social development, and special policies have been made for taking advantage of the roles of retired older experts and technical professionals. In urban areas, the governments at all levels provide older persons with guidance on participating in such activities as education, training, technical consultation, medical and health care, scientific and technical development

and application, and caring for the younger generation, as needed by the economic, social and scientific and technological development. In rural China, older individuals aged less than 70 are encouraged to participate in growing, husbandry keeping and processing work. According to relevant statistics, 38.7 per cent of the urban older persons have participated in public service activities, and 5.2 per cent continue to work on productive jobs; and 36.4 per cent of the rural older persons are still engaged in agricultural labour. Older persons make significant positive contributions in providing advice to younger persons, in helping with household work and taking care of grandchildren particularly where their adult offspring fall victim to HIV/AIDS.

7. Government policies and programmes

The Chinese Government has always paid great attention to the issue of population ageing. Concern with ageing started in the 1980s and a delegation was commissioned by the Chinese Government to attend the World Assembly on Ageing held in Vienna in 1982. The Chinese Government responded actively to Vienna International Plan of Action on Ageing adopted by the Assembly, and established the China National Committee on Ageing, which plans, coordinates and directs old age work across the country, studies and develops development strategies and major policies on old age enterprise development, coordinates and prompts related authorities to implement old age enterprise development programs, and guides, supervises and inspects local old age practice. The Committee is composed of a Vice-Prime Minister of the State Council as its Chairperson and 26 Vice-Ministers from relevant departments as its members. Old age working committees and administrative bodies have been established at the provincial (province, autonomous region, municipality directly under the Central Government), prefectural (city, prefecture, league), county (county, city at the county level, district), and township and town (subdistrict) levels, while special personnel are assigned for old age work in the village (neighborhood) committees, forming a working network ranging from the central to the local level. A national ageing research institute was founded in 1989, the China Research Center on Ageing.

The state respects and protects the legal rights and interests of older persons, and takes full advantage of legal and moral measures to strengthen the protection and promote its enforcement. The Constitution of People's Republic of China stipulates: 'Citizens of the People's Republic of China have the right to material assistance from the state and society when they are old, ill or disabled'; 'children who have come of age have the duty to support and assist their parents'; and 'Maltreatment of old people, women and children is prohibited'. Many fundamental laws, such as the Law of The People's Republic of China on Protection of The Rights and Interests of The Elderly, the General Principles of the Civil Law, the Law on Succession, the Marriage Law, the Criminal Law, and the Regulations of the People's Republic of China on Administrative Penalties for Public Security all prescribe clearly the rights of older persons and the liabilities for violation. Presently, 30 Chinese provinces (autonomous regions, municipalities directly under the Central Government) have made and enforced special local laws and regulations on protection of the legal rights and interests of the old. Recently, some of the existing laws and regulations are no longer relevant to the changing contexts. Some of the issues newly emerged in socialist market economy are not reflected in existing laws, that necessitates the amendment on the Law of the People's Republic of China on Protection of the Rights and Interests of the Elderly. In 2006, on the 10th anniversary of promulgation of the Law of the People's Republic of China on Protection of the Rights and Interests of the Elderly, with the support from UNFPA, the amendment of the law was formally initiated.

In social life, the State gives full respect and care for the older persons. The Suggestions on Strengthening Preferential Treatment for Older Persons, issued in 2005, provide preferential services and treatments for the older individuals

in such aspects as economic support, medical and health care, life services, cultural and physical recreation, and right protection services. Up to this day, all the provinces (autonomous regions, municipalities directly under the Central Government) have produced preferential policies for the older people, allowing them to enjoy respect and care of community properly.

The Chinese Government has been actively participating in and encouraging international exchange and cooperation in the field of population ageing. The Chinese delegation took part in the both World Assemblies on Ageing, in Vienna in 1982 and in Madrid in 2002 as well as many international and regional events. It also held the Asia-Pacific Seminar on Regional Follow up to the 2nd World Assembly on Ageing and a number of international and regional old age conferences, playing an active part in making and implementing the International Plan of Action on Ageing and the Asia-Pacific Plan of Action on Ageing. It has been committed to multilateral and bilateral international or regional exchange and cooperation efforts, joined 6 international old age organizations, and formed working contacts with old age organizations in more than 90 countries and regions. The Chinese Government has also devoted itself to cooperation projects with the UNFPA, European Union (EU) and the governmental organizations and Non-governmental Organizations (NGOs) in some countries in the areas of old age research, poverty relief and education for the old.

8. Policy recommendations

The Second World Assembly on Ageing in 2002 was aimed at generating awareness among countries, especially in the less developed regions, to start initiating effective strategies and responses to the ageing issue in order to avoid missing strategic opportunities and suffering grave losses. As a developing country, China is faced with various opportunities and challenges brought about by population ageing, and the Chinese Government has included the ageing issue in its overall strategy of national socioeconomic development. Government departments, old age agencies, research institutions, scholars and different walks of society are proposing policy recommendations and ideas on different occasions through all kinds of channels in response to population ageing, which can be generally summarized as follows:

(a) To attach priority to population ageing as an essential state condition of China in the 21st century. China has become and will remain an aged society for a long period. Governments at all levels and sectors concerned, alongside with the whole community, must fully recognize the seriousness of the challenges, develop awareness of population ageing, and enhance the sense of urgency and consciousness for the challenges posed by population ageing and an aged society. In researching and developing socioeconomic development strategies, the basic condition of aged society has to be regarded as a factor that must be taking into account and responses to the challenges should be included in the future development strategies of China. Population ageing and concern for older persons should thus be mainstreamed into development policies and programmes.

(b) To take advantage of the 25-year strategic period to make preparations for an aged society. The coming 25 years from now is a key period for preparing for the aged society, which is also the only strategic window of opportunity open to China, with the 11th Five-Year period the most important. Governments at all levels must fully understand and seize the challenges and opportunities of aged society, include solving of related conflicts and problems in the overall development strategy for constructing a well-off society and Socialist modernization, frame development programmes, improve legal and regulatory codes, adjust social and economic policies, and be well prepared for the aged society. Medium- and long-term strategic plans should be developed in response to the challenges. The current situation should be considered to create and improve an old age working mechanism that meets the

national fact of having the world's largest older population, besides efforts such as policy improvement, increased investment and faster development of old age enterprise.

(c) To build the old age social security systems at a faster pace. Building and improving the old age social security system is a fundamental solution to the increasingly serious problems with old age support and medical care in the aged society. Efforts should be made to widely disseminate the Medical Assistance System for Urban and Rural Individuals in Difficulty, in addition to enhancing the urban Endowment Insurance and Medical Insurance Systems. Given the fashion of constructing a Socialist New Countryside, efforts should be made to complete the rural Five-Guarantee Household System, spread the Novel Rural Cooperative Medical Care System, and develop pilot sites for the Rural Subsistence Security System and the Endowment Insurance System. Before 2030 when the problem of population ageing hits its worst, an old age social security system, which meets China's national conditions and the requirements of the Socialist Market Economy, should be in place in both urban and rural China, to secure proper solution to such problems as support and medical care for urban and rural individuals in their later years.

(d) To develop the ageing industry vigorously. Development of the ageing industry is an essential aspect to respond to the aged society, to satisfy the demands of the vast older population, and to promote harmonious development of economy and society. A plan for development of the old age service industry should be developed, supportive and protective policies for the industry should be implemented, and an administrative mechanism for the industrial development be created. The service industry targeting the old should be developed on the basis of urban and rural communities, and agent organizations and professional workforces be raised to ensure significant progress by 2030. Meanwhile, old age consumption products should be potently researched and developed, and the corresponding market explored.

(e) To enhance prospective and strategic studies of aged society. The challenges posed by the evolving ageing situation are unprecedented. Developing countries, particularly larger ones such as China, have no success stories to learn from regarding how to respond to the aged society before realizing modernization. As a result, studies of the characteristics and rules of aged society must be strengthened, as well as the research of development of old age enterprise with Chinese features. Conditions must be forged for building comprehensive national research institutions, organize research personnel in related disciplines, target population ageing and aged society as key macro strategic subjects of the nation, form key difficult research subjects, and offer scientific references for confronting the critical situation of population ageing.

Introduction

Sustained declines in fertility levels combined with continuous improvements in life expectancy expedited the demographic transition in China and the country is now experiencing a rapid increase in the share of older persons in total population. While this trend, described as population ageing, is emerging across all countries of the world, it is relatively more marked in China due to the more rapid declines in fertility and mortality during the period 1955-1980. The proportion of older persons (defined as those aged 60 years and above) in China's population now exceeds 11 per cent. Given that China is the world's most populous country (with current population estimated at 1.3 billion), this translates into the world's largest older population now estimated to exceed 145 million and constituting more than 20 per cent of the World's older population. This world's largest conglomeration of older persons is also growing at a rapid rate and is projected to triple by 2050 to an estimated 434 million, comprising more than 30 per cent of China's total population.

By 2050, therefore, nearly one in every three Chinese will be aged 60 years and over compared to about one in ten at present. Women constitute and will continue to constitute a majority of the older population. It is projected that life expectancy will improve further and hence an increasing proportion of older persons will live longer but experience extended periods of disability. At the same time, with declining family size and increasing out-migration resulting from globalization of the economy, an increasing proportion of older persons will be left without family support and caregivers. As such the changing demographic scenario, dominated by population ageing, will give rise to diverse socio-economic issues. Appropriate policies and programmes will need to be put in place to address these issues to ensure sustainable development, maintain progress towards achieving the Millennium Development Goals particularly the alleviation of poverty and maintaining overall stability in the country.

To provide a basis for the formulation of effective policies, this paper reviews the progress of population ageing in China since 1950 and how the situation is expected to evolve through to 2050. It analyses the demographics of ageing, identifies the characteristics of the older population and highlights regional variations in the extent of population ageing within the country. It describes the likely impact of the changing demographics on China's economy and social structure, particularly the quality of life of the elderly. The paper reviews Government activities in the area of ageing and provides recommendations for further actions.

The paper is divided into eight sections. Section 1 provides an overview of population ageing in China. Section 2 examines the determinants of population and the demographic impact of the changing age structure of the population. Section 3 describes the characteristic features of the older population, highlighting ageing of the older population and the predominance of females in the older population as well as rural-urban differences in the extent of ageing. While Sections 1 to 3 focus at the national level, an analysis at the sub-national level bringing out variations in the 27 provinces (including 5 autonomous regions) and 4 municipalities is presented in Section 4. Section 5 reviews the socio-economic implications of population ageing. Section 6 brings out the positive contribution older persons can and do make to the family and society as well as to national development. Section 7 discusses major activities of the Chinese Government in improving the understanding of and addressing issues related to ageing. This section also reviews international cooperation in the area of ageing. Policy recommendations are summarized in Section 8.

Section 1: Overview of Population Ageing in China

The proportion of older persons in China's population now exceeds 11 per cent compared to 7 per cent in 1950. This increase reflects more rapid ageing of the population compared to the average trends during the same period for the World, MDRs (more developed regions), LDRs (less developed regions) and Asia.[1] This Section reviews the past trends and the projected ageing situation through to 2050 showing that the pace of population ageing in China is set to increase in years to come and the discrepancy between the rapidity of ageing in China and the average for the World, MDRs and LDRs will widen further.

1.1 Population ageing, 1950-2000

In 1950, there were an estimated 40 million older persons in China constituting 7 per cent of the total population. This proportion had increased to 10.5 per cent by the turn of the century.[2] However, the increase was not evenly spread during the last half of the century. This is brought out in Table 1 which summarizes data from five national population censuses conducted between 1953 and 2000.

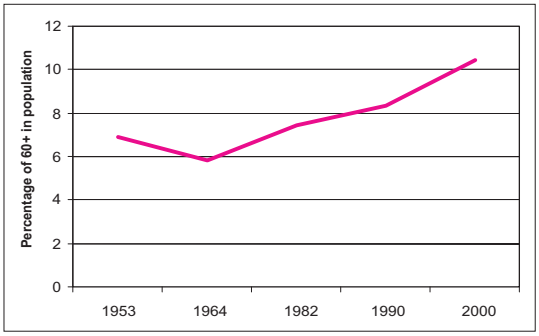
Table 1: China's older population, 1950-2000

Census year	Population (millions)	Older population (millions)	Older persons as % of total population
1953	601.9	41.5	6.9
1964	723.1	42.3	5.8
1982	1,031.9	76.6	7.4
1990	1,160.0	97.0	8.4
2000	1,242.6	130.0	10.5

Sources: NSB (1985); NSB (1993); and NSB (2002)

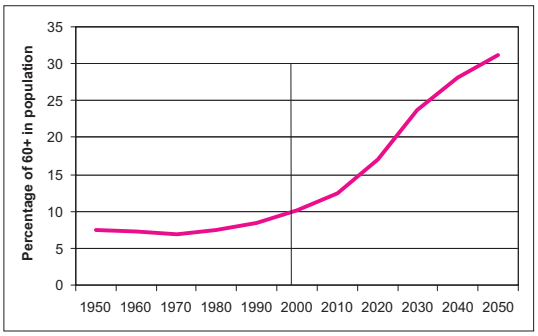
While the proportion of older population had increased by 1.5 percentage points during the first four decades (1950-1990) to only 8.4 per cent until 1990, during the last decade of the 20th century (1990s) the increase was 2.1 percentage points. In absolute terms this meant that the older population increased by 33 million during the last decade of the previous century as compared to 55 million over the preceding four decades. Declining fertility rates and improvements in life expectancy had started to have their impact on the rate of growth of the older population. Figure 1 brings out the increasing trend in ageing during the five decades up to 2000.

Figure 1: Population ageing in China, 1950-2000



Sources: NSB (1985); NSB (1993); and NSB (2002)

Figure 2: Trends in population ageing in China, 1950-2050



Source: Annex I, Table A–1

The population of older persons is projected to continue increasing at a much faster rate than the average for the total population and it is estimated that by 2050 older persons will constitute 31.5 per cent of the total population.[3]

1.2 Trends in population ageing, 1950-2050

As highlighted in the Introduction, ageing of Chinese population has been the result of declines in fertility rate which set in during the 1970s. The older population started to increase gradually from 1982, and by 2000 constituted 10.5 per cent of the total population. The pace of Chinese population ageing has been exceptionally rapid and much faster than was experienced by the MDRs in reaching the same levels. For example, in most countries of the MDRs, the proportion of population aged 65 years and over doubled from 7 to 14 per cent over a period of several decades, in some cases even more than a century.[4] In China this change will take place within a much shorter span of 26 years. In addition, factors such as impact of the dual rural-urban economic system, gap in population ageing between rural and urban areas, the reality of 'becoming old before getting rich', and an increasing proportion of the oldest old will also feature prominently in China's ageing scenario.

Figures 2 shows the trends in population ageing from 1950 to 2050 bringing out the sharp increase in ageing during 2000-2050 compared to 1950-2000.

The trends in ageing can be roughly divided into three phases:

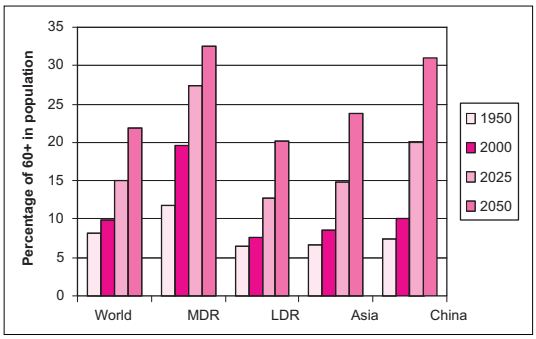
(a) 1980-2000: Gradual increase in population ageing: the proportion of working age population started to increase at a high rate. Since the share of the child population fell rapidly, this phase was characterized by a decrease in the overall dependency ratio, despite an increase in the old-age dependency ratio.

(b) 2000-2025: Population ageing advances faster: the proportion of older persons in total population is undergoing a dramatic increase from 10.5 per cent in 2000 to 20.0 per cent in 2025, exceeding the World average but remaining far below the average for the MDRs. In the process, the overall dependency ratio is projected to rise, as the old age dependency ratio starts to rise, more than offsetting the continuing decline in the child dependency ratio.

(c) 2025-2050: The pace of ageing accelerates further: The share of older population reaches 31.1 per cent in 2050 and the extent of ageing becomes more markedly higher than the average of the LDRs and reaches almost the average of the MDRs.

Figure 3 depicts the changing ageing situation in China relative to the World and regional averages over these three phases.

Figure 3: Global trends in population ageing, 1950-2050



Source: Annex I, Tables A–1 and A–2

1.3 Ageing in China and selected countries

It is noteworthy that while China's population is set to age very rapidly, the pace will still be slower than that projected for the newly emerging Asian industrial countries – Singapore and the Republic of Korea. Table 2 brings out a comparison of ageing in China and selected developed and developing countries during 1950-2050.

The table shows that in 2000 the level of ageing was lower in China relative to that in the developed countries such as the USA, Spain and Japan. However, by 2050 China will overtake USA and the difference with Spain, and to a much lesser extent Japan, will narrow. In Singapore and the Republic of Korea, the proportion of older population was lower than in China but by 2000 it had reached more or less the same level in the three countries. However, during the period 2000-2050, population ageing in the Republic of Korea and Singapore is expected to proceed more rapidly and, by 2050, the proportion of older population will reach 42.2 per cent in the former and 39.8 per cent the latter, well above China's 31.1 per cent. Compared to India (the world's second most populous country) the extent of population ageing in China will proceed much faster and the difference of 3 percentage points will widen to 10.9 percentage points.

Table 2: Population ageing in China and selected countries, 1950-2050

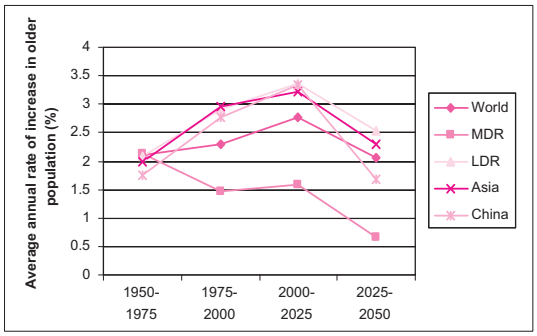
Year	China	Japan	USA	Singapore	Republic of Korea	Spain	India
	(percentage of older persons in population)						
1950	7.5	7.7	12.5	3.7	5.4	10.9	5.4
1960	7.2	8.9	13.3	3.7	5.3	12.3	5.2
1970	6.8	10.6	14.1	5.7	5.4	14.2	5.5
1980	7.4	12.9	15.6	7.2	6.0	15.5	5.8
1990	8.4	17.4	16.5	8.4	7.7	19.0	6.3
2000	10.1	23.3	16.1	10.5	11.4	21.6	7.1
2010	12.5	30.3	18.0	16.0	16.0	22.7	8.0
2020	17.1	34.3	22.0	26.4	23.1	25.8	10.2
2030	23.8	37.7	24.8	35.4	31.2	31.6	12.9
2040	28.1	42.4	25.6	38.3	38.1	37.8	16.2
2050	31.1	44.0	26.8	39.8	42.2	39.0	20.2

Source: UNDESA (2007a)

1.4 Growth of older population

Figure 4 shows a comparison of the rate of increase in China's older population with the average rates for the World, MDRs, LDRs and Asia for the four twenty-five year periods during 1950-2050.

Figure 4: Growth of older population, 1950-2050



Source: Annex I, Table A–2

The rate of increase in China's older population during 1950-1975 at 1.8 per cent per annum was lower than the average for the World, MDRs, LDRs and Asia. During 1975-2000, it rose to 2.8 per cent per annum, that is roughly the same level of Asia and the LDRs but well above the World average and the average for the MDRs. The rate of increase is projected at 3.3 per cent per annum during 2000-2025, slightly lower than the average for the LDRs. As a result of this high rate China's population of older persons will reach 290 million by 2025, comprising more than 20 per cent of the total Chinese population. The rate of increase in China's older population is projected to drop to 1.7 per cent during 2025-2050, that is remaining higher only than the average rate of increase in the older population of the MDRs. This is explained by the large size of the older population which China would have achieved by the base year 2025.

The trends in the rates of increase in China's older population shown in Figure 4 show that the rate is highest during the current period 2000-2025. This emphasizes the immediate need for enhanced policy measures to address the issues relating to the increasing older population at this unprecedented rate. By introducing adequate measures during the current period, the Government would be in a better position to take care of an older population increasing at almost half the rate during 2025-2050.

Section 2: Determinants and Demographic Impact of Population Ageing in China

The emergence of population ageing and the projected surge in it described in Section 1 can be understood in the context of the demographic transition that has occurred in China during the period. Demographic transition involves a gradual change from a situation of high fertility and mortality levels to that of low fertility and mortality levels. The increasing proportion of older persons in total population is an outcome of declining fertility and mortality. Declining fertility leads to a reduction in the size of the lower age groups, while decreased mortality manifesting itself in longer life expectancy means that a larger number of persons reach old age and continue to live for an increasing number of years. This results in the increasing share of older persons in total population.

2.1 Demographic transition in China

In China, the conventional process of population transition has been completed. That is, the transformation from a situation of a traditional society characterized by high birth rates, high mortality rates and low rates of population growth, through the one of high birth rates, low mortality rates and high rates of population growth to the situation of a modern society characterized by low birth rates, low mortality rates and low rates of population growth (Table 3).

Table 3: The demographic transition in China, 1949-2000

Year	CBR (per 000)	CDR (per 000)	Natural rate of growth (%)	TFR
1949	36.0	20.0	1.6	6.1
1960	20.9	25.4	(–)0.5	4.0
1965	37.9	9.5	2.8	6.1
1971	30.7	7.3	2.3	5.4
1972	29.8	7.6	2.2	5.0
1980	18.2	6.3	1.2	2.2
1981	20.9	6.4	1.5	2.6
1982	21.1	6.6	1.5	2.9
1983	18.6	7.1	1.2	2.4
1984	17.5	6.7	1.1	2.4
1991	19.7	6.7	1.3	2.2
1992	18.2	6.6	1.2	2.2
1998	16.0	6.5	1.0	1.8
1999	15.2	6.5	0.9	1.8
2000	15.0	6.4	0.9	1.8

Source: Annex I, Table A–5

From Table 3, it is clear that the progress of the population transition can be divided into four phases:

(a) Pre-1949: High birth rate/high mortality rate/low population growth rate

Before the founding of the People's Republic, China experienced the phase of high birth and mortality rates resulting in low rates of population growth. During the 100 years up to 1949, the Chinese population increased at an annual growth rate of only 0.23 per cent[5] and the absolute increase was only 113.3 million.

(b) 1949-1971: High birth rate/low mortality rate/high population growth rate

Following the founding of the People's Republic, the national economy experienced speedy recovery and development. Substantial improvements were made in medical care and the birth rate rose resulting in the first post-1949 baby boom and a rapid increase in population. After three years of exceptionally high mortality and low birth rates caused by natural disasters in the late 1950s and early 1960s, there came a period of complementary fertility in 1962, and the crude birth rate (CBR) peaked at 37 per thousand in 1965 which was the second baby boom. The CBR remained above 30 per thousand until 1971 and the total fertility rate (TFR) at over 5, with exceptions in some years (such as 1960). The crude death rate (CDR) declined from 20 to 7.3 per thousand and the natural rate of population growth rate remained over 2.3 per cent during most years.

(c) 1972-1991: Phase of rapidly declining fertility

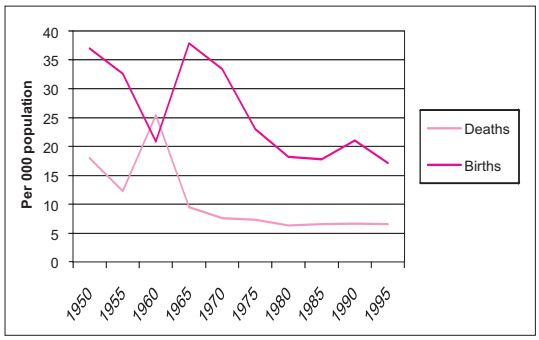
In 1972 a new family planning policy was introduced and implemented by the Government and fertility levels started to decline rapidly. The CBR came down from 30.7 per thousand in 1971 to 17.5 per thousand in 1984 and the TFR more than halved from 5.4 to 2.4. The CDR declined further to 6.7 per thousand. However, as a result of the momentum of population reproduction, there was a third baby boom in the 1980s and in some years the CBR exceeded 21 per thousand and the TFR went above 2.5. The TFR peaked at 2.9 in 1982.

(d) 1992-present: Low birth rate/low mortality rate/low population growth

Since 1992, both birth and mortality rates have been falling and the TFR has remained below the replacement level. By the turn of the century, the TFR had fallen to 1.8, the CBR had declined to 15 per thousand and the CDR to 6.4 per thousand. After 1998, the annual rate of population growth had fallen to below 1 per cent.

Figure 5 depicts the four phases described above.

Figure 5: Demographic transition in China



Source: Annex I, Table A–5

2.2 Determinants of population ageing in China

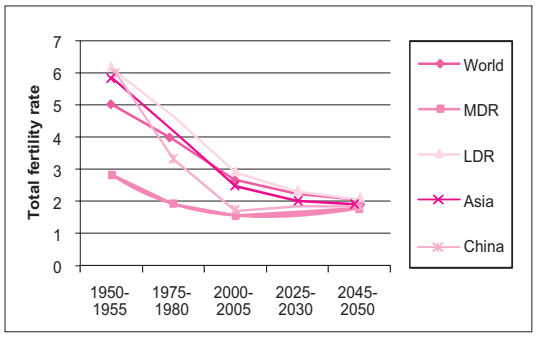
The rapid rate of ageing of China's population during the last ten years and the projected acceleration in it during the next four decades is explained by falling fertility levels and improvements in life expectancy.

2.2.1 Fertility decline

The downward trend in fertility levels in China started in the mid-1960s and accelerated following the introduction of the family planning programme in 1971. Except for the upward

fluctuations, as described above in the discussion of the demographic transition, the trend has been downward. The CBR declined from 43.4 per thousand in 1963 to 29.8 per thousand by 1972. The TFR fell from 7.5 to 5.0. Following the introduction of the Family Planning Policy, the CBR dived to 17.8 per thousand and the TFR to 2.8 by the end of the 1970s. Since then the fertility level has continued to decline and stabilized at below replacement level, with a TFR of 1.8. Figure 6 shows that the pre-2000 decline in China's fertility rate has been much steeper than the averages for the World, MDRs, LDRs and Asia.

Figure 6: Global trends in fertility, 1950-2050



Source: Annex I, Table A–3

A very modest increase in fertility levels is projected during the period 2000-2050. According to United Nations estimates TFR has now reached 1.7 and will increase and stablilize at 1.9.[6] However, this increase is not expected to reverse the declining trend in the annual number of births. As can be seen from Figure 7, the average annual number of births has been declining since the mid-1960s. The average annual number of births has declined from 28.8 million during 1965-1970 to the current of 17.5 million. After a slight increase to an annual average of 18 million during the 2010-2020 (as the baby boomers of the mid-1980s enter their reproductive period) the annual average number of births will decline continuously reaching 14.5 million by 2045-2050. This means that additions to the child population will become smaller and smaller.

Figure 7: Trend in births in China, 1950-2050

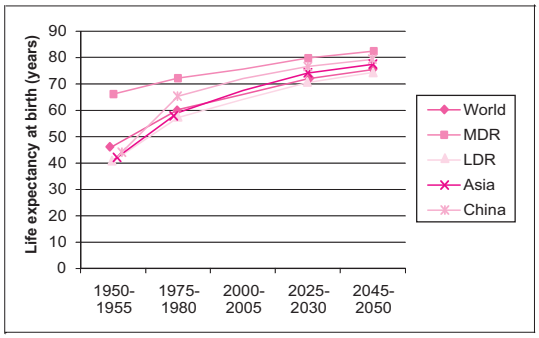
Source: Annex I, Table A–6

2.2.2 Mortality decline

Following the foundation of the People's Republic, the Government undertook to improve medical facilities as a result a of which a dramatic decline in mortality rates took place and by the mid-1960s the CDR had come down to around 8 per thousand from 20 per thousand before 1950. A further decline, though smaller given the limitations to further improvements in life expectancy, took place during the 1970s with the CDR declining to around 6 per thousand, at which low level it has remained to this day. As such there has been a sustained decline in mortality levels since 1949, barring some bounce-backs during certain historic periods such as the 'three years of natural disasters' around 1960.

Falling mortality rates are reflected in improvements in life expectancy. Life expectancy at birth is the average number of years a newborn is expected to live assuming that the age-specific mortality rates at the time of birth were to continue. As mortality rates decline, the chances of survival improve and life expectancy increases. Figure 8 shows the trends in life expectancy at birth of the Chinese population during 1950-2050 and how these compare with the trends in the averages for the MDRs, LDRs and Asia.

Figure 8: Global trends in life expectancy, 1995-2050

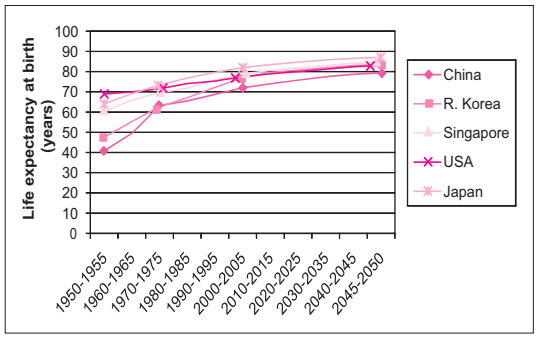


Source: Annex I, Table A–3

It can be seen that during 1950-1975, life expectancy increased most rapidly in China. From an average of 41.0 years during 1950-1955 it went up to 63.2 during 1970-1975, an improvement of more than 22 years. By the year 2000 it had crossed the 70-year mark. This means that China was able to narrow the gap between its life expectancy and the average for the MDRs from 25 years in 1950 to only 4 years by 2000. Further improvements are projected to be modest with life expectancy expected to reach 79.3 years by 2050.

Figure 9 shows how the trends in life expectancy of the Chinese population compare with those in the high longevity countries – USA, Japan, the Republic of Korea and Singapore.

Figure 9: Life expectancy in China and selected countries, 1950-2050



Source: Annex I, Table A–4

The comparison confirms that improvements in life expectancy in China during 1950-1975 were indeed spectacular and outstripped those in the other four countries. From the lowest among the five countries and well below the level of USA in 1950, China had closed the gap considerably by 1975. Though still the lowest and projected to remain so, the gap between life expectancy in China and the other four countries has continuously narrowed and will continue to do so.

Improvements in life expectancy result in increasing survival ratios which impact on the size of the population in the older cohorts. The survival ratio to a particular age is the percentage of newborn babies expected to survive to that particular age assuming that the age-specific mortality rates at the time of birth were to continue. Table 4 summarizes information on survival ratios to age 60 years as also life expectancy at age 60 years.

The figures show that survival ratios are projected to increase. Hence an increasing proportion of the population will reach age 60 years. Moreover, the average number of years a person reaching age 60 years is expected to live after reaching age 60 years is also projected to increase. This means that the higher percentage of population which will reach age 60 years will also survive for a longer period in the old age cohorts thus adding to the size of the population aged 60 years and over.

The proportion of older persons in total population thus increases as a result of additions to the child population becoming smaller over time due to declining fertility and additions to population in the older age groups becoming larger as more and more people survive to age 60 years and live longer in the 60+ cohorts due to improving life expectancy.

Table 4: Survival ratios to and life expectancy at old age

	Survival rate to age 60 years (%)			Life expectancy at age 60 (years)		
	2005-10	2025-30	2045-50	2000-05	2025-30	2045-50
World	74.1	79.8	84.9	19.6	21.2	22.4
MDRs	86.2	90.1	92.9	21.6	23.0	25.0
LDRs	72.1	78.4	83.9	16.4	17.8	19.3
Asia	78.9	84.7	89.4	18.9	20.7	22.1
China	85.3	87.1	91.4	19.3	20.8	22.4

Source: UNDESA (2007b)

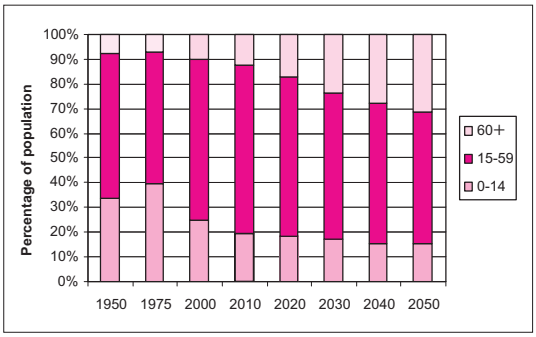
2.3 Demographic impact of population ageing in China

As population ages, the age structure of the population shifts towards higher age groups. The shifting balance between the younger and older cohorts results in changes in key demographic indictors such as the dependency ratio and the potential and parent support ratios. These changes have socio-economic implications which policy makers need to take into account.

2.3.1 Age structure

In 1953, China's first Population Census showed that population aged 0-14 years constituted 36.3 per cent of the total population while older persons accounted for 7.3 per cent. The Chinese population could therefore be described as a typically "young" population. With falling fertility and mortality levels, the age structure been shifting in favour of the older cohorts and will continue to do so.

Figure 10: Age structure of China's population, 1950-2050



Source: Annex I, Table A–1

As shown in Figure 10, the share of youngest cohorts, 0-14 years, has declined from almost one third to less than a quarter. By 2050 it is projected to decline to 15 per cent. The share of the working age population (15-59 years) has been increasing since 1975. It will continue to do so until 2010, after which it will begin to decline as the sustained declines in the number of births begin to impact on that group. The older population will continue to increase and comprise 31 per cent of the total population in 2050.

The real dimension of the phenomenon of population ageing is brought out by looking at what these structural shifts mean in absolute terms. Table 5 shows that the increase in the older population is projected to constitute an increasing proportion of the increase in total population.

Figures presented in Table 5 show that, while the *increase* in total population has been declining and will continue to do so, increments to the older population have continued to increase. In fact from 2030 there will be an absolute decline in the Chinese population. While the decline, that is negative *increments*, has already started in the population aged 0-14 years, population aged 15-59 years will start declining from 2030. It is only additions to the older population that will continue to increase until 2040, after which there will be a decline as falling number of births since the 1980s begins to impact on population above 60 years. However, from 2010, increments in older population will exceed the increase in

total population. From 2020 it is only the older population that will increase while population aged less than 60 years will continue to decline. Also, during 2040-2050, though the *increment* to the older population will be smaller than during the previous decade, it will still remain positive.[7]

Table 5: Changes in China's population by broad age groups, 1950-2050

Period	Increments in population (000)				Increase as a percentage of increase in total population		
	Total	0-14	15-59	60+	0-14	15-59	60+
1950–1975	373.0	180.6	170.0	22.4	48.4	45.6	6.0
1975–2000	342.2	–50.3	328.2	64.2	–14.7	95.9	18.8
2000–2010	81.6	–51.3	92.2	40.7	–62.9	113.1	49.9
2010–2020	69.7	–4.8	0.5	74.1	–6.9	0.7	106.2
2020–2030	35.7	–7.8	–60.6	104.1	–21.8	–169.7	291.5
2030–2040	–8.6	–26.4	–42.1	59.9	–306.3	–489.4	695.7
2040–2050	–39.5	–10.4	–60.3	31.2	–26.3	–152.6	8.9

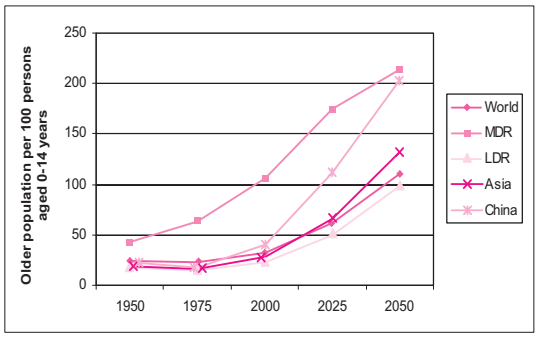
Source: Annex I, Table A–1

2.3.2 Ageing index

The changing balance between the child and older population is reflected in the ageing index. This index is calculated as the number of older persons per 100 persons aged below 15 years. With population ageing, as the population of older persons relative to that of younger persons increases, the ageing index rises. In 2050, the ageing index for the World Population will cross the 100 mark, that is there will be more older persons in the World than children aged 0-14 years. China is projected to reach this stage in 2022.

Figure 11 compares trends in the ageing index in China with averages for the World, MDRs, LDRs and Asia.

Figure 11: Global trends in ageing index, 1950-2050



Source: Annex I, Table A–3

This brings out the distinct difference in the trend between 1950-2000 and 2000-2050. The ageing index in China was 22 in 1950, slightly below the world average. It almost doubled to 40 by 2000 exceeding the world average. Throughout the period it remained above the averages for LDRs and Asia but well below the average for MDRs. It is projected to go up significantly crossing 100 in 2022 and 200 by 2050. That is, in 2050 the number of older persons in China will be twice the number of those aged below 15 years. This will be almost twice the ageing index for the World Population and very close to the average for the MDRs (China: 203; MDRs 214). The trends in the ageing index of China bring out the drastic changes that are projected to occur in the degree of ageing and age structure of the population between now and 2050.

Table 6 summarizes the figures for the ageing index from 1950 to 2050 in some selected countries.

Table 6: Ageing index in China and selected countries, 1950-2050

Year	China	Japan	USA	Singapore	Republic of Korea	Spain	India
	(older persons per 100 persons aged less than 15 years)						
1950	22.3	21.7	46.3	9.2	13.1	40.4	14.4
1960	18.6	29.3	43.0	8.6	12.6	45.0	12.9
1970	17.2	44.3	49.7	14.7	12.9	50.9	13.4
1980	20.8	54.6	69.6	26.7	17.6	59.6	14.8
1990	30.4	94.6	75.7	39.3	29.8	95.5	16.7
2000	40.3	158.9	74.8	48.5	54.9	146.0	20.2
2010	63.7	226.9	89.6	102.8	100.6	152.4	26.0
2020	93.6	293.9	113.2	219.4	180.9	172.1	38.2
2030	137.8	347.5	136.5	273.6	263.5	242.7	56.3
2040	179.8	380.4	146.4	317.7	354.7	285.3	82.0
2050	203.3	390.4	155.1	358.1	405.4	272.0	111.1

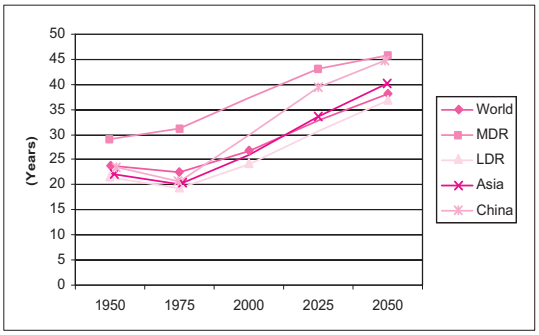
Source: UNDESA (2007a)

The Chinese ageing index has been relatively higher than that of India and the gap will widen by 2050. It is currently well below the ageing index in USA but will overtake it in 2030. However, China's ageing index is much lower than the ageing index in some developed and high life expectancy countries, such as Japan and Spain, which crossed the 100 mark in the early 1990s. The gap between China and Japan is expected to widen by 2050 but that between China and Spain will narrow. The ageing index was at similar levels in China, the Republic of Korea and Singapore until 2000. However, in both those countries the ageing index is projected to cross the 100 mark by 2010 and continue a much faster upward trend. By 2050, China's ageing index will have reached 203, well below 358 in Singapore and 405 in the Republic of Korea.

2.3.3 Median age

The median age is the age that divides the population into two equal parts, one with ages below the median age and the other with ages above the median age. The median age of the population rises as the age structure shifts towards older age groups. Figure 12 shows the past and projected trend in the median age of China's population.

Figure 12: Global trends in median age, 1950-2050



Source: Annex I, Table A–3

The median age of Chinese population tends to decrease first before it starts to rise In China the median age was 23.9 years in 1950, the same as the World average, higher than the average for LDRs and Asia, but lower than the average for the MDRs. Except in the MDRs, the median age dropped slightly throughout the world between 1950-1975. It went up after that reaching a higher level by 2000 than in 1975. China's median age in 2000 was 30 years, lower only than the average of 37.4 years for the MDRs. It is projected to increase by 50 per cent and reach 45 years by 2050, less than a year below the MDRs average of 45.7 years.

A comparison of China's median age with that of selected developed and high longevity countries shows the same trend as the ageing index. Table 7 provides a comparison of the median age:

Table 7: Median age in China and selected countries

Year	Median age (years)						
	China	Japan	USA	Singapore	Republic of Korea	Spain	India
1950	23.9	22.3	30.0	20.0	19.1	27.7	21.3
1975	20.6	30.4	28.8	21.9	19.9	30.3	19.7
2000	30.0	41.3	35.3	34.5	32.0	37.6	22.7
2025	39.4	50.5	38.3	47.2	45.8	46.8	29.9
2050	45.0	54.9	41.1	53.7	54.9	49.5	38.6

Source: UNDESA (2007a)

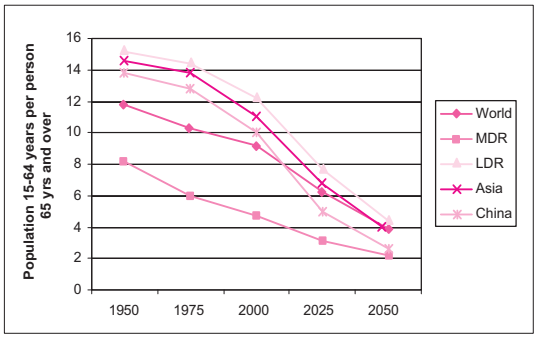
In 2000, China's median age was lower than that of USA, Spain, Japan, the Republic of Korea and Singapore but higher than that of India. By 2050, China's median age (45 years) will exceed that of USA (41 years) and India (41 years) but will remain lower than that of Spain, the Republic of Korea and Singapore.

2.3.4 Potential support ratio

As the age structure of the population shifts towards older age groups, the ratio of the older population to working age population tends to increase. This can be seen from the trend in the potential support ratio, which is defined as the number of persons of working ages (15-64 years) per person aged 65 years and over. It is the inverse of the old-age dependency ratio and is a more direct indicator of the changes in support available for an ageing population. The ratio is not based on the conventional definition of older persons (60 years and over) but 65 years and over. This is because a large proportion of the population aged 60-64 years, particularly in the LDRs, is engaged in income earning activities. The ratio shows how many persons of working ages are available to provide support for one person aged 65 years and over.

Figure 13 brings out the decline in the potential support ratio in China and how it compares with the average declines in the World, MDRs and LDRs.

Figure 13: Global trends in potential support ratio, 1950-2050



Source: Annex I, Table A–3

The potential support ratio in China remained above the average for the World and the MDRs and declined slowly from about 14 in 1950 to 10 in 2000. During 2000-2050 the Chinese potential support will decline steeply falling to 2.6, that is, to almost one-fourth of its level in 2000. The decline will be more marked compared to the averages for the World, MDRs, LDRs and Asia. China's potential support ratio will start falling below the World average after 2010 and by 2050 it will have fallen to one-third below the World average. This decline highlights the rapidity of population ageing in China during the first half of this century and its implications in terms of the shrinking support basis for the increasing older population.

While China will face a rapid decline in the potential support ratio, the potential support ratio will still remain higher than in some developed countries as well as in the Republic of Korea and Singapore. Table 8 provides a comparison of the trends in the potential ratio in China and some selected countries.

Table 8: Potential support ratio in China and selected countries, 1950-2050

Year	China	Japan	USA	Singapore	Republic of Korea	Spain	India
	(population 15-64 years/population 65 years and over)						
1950	13.8	12.0	7.8	24.3	18.2	9.0	18.9
1960	11.6	11.2	6.5	26.3	16.4	7.8	18.7
1970	13.0	9.8	6.3	17.2	16.6	6.4	17.2
1980	12.6	7.5	5.9	14.5	16.3	5.6	15.9
1990	12.3	5.8	5.4	13.0	13.8	4.9	14.8
2000	10.0	4.0	5.4	10.0	9.8	4.1	13.2
2010	8.6	2.9	5.3	7.3	6.4	3.9	12.0
2020	5.8	2.1	4.1	4.0	4.6	3.4	9.9
2030	4.1	1.9	3.2	2.2	2.8	2.6	7.7
2040	2.8	1.5	3.0	1.7	1.9	1.9	6.1
2050	2.6	1.4	2.9	1.7	1.6	1.6	4.7

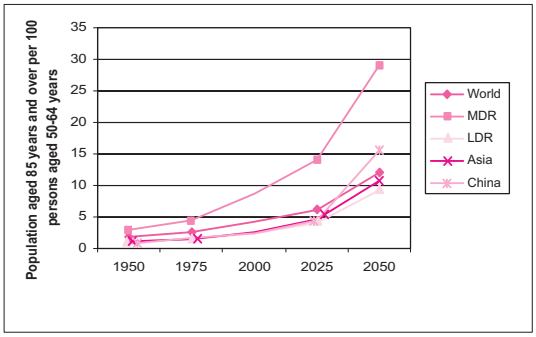
Source: UNDESA (2007a)

In 1950, the potential ratio in China was higher than in the developed countries – Japan, Spain and USA. – but far lower than in India, Republic of Korea and Singapore. During 1950-2000, as a result of more rapid ageing, the Republic of Korea and Singapore experienced much more rapid declines in the potential support ratio than China, and by 2000 the potential support ratio came down to the same level. However, in India the potential support remained higher than in China. During 2000-2050, the decline in the ratio in China will be very rapid but that in the Republic of Korea and Singapore will be even greater. In 2050 it is projected that China's potential support ratio will be higher than of Japan, Republic of Korea, Singapore and Japan. However, it will remain lower than that of India. Moreover, during the late 2030s, the potential support ratio in China will begin to fall below that of USA.

2.3.5 Parent support ratio

Another indicator of the support base available for the older persons is the parent support ratio. This is defined as the ratio of persons aged 85 years and over to the population aged 50-64 years expressed as a percentage. It indicates the availability of support for those aged 85 years and more from their hypothetical offspring, that is, persons born 20 to 35 years before them. Figure 14 compares the increase in this ratio in China compared to the average World trend and that in MDRs, LDRs and Asia.

Figure 14: Global trends in parent support ratio, 1950-2050



Source: Annex I, Table A-3

At present, about 100 persons aged 50-64 years are available to provide care to an average of less than 3 Chinese aged 85 years or more. By 2025, the number of 85+ to be supported by 100 persons aged 50-64 years will increase to just over 4 and then drastically to exceed 15 in 2050. The parent support ratio in China has always been and will remain lower than that in the MDRs. Moreover, it has been and will remain below the average for the World and for Asia until 2025 but after that will increase at a much faster rate and exceed all averages except that for MDRs.

Trends in all indicators show that the process of population ageing is progressing at a much faster rate than during the second half of the 20th century. It is this unprecedented magnitude of the issue that adds to its gravity.

Section 3: Characteristics of the Older Population in China

The population transition in China was completed within a relatively short period of time and has resulted in rapid ageing of the population. As discussed in Section 2, the older population is projected to increase rapidly both in absolute terms and as a proportion of the total population. In addition to the rapid increase in the size and proportion of the older population, it is important to highlight three distinct features of this growing segment which are relevant for the formulation of appropriate policies. These are:

(1) the older population is also ageing, that is the proportion of the "oldest old" population (defined as those aged 80 years and over) has been increasing;

(2) the proportion of females is higher among the older population; and

(3) the proportion of older persons is higher in the rural than in the urban population.

3.1 Ageing of the older population

The proportion of the oldest old in China's older population was less than 4 per cent in 1950 and has increased to its current level of about 10 per cent. It is expected to increase to 12 per cent by 2030 and then by 2050 the proportion will double to nearly 24 per cent. The number of oldest old in China, currently estimated at about 12 million, is projected to increase to 32.8 million by 2025 and 103.0 million by 2050. The increasing numbers of the oldest old can be explained by continuing improvements in the health status of older persons and their improving life expectancy. Table 9 summarizes information on the older population's improving longevity during the next five decades.

Table 9: Survival rates to and life expectancy at age 80

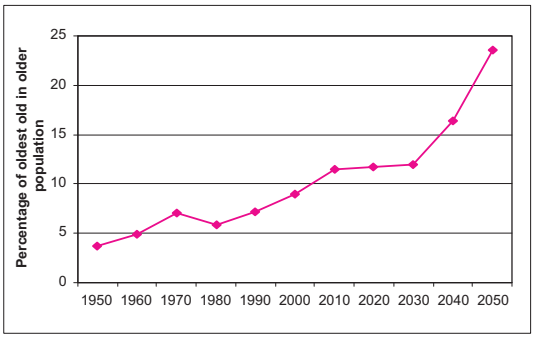
	2005-2010	2025-2030	2045-2050
Survival rate to age 80 (%)	39.9	47.8	56.1
Life expectancy at age 80 (years)	6.8	7.7	8.6

Source: UNDESA (2007b)

At present, 40 per cent of all newborn Chinese babies can be expected to reach age 80 years. This survival rate is projected to improve to 48 per cent by 2030 and to 56 per cent by 2050. This means that chances of survival to age 80 years will gradually increase. Moreover, while those who reach the age of 80 years today are expected to live on average another 6.8 years, this life expectancy is increasing gradually and will be 8.6 years by 2050. This shows that an increasing percentage of population can be expected to reach age 80 years and on average survive longer in the oldest old cohorts, thus adding to the numbers of the oldest old.

It is noteworthy that China's older population is projected to age gradually until 2030 and then rapidly during the following two decades.

Figure 15: Ageing of China's older population, 1950-2050



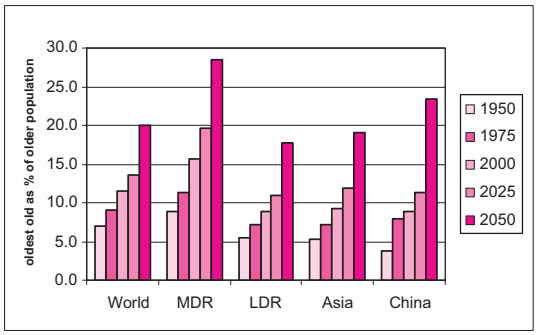
Source: Annex I, Table A–1

As shown in Figure 15, the increase in the proportion of the oldest old in older population will be gradual until 2030. The proportion of the oldest old population, currently estimated at about 10 per cent is projected to increase to 12 per cent by 2030 and then more rapidly to nearly 24 per cent by 2050. The enormity of the difference in trends becomes evident when this is translated into absolute terms. During 1950-2000, additions to China's oldest old population totaled 9.8 million. The additions are projected at 21 million during 2000-2025. The number of oldest old China will increase by 70 million during 2025-2050, that is, an increment within 25 years of more than twice the total additions during the preceding 75 years. By 2050, the population of the oldest old in China will exceed 100 million. The second largest conglomeration of the oldest old in the World in 2050 will be about 30 million in USA.[8]

Figure 16 shows how the process of ageing of China's older population compares with that of the average trends in the World, MDRs, LDRs and Asia.

The continuing increase in the proportion of the oldest old in older population is a characteristic trend in the World population and in all regions. In 1950, the oldest old comprised only 7 per cent of the World's older population. The proportion had exceeded 10 per cent by 2000 and is projected to increase to 20 per cent by 2050. The proportion of the oldest old in China's older population has remained lower than the World average and is projected to remain lower than the World average and that for Asia until 2025-2030. Given the rapid increase in China's oldest old population during 2025-2050, the proportion of the oldest old in China's older population will exceed the average for the World, LDRs and Asia. It will be lower only than the average for the MDRs, but the gap will have narrowed. As a result of more rapid ageing, China's population of the oldest old as a proportion of the World's oldest old population will increase from about 16.3 per cent to 25.6 per cent by 2050. By 2050, more than 40 per cent of Asia's population of the oldest old will be in China.

Figure 16: Global trends in ageing of older population, 1950-2050

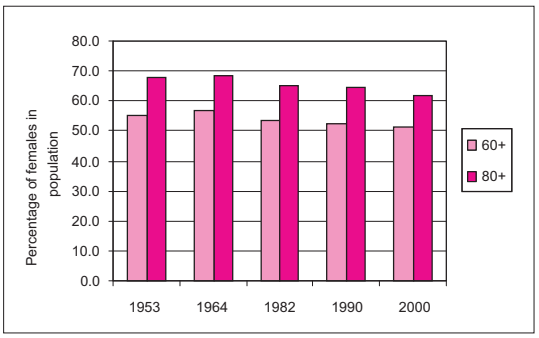


Source: Annex I, Tables A–1 and A–2

3.2 Feminization of ageing

The sex ratio, defined as the number of men in relation to 100 women at a given point in time, is found to be more than 100 in total population in almost all countries. This means the proportion of males in total population is more than 50 per cent. However, barring rare exceptions, the proportion of women is found to be higher in the older population. This is also the case in China as brought out in Figure 17 which summarizes the picture from the five Population Censuses undertaken between 1953 and 2000.

Figure 17: Feminization of ageing in China, 1950-2050



Sources: NSB (1985); NSB (1993); and NSB (2002)

Women constitute a majority of the older population in China and, even more so of the oldest population. The proportion of females in the total older and oldest population has declined but has remained more than 50 per cent among the older and 60 per cent among the oldest old population.

Women will continue to constitute a majority of China's older population and even a greater majority of the oldest old population. It is estimated that in 2050, women will constitute 53 per cent of the older population and 60 per cent of the oldest old population in China. The explanation of feminization of ageing lies in the higher female survival ratios and life expectancy.

As brought out by Figures in Table 10, life expectancy at birth, at age 60 years and at age 80 years are all consistently higher for women. Similarly the survival rates of females are higher than of males. That is a higher proportion of women are expected to reach age 60 and 80 years and live on average for a longer duration than men. The gender differences in survival rates to age 80 are wider than in survival rates to age 60. This explains the higher proportion of females in the oldest old population than in the older population.

Table 10: Life expectancy and survival rates for Chinese men and women

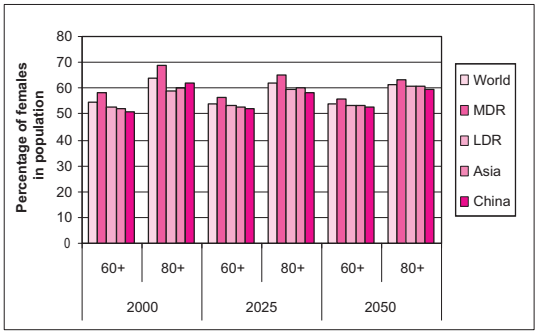
		2005-2010	2025-2030	2045-2050
Life expectancy at birth (years)	M	70.8	73.0	76.6
	F	74.6	77.7	80.9
Survival rate to age 60 (%)	M	83.3	84.9	90.0
	F	87.6	89.6	92.8
Life expectancy at age 60 (years)	M	17.3	19.0	20.5
	F	16.7	18.5	20.0
Survival rate to age 80 (%)	M	32.8	40.1	48.7
	F	47.8	56.1	63.6
Life expectancy at age 80 (years)	M	7.5	8.6	9.6
	F	6.0	6.7	7.4

Source: UNDESA (2007b)

3.2.1 Feminization of ageing: a global phenomenon

Figure 18 brings out the global trends in feminization of the older and oldest old populations:

Figure 18: Global trends in feminization of ageing, 1950-2050



Source: Annex I, Tables A–1 and A–2

The proportion of women in the World's older population has been more than 54 per cent since 1950 and is projected to remain so until 2050, though with a small decline from 54.8 to 54.1 per cent. The proportion of women in older population has been higher in the MDRs than in the LDRs. However, while a declining trend is projected in the MDRs during 2000-2050, the proportion of women in the older population of the LDRs will increase gradually from 52.6 to 53.6 per cent. In China, the proportion of women in older population declined during 1950-2000 but has remained more than 50 per cent. It is expected to increase gradually from an estimated 51.1 per cent to 53.0 per cent in 2050 but will remain lower than the average for the World, MDRs, LDRs and Asia.

As brought out in Figure 18, the higher degree of feminization of the oldest old population, and to a greater extent than that of the older population, is also a global phenomenon. Throughout the World, and more so in the MDRs, women constitute more than 60 per cent of the oldest old. The proportion was the highest, at 68.9 per cent, in 2000 in the MDRs. Female share is slightly lower in the oldest old populations of the LDRs. In China, women constituted nearly 70 per cent of the oldest old population in 1950. However, it declined and is projected to be around 60 per cent in 2050.

3.2.2 Greater vulnerability of older women

What makes feminization of older women relevant for policy makers is the greater vulnerability of older women as compared to that of older men. Factors which contribute to women's greater vulnerability are the greater likelihood of their being single due to widowhood, their lower levels of literacy and educational attainment, and lower rates of economic activity resulting in greater financial insecurity.

3.2.2.1 Higher proportion of older women are single

In China, more older women than older men are single, that is, they have either never been married or are divorced or widowed. Table 11 shows the marital status of older men and women in China in 1990 and 2000.

Table 11: Percentage distribution of China's older population by marital status

		Never married		Currently married		Divorced		Widowed	
		1990	2000	1990	2000	1990	2000	1990	2000
60+	Male	2.5	3.2	72.6	77.4	1.3	1.0	23.6	18.5
	Female	0.3	0.2	47.7	57.8	0.4	0.4	51.7	41.7
80+	Male	2.1	1.6	40.5	48.0	0.6	0.7	56.9	49.8
	Female	0.4	0.3	9.2	18.2	0.1	0.4	90.4	81.1

Sources: NSB (1993); and NSB (2002)

Marriage among Chinese women is more universal than among Chinese men and the proportion of "never married" is much lower among women than men. However, the proportion of those currently married, that is having a spouse, is much higher among older men than older women. In both 1990 and 2000 the Census reported the proportion of currently married as being much lower for older women than older men. The proportion of widowed was much higher among older women.

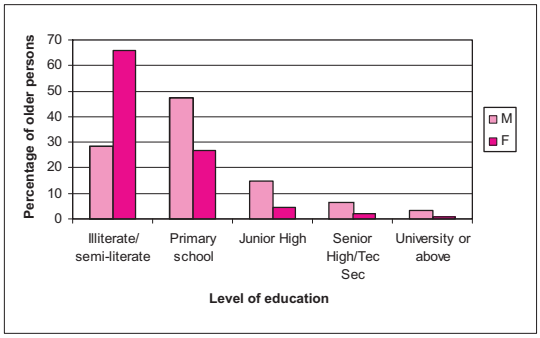
Among the oldest old population, the proportion of women who are single, especially those widowed, increases dramatically. The proportion is higher than both the rate of single oldest old men and the proportion of single and widowed women aged 60 years and over. In 1990, 90.9 per cent of the oldest old women were single, compared to 59.5 per cent of their male counterparts. The proportions were found to be 81.8 and 52.0 per cent respectively in 2000. The high proportion of the oldest old women who had lost their spouses explain the continued high proportion of single oldest old women.

The differences in the marital status of older men and women can be explained by the higher female life expectancy. Women live longer and, since the husband is usually older, the proportion of widowed women is further increased. Moreover, women are usually at a greater disadvantage in remarriage, leading to a lower remarriage rate. However, as shown in Table 11, the proportion of widows among older women, as well as among the oldest old, declined between 1990 and 2000. This could be the result of improved survival rates and average life expectancy of older men as well as a higher rate of remarriage among older women.

3.2.2.2 Lower literacy and educational attainment of older women

The much lower levels of educational attainment of older women compared to older men in China is depicted in Figure 19.

Figure 19: Distribution of older Chinese males and females by level of education, 2000



Source: Annex I, Table A–7

Nearly two-thirds (65.7 per cent) of older women were literate/semi-literate in 2000, compared to only 28.4 per cent of older men. The proportion of those who have been to primary school, junior high, senior high/technical secondary school, college or attained a higher education is higher for older men than older women. Education is not only a means to empowerment, it also improves the chances of getting employment and thereby an independent source of income.

3.2.2.3 Lower participation of older women in economic activities

Labour force participation rates of older women are much lower than of older men. As shown in Table 12, in 1990, the participation rate was 14.1 per cent for older women compared to 44.1 per cent for older men. In 2000, despite a narrowing of the gender gap in participation rates, the rate was still much lower for older women than older men: 23.7 compared to 42.7 per cent.

On the whole, the participation rates of older persons, both males and females, are higher in the countryside than in the cities. In 2000, the participation rate for older women was 31.9 per cent in the countryside compared to 12.4 per cent in towns and only 5.7 per cent in cities. Given the different mechanisms of old age security in urban and rural areas, urban older women are provided with retirement pension and endowment payments at a rate commonly higher than their rural counterparts. Stable life sources of most urban women result in less need for economic participation. In contrast, few older women in

rural China have steady, adequate sources of retirement pension or endowment payment. They mostly depend on their children for life sources. Thus as long as physically able, gainfully engaging themselves in economic activities is the only option for many rural older women.

Table 12: Labour force participation of older persons in China

	1990		2000	
	Male	Female	Male	Female
	(economically active persons as % of total population)			
CHINA	**44.1**	**14.1**	**42.7**	**23.7**
City	18.7	4.2	14.8	5.7
Town	26.3	6.2	27.4	12.4
County	49.9	16.3	54.9	31.9

Source: NSB (1992); and NSB (2002)

3.3 Rural-urban differences in population ageing

In most countries, the proportion of older persons is found to be higher among the rural population. In China, too, according to the 2000 Census, the proportion of older persons in population was 10.9 per cent in the rural areas and 9.7 in the urban areas.[9] This pattern prevails despite the fact that in rural areas both fertility and mortality rates are higher and as a result the rural population should be relatively younger. The explanation of a higher degree of ageing in the rural population lies in the dual economic system of urban and rural China that has led to certain gaps between the urban and rural areas in economic growth and social development.

In the process of ageing, due to a quicker population transition in the urban areas, the urban population started to age earlier than the rural population. However, the degree of ageing of the rural population then began to surpass the urban population. Table 13 summarizes information on the age structure of the population in the urban and rural areas as given by the Censuses of 1982, 1990 and 2000.

Table 13: Percentage distribution of population by age group and residence

Age group	City			Town			Township		
	1982	1990	2000	1982	1990	2000	1982	1990	2000
0–14	26.0	23.9	16.6	28.3	28.7	21.7	35.4	29.6	25.5
15–59	66.6	67.4	73.4	65.2	62.9	69.3	56.9	61.8	63.6
60+	7.4	8.7	10.1	6.5	8.4	9.0	7.8	8.6	10.9

Sources: NSB (1985); NSB (1992); and NSB (2002)

The rural-urban gap in degree of population ageing has widened over the years. This is explained by increasing out-migration from the rural areas for education or employment. Most of the migrants are young or middle-aged. The much higher proportion of those aged 15-59 years in the City and Town reflects this pattern of internal migration. The proportion of working age population (15-59) is 73.4 per cent in City, 69.3 per cent in Town and only 63.6 per cent in Township. The pattern of immigration injects the urban areas with younger blood, while most of the rural older people choose to 'be left behind' in their homes, resulting in a continuingly increasing proportion of older persons in the rural population.

Section 4: Regional Differences in Population Ageing in China

China is administratively divided into 27 provinces and 4 municipalities directly under the Central Government.[10] These can be broadly grouped into three regions – Eastern, Central and Western Regions – based on their individual economic development levels and geographic positions. The Eastern Region is backed by the mainland, faces the sea, and has an advantageous geographic position with abundant resources, where the industrial and agricultural foundations are strong and solid. Economic development has been the fastest in this region which includes 3 municipalities (Beijing, Shanghai and Tianjin) and 8 provinces: Fujian, Guandong, Hainan, Hebei, Jiangsu, Liaoning, Shandong and Zhejiang. The Central Region is located inland with many plains, supplies most of China's food, and has a preferable basis of heavy industry. Its rate of economic development is second to that of the Eastern Region. The Central Region includes 8 provinces: Anhui, Heilongjiang, Henan, Hubei, Hunan, Jiangxi, Jilin and Shanxi. The Western Region is higher in altitude with varying geographical features, including highlands, basins, deserts and grasslands. Most of the region is not suited for agriculture because of the low temperatures and a shortage of water supply. The level of economic development has been much below that achieved in the Eastern and Central Regions. The Western Region includes 1 municipality (Chongquing) and 11 provinces: Gansu, Guangxi, Guizhou, Inner Mongolia, Ningxia, Qinghai, Shaanxi, Sichuan, Tibet, Xinjiang and Yunnan.

4.1 Regional variations in population ageing

As economic development has a bearing on the process of population ageing, there are pronounced regional differences in the extent of population ageing. With faster economic and social development, population in some provinces and cities, such as those in the Eastern Region, started to age earlier and at a faster pace than some provinces and cities in the Central and Western Regions where the pace of economic development was slower. However, as in the case of the changing rural-urban balance, population migration and mobility have also had an impact on the regional changes in the population age structure. With increasing progress towards a market economy and urbanization, large numbers of young adults began migrating from the Central and Western Regions to the Eastern Region resulting in an acceleration in the process of population ageing in some less developed provinces and areas.

Data in Table 14 show the extent of population ageing in China's provinces and municipalities as shown by the Population Census in 2000. To bring out the differences the areas are arranged in descending order of the percentage of older persons in their population.

The proportion of older population exceeded 10 per cent in 14 provinces and municipalities, of which 8 were in the Eastern Region and 3 each in the Central and Western Regions. In 3 municipalities and 2 provinces, all in the Eastern Region, the proportion of older persons in the population exceeded 12 per cent.

Table 14: Percentage of older population by provinces/municipalities, 2000

Province/municipality	Region	% older persons	Province/municipality	Region	% older persons
Shanghai	Eastern	15.0	Fujian	Eastern	9.6
Jiangsu	Eastern	12.6	Hubei	Central	9.5
Beijing	Eastern	12.5	Shanxi	Central	9.5
Zhejiang	Eastern	12.3	Jilin	Central	9.4
Tianjin	Eastern	12.1	Guizhou	Western	9.4
Chongqing	Western	11.9	Jiangxi	Central	9.4
Liaoning	Eastern	11.6	Yunnan	Western	9.2
Shandong	Eastern	11.6	Heilongjiang	Central	9.0
Sichuan	Western	11.4	Inner Mongolia	Western	8.9
Hunan	Central	11.2	Guangdong	Eastern	8.8
Anhui	Central	11.0	Gansu	Western	8.7
Guangxi	Western	10.7	Xinjiang	Western	7.8
Hebei	Eastern	10.3	Qinghai	Western	7.6
Henan	Central	10.2	Tibet	Western	7.5
Hainan	Eastern	9.9	Ningxia	Western	7.3
Shaanxi	Western	9.6	**CHINA**		**10.5**

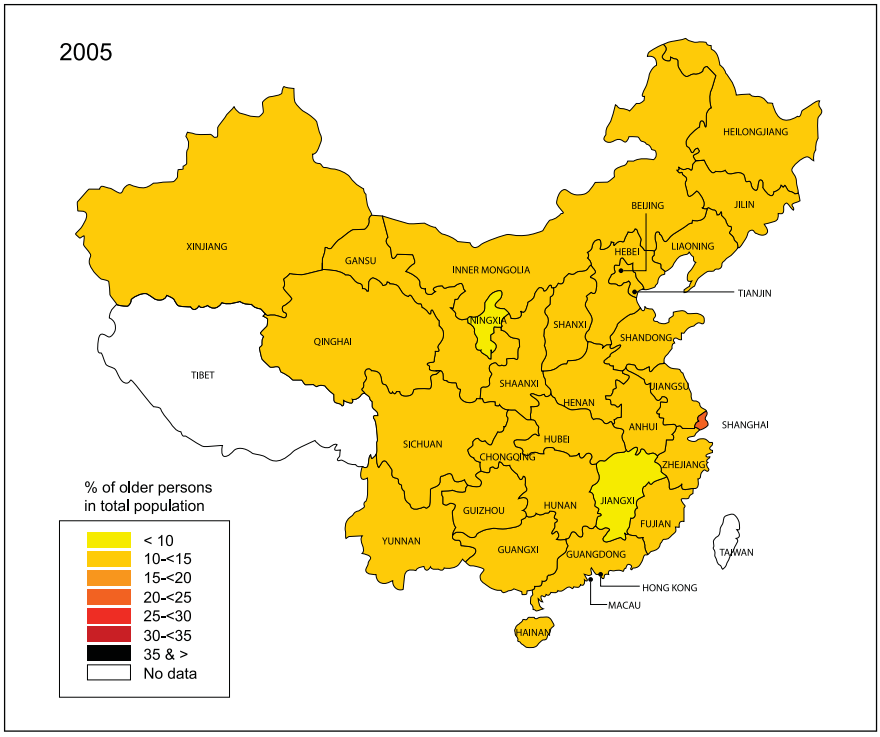
Source: NSB (2002)

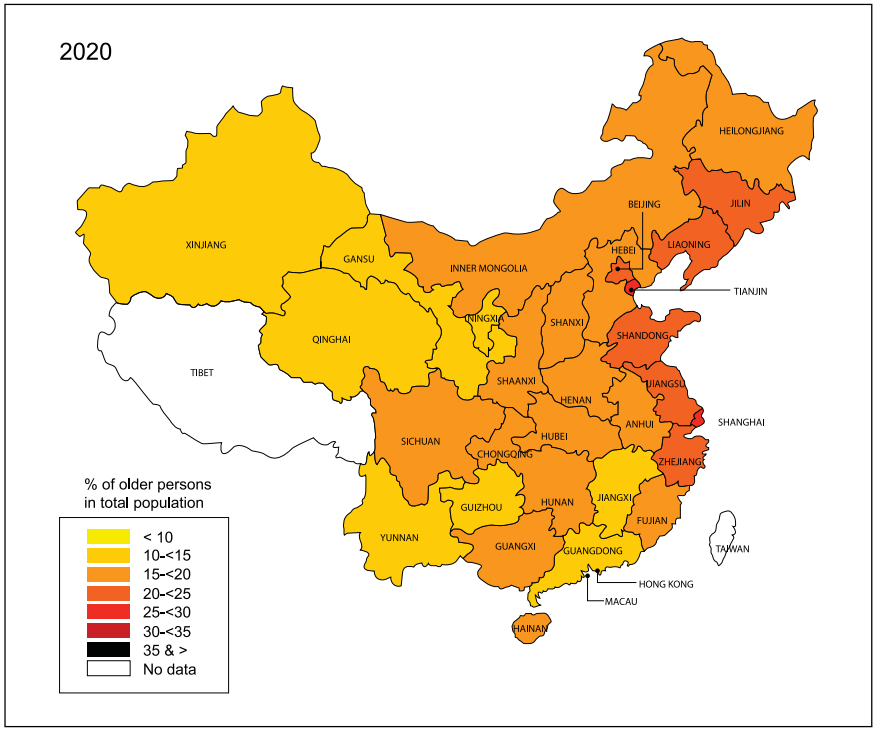
Among the regions, the Eastern Region has the highest proportion of older persons in total population and China's five most "aged" provinces/ municipalities are in the Eastern Region. The least aged is the Western Region and China's five least "aged" provinces are in this Region. Of China's 31 provinces and municipalities, the proportion of older persons in total population is highest in Shanghai. As early as in the late 1970s, the proportion of older persons aged 60 years and over crossed the 10 per cent mark in Shanghai. In 1982, the proportion increased to 11.5 per cent and to 14.2 per cent by 1990. Excluding municipalities, the proportion of older persons was the highest in Jiangsu Province, being 12.6 per cent in 2000. The proportion of older population in Jiangsu Province had already exceeded 10 per cent in 1990. The population in the Western Region is the least aged, where the proportion of older persons is less than 9 per cent in 6 provinces. In 2000, Ningxia and Tibet had the lowest proportion of older persons at respectively 7.3 and 7.5 per cent.

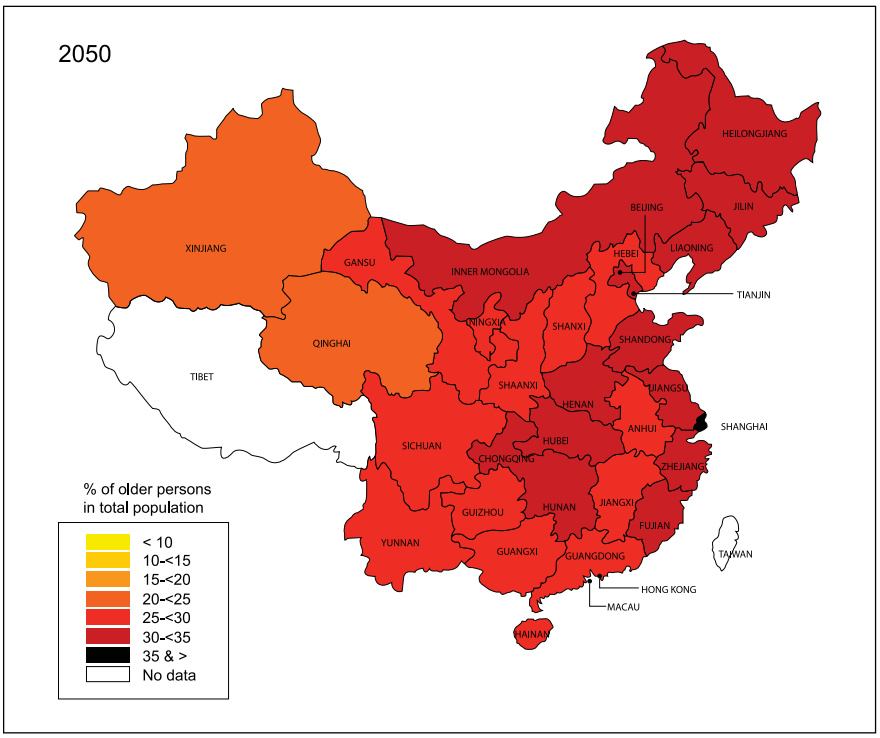
4.1.1 Regional variations in the trend of ageing

Population in Shanghai Municipality has been the fastest in ageing and the proportion of older persons reached 10 per cent in 1979. During the first half of the 1990s, another two municipalities (Beijing and Tianjin) and two provinces (Jiangsu and Zheijang) crossed the 10 per cent mark. All these are in the Eastern Region. As shown in Table 14, by 2000, the proportion of older persons in the fourth municipality (Chongqing) and another 8 provinces reached 10 per cent. By the end of 2004, that is within the following 5 years, the proportion of older persons in the population of another 7 provinces reached 10 per cent. As such by 2005, in 4 municipalities and 17 provinces, that is in the majority of China's 31 areas, the proportion of older persons in population exceeded 10 per cent. Most of the "aged" populations are in the Eastern and large part of the Central Region. In the majority of the

Spread of population ageing across China, 2005-2050







Source: Based on data from CNCA (2006)

provinces in the Western Region, the proportion of older persons is less than 10 per cent. In Shanghai the proportion of older persons in population had increased to 18.5 per cent by 2005. This is higher than the current estimates of 13.5 and 14.6 per cent respectively for Singapore and the Republic of Korea.[11]

Table 15 presents data on the annual growth rate of older population in China's provinces and municipalities during 1990-2000.

As a result of administrative re-structuring in 1997, the four cities of Chongqing, Fuling, Wanxian and Qianjiang were taken out of Sichuan Province to form Chongqing Municipality. Instead of calculating the rate of increase for Chongqing, its population in 2000 is added to that of Sichuan to estimate the growth rate for Sichuan Province. Figures show that in three provinces the annual rate of increase in the older population exceeded 4.5 per cent. These were all in the Western Region and the high rate could be explained by the smaller base figure in 1990 as well as the impact of relatively later improvements in life expectancy. In contrast, the annual rate of increase in older population was only 2.7 per cent in Shanghai. This could be explained by the earlier start of the process of ageing which meant a higher base figure as well as limited room for further improvements in life expectancy during the 1990s. Nevertheless, it is noteworthy that six of the eight provinces with the lowest proportion of older population have the highest rates of increase in the size of this population. The progress of ageing will therefore be uneven across the provinces as can be seen from the maps showing the changing geographical pattern of population ageing during 2005-2050.

Table 15: Annual rate of increase in older population in provinces/municipalities, 1990-2000

Province/municipality	% rate of increase	Province/municipality	% rate ofincrease
Shanghai	2.7	Fujian	3.1
Jiangsu	3.0	Hubei	2.3
Beijing	4.5	Shanxi	3.1
Zhejiang	2.8	Jilin	3.5
Tianjin	2.8	Guizhou	3.8
Chongqing	–	Jiangxi	2.6
Liaoning	3.2	Yunnan	3.2
Shandong	2.8	Heilongjiang	4.0
Sichuan	3.1	Inner Mongolia	4.1
Hunan	3.1	Guangdong	2.9
Anhui	3.1	Gansu	4.7
Guangxi	3.2	Xinjiang	4.4
Hebei	2.3	Qinghai	4.9
Henan	2.1	Tibet	1.8
Hainan	3.3	Ningxia	4.8
Shaanxi	3.1		

Source: NSB (1992); and NSB (2002)

4.2 Changes in age structure

4.2.1 Ageing index

Variations between Provinces in changes in the age structure have followed more or less the same pattern as the differences in the extent of population ageing. Table 16 shows the ageing index in the 31 Provinces and Municipalities.

In 1990, the ageing index of Chinese population was 31 with above average levels in 8 provinces and municipalities of which 7 were in the Eastern Region and 1 in the Western Region. The ageing index was highest in Shanghai followed by the two other municipalities – Beijing and Tianjin as the second and third highest. By 2000, the national ageing index rose to 45.7 as the degree of population ageing continued to advance. The ageing index went up in all provinces and municipalities, and in 11 it rose above the national average. Of these 7 were in the Eastern Region and 3 and 1 respectively in Central and Western Regions. In Shanghai, the ageing index was highest at 122 in 2000. This means that in Shanghai the older population outnumbered the population below 15 years around 1995-1996. As pointed out in Section 2.3.2, China's ageing index will reach 100 around 2022 which implies that Shanghai is 25 years ahead of the national average. In fact, in 2000 the ageing index in Shanghai exceeded the average for the MDRs which was 107.

Table 16: Ageing index in provinces and municipalities

Province/municipality	Ageing index		Province/municipality	Ageing index	
	1990	2000		1990	2000
Shanghai	77.8	122.2	Fujian	25.5	41.5
Jiangsu	43.1	64.3	Hubei	29.3	41.6
Beijing	50.2	92.3	Shanxi	29.5	36.8
Zhejiang	44.6	68.4	Jilin	27.7	49.6
Tianjin	45.0	71.8	Guizhou	21.6	31.1
Chongqing	–	–	Jiangxi	24.3	36.1
Liaoning	38.7	65.8	Yunnan	24.2	35.3
Shandong	35.4	55.7	Heilongjiang	23.6	47.7
Sichuan	38.6	51.5	Inner Mongolia	22.6	41.8
Hunan	30.8	50.6	Guangdong	30.0	36.4
Anhui	30.2	43.2	Gansu	22.1	32.3
Guangxi	24.3	40.8	Xinjiang	18.9	28.8
Hebei	29.3	41.6	Qinghai	16.7	28.4
Henan	30.0	39.3	Tibet	20.8	23.9
Hainan	24.8	35.9	Ningxia	15.9	25.7
Shaanxi	26.5	38.5	**CHINA**	**31.0**	**45.7**

Sources: NSB (1992); and NSB (2002)

4.2.2 Potential support ratio

Variations in the potential support ratio between provinces in 1990 and 2000 can be seen from Table 17.

In 1990, the average potential support ratio in China was 12. That is there were on average 12 persons of working age population (15-64 years) to support each person aged 65 years. In 11 provinces and municipalities, the ratio was lower than the national average, with Shanghai having the lowest ratio at 7.7. The provinces with the highest potential support ratios were concentrated in the Western Region. Five provinces in this region had ratios above 16 with Qinghai's 21.6 being the highest. By 2000, the average national potential support ratio had fallen to 9.9. It fell in all provinces and municipalities and in 2000, 13 provinces and municipalities had ratios below the national average. Shanghai remained as the one having the lowest potential support ratio and the highest ratios were concentrated in the Western Region.

Table 17: Potential support ratio in provinces/municipalities

Province/municipality	Ratio		Province/municipality	Ratio	
	1990	2000		1990	2000
Shanghai	7.7	6.7	Fujian	12.5	10.5
Jiangsu	10.2	8.1	Hubei	12.0	11.0
Beijing	11.6	9.3	Shanxi	12.3	10.7
Zhejiang	10.2	8.2	Jilin	15.3	12.4
Tianjin	11.0	8.9	Guizhou	13.6	10.7
Chongqing	–	–	Jiangxi	12.4	10.8
Liaoning	12.5	9.4	Yunnan	13.0	11.2
Shandong	10.8	8.7	Heilongjiang	18.4	13.6
Sichuan	12.5	9.1	Inner Mongolia	16.9	13.3
Hunan	11.9	9.4	Guangdong	10.8	11.3
Anhui	12.3	8.8	Gansu	16.7	13.0
Guangxi	11.3	9.1	Xinjiang	16.1	14.6
Hebei	12.0	11.0	Qinghai	21.6	15.0
Henan	11.1	9.4	Tibet	12.9	13.5
Hainan	11.4	9.8	Ningxia	17.9	15.0
Shaanxi	12.8	11.2	**CHINA**	**12.0**	**9.9**

Sources: NSB (1992); and NSB (2002)

4.3 Characteristics of the older population

The older population in all provinces and municipalities is characterized by the three distinct features identified at the national level: ageing of the older population; feminization of ageing; and the higher degree of ageing in the rural areas.

4.3.1 Ageing of the older population

In almost all provinces and municipalities, the older population is ageing. Table 18 shows the proportion of the oldest old in the older population in 1990 and 2000.

In 1990, the proportion of the oldest old in China's older population was 7.9 per cent. In 14 provinces and municipalities, the proportion was above the national average. Out of these 10 were in the Eastern Region and 3 in the Western and 1 in the Central Regions. The proportion was highest at 10.6 per cent in Hainan province in the Eastern Region. By 2000, the proportion of oldest old in China's older population had increased to 9.2 per cent. In Beijing, Guizhou, Liaoning and Xinjiang the proportion of oldest old in the older populaton declined while it increased in all the other provinces and municipalities. In only 9 provinces and municipalities the proportion was above the national average. Of these 7 were in the Eastern Region and 1 each in the Central and Western Regions. The pattern of change indicates that the process of ageing of the older population was uneven and some provinces and municipalities contributed more to the increase in the national average. Shanghai which ranked 6th in terms of proportion of the oldest old in the older population in 1990 ranked highest in 2000.

Table 18: Ageing of the older population in provinces/municipalities

Province/municipality	80+ as % of 60+		Province/municipality	80+ as % of 60+	
	1990	2000		1990	2000
Shanghai	9.1	12.2	Fujian	7.9	10.3
Jiangsu	8.8	10.7	Hubei	5.9	7.9
Beijing	8.4	7.8	Shanxi	6.3	7.3
Zhejiang	9.2	10.4	Jilin	6.9	7.3
Tianjin	8.1	8.8	Guizhou	8.3	8.2
Chongqing	–	–	Jiangxi	6.7	8.8
Liaoning	8.7	8.6	Yunnan	6.9	8.2
Shandong	8.7	10.2	Heilongjiang	6.2	6.1
Sichuan	7.5	9.2	Inner Mongolia	5.5	5.7
Hunan	7.2	8.6	Guangdong	10.4	11.5
Anhui	6.4	8.8	Gansu	5.1	5.9
Guangxi	10.4	11.2	Xinjiang	9.5	8.5
Hebei	8.1	8.6	Qinghai	5.0	5.3
Henan	8.3	10.2	Tibet	6.5	7.0
Hainan	10.6	10.8	Ningxia	6.4	7.0
Shaanxi	5.7	7.7	**CHINA**	**7.9**	**9.2**

Sources: NSB (1992); and NSB (2002)

Table 19: Annual percentage growth rate of population 80+ in provinces/municipalities, 1990-2000

Province/municipality	Rate of increase	Province/municipality	Rate of increase
Shanghai	5.7	Fujian	5.8
Jiangsu	5.0	Hubei	5.4
Beijing	3.7	Shanxi	3.9
Zhejiang	4.1	Jilin	4.0
Tianjin	3.6	Guizhou	3.7
Chongqing	–	Jiangxi	5.5
Liaoning	3.1	Yunnan	4.9
Shandong	4.4	Heilongjiang	3.8
Sichuan	5.3	Inner Mongolia	4.5
Hunan	5.0	Guangdong	4.0
Anhui	6.4	Gansu	6.2
Guangxi	4.0	Xinjiang	3.3
Hebei	2.9	Qinghai	5.5
Henan	4.2	Tibet	2.6
Hainan	3.6	Ningxia	5.7
Shaanxi	6.2	**CHINA**	**4.6**

Source: NSB (2002)

4.3.2 Feminization of older population

As shown in Table 20, women constituted a majority of the older population in 20 provinces and municipalities in 2000. In 2 they constituted 50 per cent and in 9 less than 50 per cent.

Table 20: Feminization of ageing in provinces and municipalities, 2000

Province/municipality	% females in		Province/municipality	% females in	
	60+	80+		60+	80+
Shanghai	54.4	62.9	Fujian	51.9	66.2
Jiangsu	53.3	65.7	Hubei	51.3	64.6
Beijing	51.8	57.8	Shanxi	49.8	58.3
Zhejiang	50.2	61.3	Jilin	49.5	51.1
Tianjin	51.7	55.7	Guizhou	50.4	60.0
Chongqing	50.0	60.2	Jiangxi	51.2	63.1
Liaoning	50.7	53.8	Yunnan	51.4	61.6
Shandong	53.0	63.2	Heilongjiang	48.8	52.3
Sichuan	50.2	61.8	Inner Mongolia	47.3	50.5
Hunan	50.0	60.6	Guangdong	53.2	60.6
Anhui	51.1	66.1	Gansu	49.1	54.8
Guangxi	51.9	62.9	Xinjiang	44.5	45.3
Hebei	51.3	60.9	Qinghai	49.8	57.1
Henan	52.8	66.3	Tibet	55.8	64.3
Hainan	52.8	66.8	Ningxia	48.0	49.4
Shaanxi	49.8	56.0	**CHINA**	**51.1**	**61.8**

Source: NSB (2002)

In all areas of the Eastern Region, women accounted for more than half the older population, with 54.4 in Shanghai, the highest in the Region and second highest in China. The percentage of women in older population was highest in Tibet at 55.8 per cent. In all provinces and municipalities the proportion of women in the oldest old population was higher than in the older population and in only two – Ningxia and Xinjiang in the Western Region it was below 50 per cent.

Table 21 summarizes information available for the Beijing municipality and two provinces on the gender differences in illiteracy rate, marital status and the rate of labour force participation. As shown on the basis of national level data, all these three indicators highlight the more disadvantageous position of older women than older men.

Table 21: Gender differences in socio-economic characteristics of older population in selected provinces/municipalities, 2000

Region	Illiteracy rate		Participation rate		Proportion single	
	(percentage of older population)					
	Male	Female	Male	Female	Male	Female
Beijing	10.5	40.7	15.1	3.2	15.6	33.9
Jiangsu	18.2	55.6	40.7	24.6	20.9	43.2
Hubei	24.9	65.4	44.2	24.0	23.9	40.2

Source: NSB (2002)

It should be pointed out that the illiteracy rates, participation rates and the proportion of those single are lower in Beijing municipality than the two provinces. This reflects the higher level of schooling among the population of Beijing. The lower participation rates of both older men and older women can be explained by the wider access to pensions which enable older persons to have income without having to join the labour force. A higher frequency of remarriage could be a significant contributory factor to the lower proportion in Beijing of older persons who are single. Cultural change perhaps makes remarriage of older persons, particularly women, more acceptable in the context of the city life of Beijing.

Data on rural-urban differences in population ageing in the provinces and municipalities are shown in Table 22. While for Jiangsu and Hubei the proportion of older persons in the township (rural) is significantly higher than in the city (urban), the situation in Beijing Municipality is different. The proportion of older persons in the city is higher than in the township. As was discussed in Section 3 that out-migrants from rural areas are more likely to be younger adults than older persons, this appears to be true for Jiangsu and Hubei but it does not seem to be the same for Beijing. It is likely that due to the availability of better health and care facilities for older persons in Beijing they are more willing to move to the city.

Table 22: Rural-urban differences in population ageing in provinces/municipalities, 2000

Province/municipality	Region	City	Town	Township
		(60+ as % of population)		
Shanghai	Eastern	11.7	8.8	12.6
Jiangsu	Eastern	7.6	7.4	9.8
Beijing	Eastern	8.6	6.7	8.4
Zhejiang	Eastern	7.2	7.2	10.6
Tianjin	Eastern	9.5	6.0	8.0
Chongqing	Western	8.1	7.1	8.2
Liaoning	Eastern	8.2	6.9	7.8
Shandong	Eastern	6.6	6.7	9.1

Table 22: *(continued)*

Province/municipality	Region	City	Town	Township
		(60+ as % of population)		
Sichuan	Western	7.1	6.5	7.8
Hunan	Central	6.2	6.0	8.0
Anhui	Central	6.7	6.6	7.9
Guangxi	Western	6.0	6.3	7.8
Hebei	Eastern	6.1	5.3	7.5
Henan	Central	5.8	6.0	7.5
Hainan	Eastern	4.9	6.1	7.6
Shaanxi	Western	6.3	5.0	6.3
Fujian	Eastern	5.8	6.1	7.3
Hubei	Central	5.9	5.3	6.9
Shanxi	Central	5.6	5.0	6.9
Jilin	Central	6.3	5.9	5.9
Guizhou	Western	5.7	5.5	6.1
Jiangxi	Central	6.0	5.4	6.5
Yunnan	Western	5.4	5.7	6.3
Heilongjiang	Central	6.3	5.5	5.0
Inner Mongolia	Western	5.2	4.7	5.9
Guangdong	Eastern	4.9	5.0	7.7
Gansu	Western	5.4	4.2	5.3
Xinjiang	Western	4.8	3.9	4.8
Qinghai	Western	5.3	3.4	4.5
Tibet	Western	2.9	3.3	5.2
Ningxia	Western	5.1	3.6	4.4
CHINA	-	**6.7**	**6.1**	**7.5**

Source: NSB (2002)

4.4 Population ageing in Shanghai Municipality

Shanghai Municipality is known not only in China but in East and South-East Asia and beyond for its high level of ageing and the wide variety of measures it has put in place to address different ageing-related issues. This merits a special focus, however brief, on ageing in Shanghai. The proportion of older persons in Shanghai's population now exceeds 15 per cent. The oldest old comprise more than 12 per cent of this older population. With fertility decline setting in earlier than elsewhere in China and falling to below replacement level in the 1970s, the increase in older population in Shanghai gained pace in the 1970s. In 1964, the proportion of older persons in Shanghai's population was 6.1 per cent and it ranked 16th among all municipalities and provinces. By 1982, with older persons constituting 11.5 per cent of population, Shanghai had become the most aged place in China. Shanghai's older population exceeded the 10 per cent mark in 1979, that is, 20 years before the national average. The ageing index crossed the 100 mark in Shanghai in 1996. In China the ageing index is projected to reach this mark in 2022, that is a quarter of a century after Shanghai.

Shanghai's population is projected to continue to age rapidly until 2050. The Shanghai Municipality Research Center on Ageing projects the proportion of older persons in Shanghai's population to reach 42.3 per cent. A comparison of Shanghai with selected countries in Table 23 shows that by 2050 the proportion of older persons in Shanghai's population will be only 1.7 percentage points below the level in Japan, the world's most aged country.

Table 23: Percentage of older persons in population in Shanghai and selected countries, 1950-2050

Year	China	Shanghai	Japan	Singapore	Republic of Korea	Spain
1950	7.5	3.7	7.7	3.7	5.4	10.9
1980	7.4	11.2	12.9	7.2	6.0	15.5
1990	8.4	14.1	17.4	8.4	7.7	19.0
2000	10.1	18.5	23.3	10.5	11.4	21.6
2010	12.5	22.2	30.3	16.0	16.0	22.7
2020	17.1	33.5	34.3	26.4	23.1	25.8
2030	23.8	37.9	37.7	35.4	31.2	31.6
2040	28.1	38.8	42.4	38.3	38.1	37.8
2050	31.1	42.3	44.0	39.8	42.2	39.0

Source: SMRCA (2007); and UNDESA (2007a)

The ageing index in Shanghai is projected to reach 384 in 2050, that is, there will be 3.8 older persons per person aged 0-14 years. This index will be comparable to those in the most aged countries and 90 per cent above China's national average (Table 24).

Table 24: Ageing index in Shanghai and selected countries

Year	China	Shanghai	Japan	Singapore	Republic of Korea	Spain
2000	40.3	155.5	158.9	48.5	54.9	146.0
2010	63.7	214.5	226.9	102.8	100.6	152.4
2020	93.6	277.4	293.9	219.4	180.9	172.1
2030	137.8	401.4	347.5	273.6	263.5	242.7
2040	179.8	339.3	380.4	317.7	354.7	285.3
2050	203.3	384.3	390.4	358.1	405.4	272.0

Source: SMRCA (2007); and UNDESA (2007a)

Similarly the potential support ratio is lower than the national average and will decline to 1.6 compared to the Chinese average of 2.6.

There will be only 1.6 working age person per older person. As shown in Table 25, this ratio will be among the lowest in the world and only slightly above the level in Japan, the world's most aged country.

Table 25: Potential support ratio in China and selected countries

Year	China	Shanghai	Japan	Singapore	Republic of Korea	Spain
	(population 15-64 years/population 65 years and over)					
2000	10.0	5.1	4.0	10.0	9.8	4.1
2010	8.6	4.9	2.9	7.3	6.4	3.9
2020	5.8	2.8	2.1	4.0	4.6	3.4
2030	4.1	1.9	1.9	2.2	2.8	2.6
2040	2.8	1.8	1.5	1.7	1.9	1.9
2050	2.6	1.6	1.4	1.7	1.6	1.6

Source: UNDESA (2007a); and SMRCA (2007)

Section 5: Social and Economic Implications of Population Ageing

In the developed countries, the process of population ageing was gradual and started after modernization, that is, these countries started 'becoming old after getting rich'. In sharp contrast, China is faced with far more rapid population ageing which started while the economy was still relatively underdeveloped and before the country could modernize. That is, China started 'becoming old before getting rich'.[12] The per capita GDP of the developed countries on the threshold of ageing was typically 5,000-10,000 USD, while the current Chinese level is just over 2,000 USD, putting China in the category of low to medium income countries, with an economic strength considered less than adequate to handle the fast developing ageing situation. Given the economic environment, new conflicts and pressures are inevitable to result from the emerging population ageing scenario analysed in sections 1-4, giving rise to novel socio-economic development challenges.

Pressure is increasing for building, as required by the Socialist Market Economy, a social protection system for providing old age support and health care. Rapid re-allocation of resources is required for creating an elderly-oriented social services system to ensure availability of services and facilities for the increasing number of older persons. There is need to address issues related to intergenerational relations and resolve conflicts of interest likely to arise as a result of unprecedented increase in the older population relative to that of younger cohorts, particularly the working-age population. Attention will also have to be paid to balance rural-urban development and solve the ageing problem in rural areas, especially in the Central and Western Regions, and in former revolutionary minority groups, border and poverty-stricken areas. Overall, the Government will have to make considerable efforts to adjust the consumption, industrial and social administrative structures to the foreseeable dramatic changes in the population age structure.

5.1 Impact on the Economy

With population ageing, the age structure of population turns older along with advances in society, economy, science and technology. Increasing pressures on the existing comprehensive bearing capacity of society as determined by its production base resulting from a rapidly growing older population have a range of potential impacts upon socio-economic development. Ageing of Chinese population manifests the following characteristics:

1. China reached a high proportion of older persons when its level of per capita income was still low. Currently, the Chinese level of ageing is approximately at the world average, but the per capita income of China is less than one-fifth of the world average level.

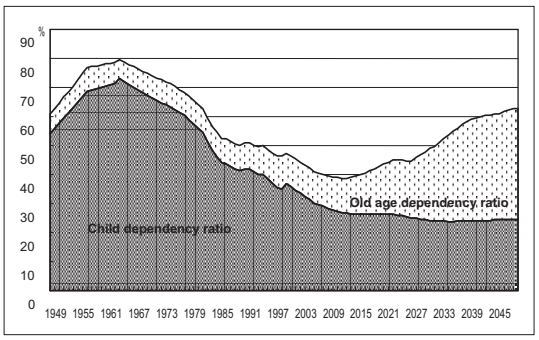
2. Population ageing in China took place at the same time as the transition of the Endowment System, where historic debts resulted in intensive transition costs. In reality, the retired persons and the 'middle employees' who became employed before the New Policy are covered with money out of the pockets of the 'later employees'[13] and the result is invalid turnover of personal accounts.

3. The level of ageing is already higher in the rural areas than in the urban areas, which limits the possibility of countering population

ageing in urban areas by encouraging migration of younger persons from the rural areas. According to the 2000 Census results, 10.9 per cent of the rural population is aged 60 years and over, while that in the town and city the proportions are respectively 9.0 and 10.1 per cent.

The fact that the population transition in China took place over a relatively short period of time has provided a golden opportunity to take advantage of the demographic bonus, that is of a falling dependency ratio and push forward its economic growth. However, as can be seen from Figure 20, the opportunity will last only another 6 years, until 2013.

Figure 20: Child and old-age dependency ratios in China, 1949-2050



Source: Annex I, Table A–8

From 2013 the rise in the old age dependency ratio will more than offset the continuing decline in the child dependency ratio. As such the total dependency ratio (proportion of children aged 0-14 years and older persons aged 65 years and over to working-age persons aged 15-64 years) will decline for the next 6 years reaching its minimum level of 38.8 per cent in 2013. Overlapping of the periods when labour force resources drain away and proportion of older population is elevated leads to rapidly increasing overall burdens of old age support upon the community. If the current way of fund-raising for the endowment fund continues, grave shortages are inevitable.

Population ageing leads to two immediate effects on the economy:

1. It reduces the size of the labour force thereby cutting down the potential number of working age persons for production and economic activities, thus dampening GDP growth.
2. It raises the ratio of aged persons to employed persons. Given the additional expenditure on social security for the older people, the share of expenditure on final consumption is augmented by the allocation of national revenues, and less goes to production, which undoubtedly has negative consequences for continued economic growth.

As the urban older population has continued to increase, the ratio of persons who are in-service to retired older persons has been dropping constantly. The ratio of those in-service to those retired has fallen from 8.9:1 in 1983 to 3.5:1 in 2000. That is, while in 1983 there were 8.9 persons in-service per retired person in 2000 there were only 3.5 for every retired person. The total expenditure on social security for the urban retired has increased considerably at an annual rate close to 20 per cent.

5.1.1 Rising costs of the urban social security system

As a result of ageing, the number of urban retired persons is projected to grow to 103.0 million by 2050, when the dependency ratio will be 50 per cent. Relative to the rapid advance in population ageing, building up and improving of the Chinese Social Security System have lagged behind. As a result, the number of retired individuals is on a constant rise, the burdens are excessive, while the endowment gains are not able to cover the expenditure. From 3.1 million in 1978 to 46.8 million in 2004, retired persons in China increased to 15 times over 26 years, which is a rate of increase of 15.1 per cent per year. The retirement payments rose from 1.73 billion Yuan to 45.1 billion over the same period, that is, by 261 times. Retirement pensions as a proportion of GDP went up from 0.5 per cent in 1978 to 2.5 per cent in 2005. In 2005, the GDP of China was 18.23 trillion Yuan, equivalent to 2.23 trillion USD. The total surpassed the French GDP and was close to that

of the UK. There was one retired person for 13 in-service individuals in 1978 and 7.5 in-service individuals in 1985. The situation changed drastically and, as shown in Table 26, by 2004 there were only 2.3 in-service individuals per retired person.

Table 26: Number of early retired/retired/discharged persons at year-end, 1985-2004

Year	Number (000)	In-service staff per early retired/ retired/discharged person
1985	16,370	7.5
1990	23,010	6.1
1995	30,941	4.8
2000	38,758	3.5
2001	40,177	3.2
2002	42,228	3.0
2003	45,234	2.7
2004	46,751	2.3

Source: DPF (2004)

The annual growth rate of retired persons during 1985-1996 was 7.0 per cent[14] which was more than twice the growth rate of the older population (aged 60 years and over).[15] The rapid increase in the number of retired persons made the growth of retirement pensions the largest component of employees' insurance and welfare. With the total amount increasing from 27.4 billion Yuan in 1990 to 421.1 billion Yuan in 2004, the per capita retirement pay increased from 935 Yuan in 1985 to 9,509 Yuan in 2004. In 2004, the total expenditure of endowment insurance welfare payments was 481.5 billion Yuan, an increase of 58.4 per cent over 2000. There was an increase of 52.2 billion Yuan in the central fiscal subsidies for the Basic Endowment Insurance. In 2000, the amount of empty accounts for Chinese endowment was only 3.6 billion Yuan, while it had risen to 600.0 billion by the end of 2005. The burden is projected to increase as the number of retirees more than doubles by 2050 and the number of in-service persons per retired person falls to 1.8 in 2040 rising to 2.0 in 2050.

Table 27: In-service staff and early retired/retired/discharged persons, 2000-2050

Year	In-service staff members (000)	Early retired/retired/ discharged persons (000)	Ratio of in-service to retired person
2000	126,000	38,760	3.3
2005	133,000	43,420	3.1
2010	140,000	51,470	2.7
2015	147,000	60,490	2.4
2020	154,000	70,670	2.2
2025	162,000	81,270	2.0
2030	170,000	91,270	1.9
2035	178,000	99,770	1.8
2040	187,000	102,450	1.8
2050	206,000	103,030	2.0

Source: DPF (2004)

5.1.2 Falling incomes of urban older people

The increasing burden on the social security system has adversely affected the scale of urban retirement pensions. Despite increasing volume (Table 28), pensions have increased at lower rates than salaries of the in-service persons.

Table 28: Payments for early retirement/retirement/discharge in China, 1985-2004

Year	Total (billion Yuan)	Per capita retirement pension (Yuan)
1985	145.6	935
1990	396.2	1,760
1995	1,305.6	4,335
2000	2,733.3	7,190
2001	3,072.0	7,784
2002	3,659.4	8,881
2003	4,148.9	9,485
2004	4,510.9	9,509

Source: DPF (2004)

Over the period 1979-2002, the per capita retirement pension (in constant prices) increased at an annual rate of 5.2 per cent while the annual rates of increase in the average salary of in-service employees and the disposable income of urban residents were respectively 6.2 and 6.7 per cent. The ratio of the average retirement pension to average salary, which was 0.94 during 1979-1982 at the beginning of the Reform and Opening Policy declined to 0.71 in 2002. The gap between the retirement pension and the salary widened from 221 Yuan to 3,573 Yuan, and 18.4 per cent of the pensions could not be paid in full. Low increases and delayed payments are reasons for the difficult lives of some older people, as the average level of assets is far lower in the older households than in the younger ones.

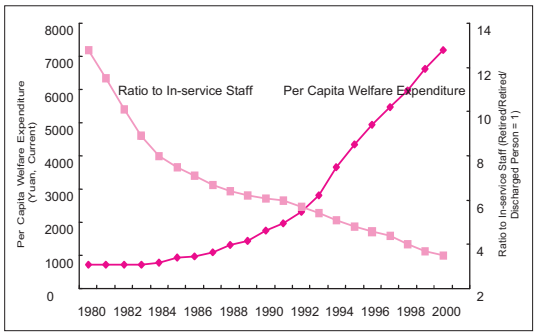
Table 29: Composition of insurances and welfare benefits payments, 1990-2004

Year	Total	Early retirement pension	Retirement pension	Discharge allowances	Health care payment	Miscel-laneous
	(billion Yuan)					
1990	465.2	34.6	239.4	5.0	76.2	110.0
1995	1,522.4	121.9	986.3	15.3	236.3	162.6
2000	3,040.5	201.1	2,305.7	30.3	346.9	156.5
2001	3,337.2	223.4	2,618.7	27.8	312.9	154.4
2002	3,870.7	263.7	3,143.0	33.4	266.0	164.6
2003	4,359.9	269.5	3,592.1	37.6	271.3	189.4
2004	4,814.9	281.5	3,929.4	38.8	372.8	192.4

Source: DPF (2004)

Population transition and reform of the Social Security System are posing serious challenges upon security in the late years. First of all, they are manifested by considerable increases in the rate of old age support burden upon the economically active population. By 2017, the proportion of non-working age elderly (65 years and over) in total population will exceed 10 per cent while the child dependency ratio would still be as high as 26.4 per cent and the dependency ratio of the aged will reach over 14 per cent. Figure 21 illustrates the growing imbalance between the sources of the expenditure on welfare payments: the falling ratio of in-service staff per retired/discharged person and the rising per capital welfare expenditure.

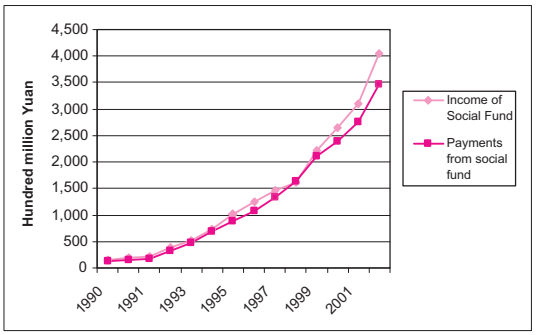
Figure 21: Per capita welfare expenditure and ratio to in-service staff members of early retired/retired/discharged persons (1980-2000)



Source: Annex I, Table A–9

Funds in the social pool and the personal account are not differentiated in the Chinese Endowment Fund System. Because of the empty account problem with the personal account along with inadequacy of the social pool, most of the endowment funds are used to cover the payment of endowment pensions each year. The actual accumulation of endowment insurance is less than the amount on the personal account of employee. Operation of the mechanism keeps rolling up the empty accounts, resulting in a major characteristic of the old age security system after the reforms: the personal account is nothing more than an account number, while the entire system still runs on a 100 per cent pay-as-you-go basis. It is true that the existing system is using the funds gathered via personal account to complement the inadequacy of the social pool (Figure 22).

Figure 22: Income and payment of social pool for old age pension in China



Source: Annex I, Table A–10

5.1.3 Impact on the rural old age security system

Compared with the urban areas, the rural ageing problem is even worse. By 2000, China had 85.6 million older persons in rural areas, accounting for 65.8 per cent of the country's total older population. The degree of ageing was 1.2 percentage points higher in the rural than in the urban areas. Furthermore, most of the rural areas have no social endowment insurance system in place and the New Rural Cooperative Medical Care System is still in its trial phase. Rural people are faced with shortage of necessary social assurance for old age support and medical care. As the process of population ageing gains further momentum, the pressure on endowment and medical care in rural China will grow even more intense than the pressure is in the urban areas. Western Region and poverty-stricken areas will be the most critical.

In rural China, older persons rely predominantly on their families. As younger labour force migrate for jobs, the labouring burdens are raised on older people, some of whom have to work on the farm at the age of 70 or even 80 years. Endowment system is created only in some

richer areas. By the end of 2001, the coverage of Rural Endowment Insurance was merely 12.4 per cent, benefiting only 1.08 million older individuals with 0.52 billion Yuan in old age pension, which was 481 Yuan per person. Additionally, the coverage of Homes for the Aged and the Five-Guarantee Household System is respectively 13.6 and 63.8 per cent in the rural areas, while 21.9 per cent of the rural elderly rely on the Subsistent Assistance.

Increasing number of one-child families, smaller size of family and progress of market economy are challenging the traditional family-based old age support. The ideas of filial piety, and supporting and caring for aged parents are eroding between generations with time. The tradition for family to provide older persons with basic life assurance is being continuously weakened, and the proportion of older parents receiving economic support from their children is declining. According to the research findings of CRCA, the economic support rate for older persons is 30 per cent in the urban areas and 60 per cent in the countryside. Psychological comfort is in even greater shortage, and cases of maltreatment of the aged, violation of older persons' rights, illegal occupation of real estate and property take place from time to time, which lead to severe mental and physical harm to the elderly. Early deaths of some old people living alone have drawn wide attention. The traditional old age support approaches and ideas should be transformed into a social support approach. However, social endowment and community services are both weaknesses of Chinese society.

5.1.4 Economic support for rural older persons

The economic sources of rural older persons mainly include: family support, retirement endowment systems in some rural areas; purchase of commercial endowment insurances and endowment funds in better developed areas; provisions for Five-Guarantee Household; and income from the contracted land. The leading characteristics are:

(a) Family support plays a leading role, but its functions tend to weaken. According to the urban and rural survey conducted by CRCA in 2000, 64 per cent of the incomes of rural older persons are from personal labour, and 72 per cent of the older persons receive some economic support from their children or relatives.

(b) Coverage of social security is low with great regional differences. By the end of 2002, the accumulated number of persons joining the Rural Endowment Insurance was 54.6 million, most of whom are richer residents in the better developed areas. The coverage of other social insurances and funds is also slim.

(c) Coverage of Social Assistance is small with a low assurance level. Support for the rural Five-Guarantee Households is the major form of Social Assistance. By the end of 2002, there were 0.69 million older persons on concentrated support, and 1.89 million on scattered support. At present, the main problems include: generally low level assurance of the Five-Guarantee support, inability to deliver the payment in full sum, exclusion of many people who should be covered for support, and inadequacy of the Basic Medical Security.

5.2 Impact on the medical security system

In recent years, the total health care expenditure of China has continued to increase from 74.7 billion Yuan in 1990 to 568.5 billion Yuan in 2000. The per capita health care expenditure also increased from 14.5 Yuan in 1980 to 442.6 Yuan in 2002, and continues to increase. The pressure is mounting up with the health care consumption expenditure of older persons. As calculated, the medical and health resources consumed by older persons are typically 3-5 times the amount of other groups.[16] In 2004, the expenditure on the Basic Medical Insurance Fund was 86.2 billion Yuan, which was 75.5 per cent of the Fund's income and had increased by 31.6 per cent over the previous year. The rate of increase in expenditure was 3.5 percentage points higher than the growth rate of the Fund's

income. Rapid population ageing is a crucial reason for the speedy increase in the expenditure.

With the epidemiological transition resulting from population ageing, morbidity rate of chronic diseases is projected to rise from 196 per thousand to 656 per thousand during 2000-2030 among the older population, and the number of hospital visits from 2.4 billion to 9.5 billion person-times. Between 1994 and 2030, the costs of treatment of chronic diseases are projected to increase at the rate of 17.7 per cent per year, and the costs in 2030 will be 355 times the costs in 1994.[17] As shown in Table 30 the costs are projected to go up 5 times in each decade and in 2030 will be more than 120 times the level in 2000.

Photo credit: Deng Xueyi, HelpAge International

Older persons at a health facility

Table 30: Projection of annual costs for treatment of chronic diseases

Year	Annual cost of treatment of chronic diseases (billion Yuan)
2000	1,215.7
2010	5,882.5
2020	29,388.4
2030	148,947.1

Source: SBC (2006)

The burden of medical costs at 1998 prices caused by population ageing, when estimated without taking into account the effect of age on morbidity rates, will increase as follows between 2000 and 2015: (a) the burden of medical requirement cost, that is, the medical costs needed to care for all those who are supposed to be given medical attention (outpatient and inpatient), will increase from 798.9 billion Yuan to 1,028.0 billion Yuan; and (b) the burden of medical demand cost, that is, the costs of actually used medical services, will increase from 495.9 billion Yuan to 626.7 billion Yuan. In other words, the burden of medical requirement cost will increase by 28.7 per cent and that of medical demand cost by 26.4 per cent by 2015 due to population ageing.

When the effects of age-specific morbidity rates are taken into account, the burden of medical costs at 1998 prices will increase as follows: between 2000 and 2015, the burden of medical requirement cost will rise from 812.0 billion Yuan to 1,189.6 billion Yuan by 46.5 per cent and that of medical demand cost from 503.8 billion Yuan to 723.0 billion Yuan by 43.5 per cent.

If the medical costs of all age groups grow at the annual GDP growth rate of 7.5 per cent and the age-specific morbidity rate and the effect of population ageing are also taken into account, the medical requirement cost of 938.4 billion Yuan in 2000 will increase to 4,067.6 billion Yuan in 2015. During the same period, the medical demand cost will increase by 26.4 per

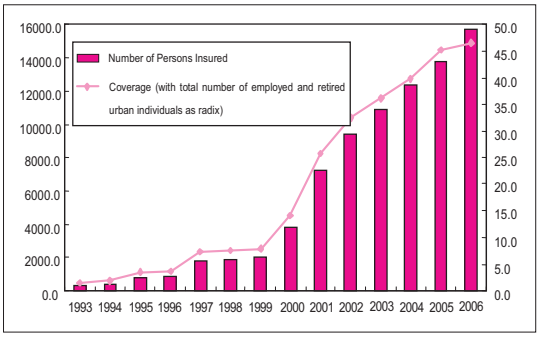
cent and the morbidity rate by 20.1 per cent compared with the levels in 2000, as a result of population ageing.

With the changing disease pattern, chronic diseases in the later years of life of the elderly have become problems that cause grave influences on older persons both physically and mentally. However, the health care system has not changed accordingly. Most of the existing medical facilities are comprehensive, while hospitals specialized in services for older people and chronic disease management facilities that suit the needs of older persons are few. There is no national geriatric disease prevention and treatment foundation or an old age nursing insurance system in place. Care for the oldest old and nursing resources (both financial and personnel) are lacking. Coverage of the Medical Security System is limited, and resources are allocated improperly and used with low efficiency. The State is also short of a good mechanism for raising medical funds. National health investments, especially those put in the prevention and management of geriatric chronic problems, are far from adequate, while burdens upon individuals are enormous, which is least suited for a society becoming increasingly "oldest old".

5.2.1 Medical security in urban areas

Currently, the Basic Medical Insurance for Urban Employee is playing the leading role in the Medical Security System in urban China. By the end of 2006, 157 million urban employees had joined the Basic Medical Insurance System; yet China has an urban population of 0.58 billion, which makes the coverage of the System merely 27.2 per cent. The poor coverage is mostly attributed to the fact that the System started by targeting the formal employees of urban public institutions, and was extended to individual employees later. By the end of 2006, the coverage reached only 46.6 per cent (Figure 23).

Figure 23: Coverage of basic medical insurance for urban employees in China, 1993-2006



Source: Annex I, Table A–11

More importantly, the greatest institutional defect of the System, compared with the systems in other countries, lies in its limitation that only the employed or retired individuals are accepted for the Insurance without considering the needs of their family members. Many of the unemployed urban residents, such as minors, have to pay for their medical care with money out of their own pockets as they are not insured for medical care at all. While the proportion of total medical expenditure in GDP has risen from 3.2 per cent in 1980 to 5.7 per cent in 2003, the government investments in the expenditure have fallen from 36.2 per cent in 1980 to 15.2 per cent in 2002 and the share of personal payments has increased from 21.2 per cent to 58.3 per cent. In other words, the increase in China's total medical expenditure comes increasingly from personal payments. International comparison reveals an opposite trend in most countries, with governments taking on increasing responsibility for maintaining health and equity as economy progresses. In other countries, the share of government health expenditure has increased continuously while the proportion of personal payments has declined.

5.2.2 Medical security in rural areas

The present Public Health Security System in rural China is frail. It is common that rural older people lack access to health care and cannot afford it due to improper allocation of medical resources. According to survey results of the Ministry of Health, up to 72 per cent of people in the poorer areas fail to attend a medical facility when they fall sick, 89 per cent fail to be hospitalized when they need to, and 50 per cent fall into poverty or become poor again because of medical conditions. In many areas, poor health status has been identified as the main cause of poverty among rural persons. Some major or serious diseases are likely to cost the older persons their life savings or even result in debts. The Chinese Government has seen the urgency to build up a Rural Medical Security System, which includes part of the medical costs in a social pool to share the health risks of the rural population, in addition to the Rural Endowment System. The New Rural Cooperative Medical Care System (Cooperative Medical Care), now being tested, is a mechanism of mutual help and cooperation featured by a pool for major disease management, which can provide rural people with significant medical assurance. The Government also understands the need to create a Rural Public Health Emergency Response Mechanism as well as a Rural Public Health Assistance System to offer more effective life assurance to rural residents, especially the older people. Today, the Cooperative Medical Care is benefiting some 720 million rural people, which is 82.8 per cent of the entire rural population, covering 2,429 counties (cities, districts) across the country, that is 94.9 per cent of all counties.

5.3 Implications for long-term care

The increasing proportion of the older population and in particular that of the oldest old calls for attention to their life care needs of the oldest old persons as an essential requirement for improving their quality of living. The demand for aged-oriented services is booming. Nowadays, social transformation, reframing of government functions, weakened role of family in old age support, and lagging development of an aged-oriented service industry are all contributing to growing shortfalls in satisfying the service demands of the massive older group, and even more so of the rapidly increasing diseased older persons, the oldest old and those having no family support. In terms of support facilities, for example, China now has 39,000 social welfare facilities of various types and a total of 1.8 million beds for old age support (including some beds for the handicapped and children). This means 8.6 beds for every 1,000 older persons, which is far below the level of 50-70 beds per 1,000 older persons in the developed countries. The numbers are also well below those needed to meet the increasing demands of the older population. The average life expectancy of Chinese population has exceeded 72 years, and it is close to 80 years in Shanghai and Beijing. As life expectancy continues to lengthen, more and more attention will need to be paid to the self-care ability of older people and their long-term care.

The increasing demands of the care of the oldest old will require change in orientation of government functions. The Chinese Government is transforming from its administrative type into the service one. Under government leadership, different walks of society should be actively guided to provide care services in various forms to meet the older population's demand. Given fertility rates gradually stabilizing at a lower level and the size of family becoming increasingly smaller, self-care ability of older persons has immediate influences on old age support and care of every family, and raising new requirements for socialized aged-oriented services.

5.3.1 Requirements of care among older persons

Care is mainly needed by those older persons who are unable to care for themselves. Therefore, in understanding the self-care ability of older people, the National Statistics Bureau added a special survey on self-care ability of older persons to the national population sample surveys in 1994 and 2004, which covered respectively 124,114 and 152,055 older persons

aged 60 years and over. The survey data are helpful for understanding the self-care ability of older Chinese persons, such as their ability to get clothed, bathed, feed themselves and to use the bathroom. With increasing age, motion ability of older persons starts to fail. Any one of the activities that an older person cannot perform means he or she needs care from others. Loss of self-care ability is not only reflective of the physical fitness of older people but of the caring pressure upon their spouse and children.

The 2004 national survey showed that an overwhelming majority (91.1 per cent) of older persons were able to take care of themselves. Even so, the 9 per cent who cannot means that there are an estimated over 12 million older persons who have lost their ability to take care of themselves. Self-care ability declines with age. Of all the older person unable to take care of themselves, 50 per cent are aged 75 years and over. Among those aged 85-89 years, one out of three does not have self-care ability; among those 90 years and over, this proportion increases to one out of two.

The rate of inability of self-care is higher among older women (10.2 per cent) than older men (7.7 per cent). Of the older persons unable to take care of themselves, 58 per cent are women, which calls for greater attention to the needs of older women. Although older women live longer, their span of self-care ability is shorter than of older men. On average, older men experience 1.5 years of inability of self-care, compared with 2.5 years for older women. There are also geographical variations in the extent of self-care ability. It is higher in the urban areas than in the rural areas. Moreover, in the Eastern Region, older people have better ability to care for themselves, while the rate of disability is higher in the Central and Western Regions. Shanghai, despite its longest average life expectancy, has the lowest rate of disability (5.5 per cent).

The variations in the incidence of disability by age, gender and region show how ageing of the older population, feminization of ageing and the higher rate of ageing in rural areas would contribute towards increasing the overall proportion of older persons who are unable to take care of themselves. The changing structure of the older population itself could to some extent explain the increase in the rate of disability shown by the 1994 and 2004 surveys. In cities, the proportion of older persons unable to care for themselves increased from 5.3 per cent in 1994 to 6.9 per cent in 2004. In the rural areas, it increased from 8.7 per cent to 10.8 per cent. The Governments at all levels and the community are paying close attention to the changes in the care demand.

5.3.2 Old age life care mechanisms in rural areas

Life care for rural older persons includes mainly: home-based care (including self-care, spouse care, offspring care and relative care), and institutional care services (including Homes for the Aged in townships and towns and Senile Apartments). Generally speaking, the rural old age support services in China are in a spontaneous and self-service state.

Home-based care plays the leading role but support for caregivers is inadequate. In 2000, about 67 per cent of the older persons aged 60 years and over lived with their children or grandchildren in rural China, 25.3 per cent lived with their spouse, 7.6 per cent lived alone, and less than 1 per cent stayed in Homes for the Aged or other old age facilities. Institutional old age care falls far short of the demand both in terms of the number of facilities and the services provided. Home for the Aged is the predominant form of old age facility in rural China. By the end of 2002, there were 35,000 Homes for the Aged with only about 1 million beds in townships and towns throughout the country, where 0.7 million older people were supported. Most of the facilities provide basic conditions, simple services, are barely running and are hardly adequate for meeting the increasingly individualized and diverse demands for old age services.

Development of community old age services is in the initial stages. The level of actual demand is relatively low, but the potential is visible. According to the findings of the 2000 Urban and Rural Survey conducted by CRCA,[18] use of and demand for the community visiting medical services are relatively high (38.6 and 62.7 per cent respectively) among the rural older people. There is demand for housework and nursing services (nearly 20 per cent), which, however, are used at a very low rate (less than 1 per cent).[19] The higher demand rate (34.0 per cent) and use (8.2 per cent) of chat service largely attribute to the fact that the service is free; and such services as daily recreation, sports and cultural activities are basically blank.

5.4 Poverty among older persons

The incidence of poverty among older persons is known to be higher than the national average. However, estimates of the size of China's poorer older population differ in different studies. Using varied criteria of poverty, survey and statistical methodologies, government departments, research institutions and scholars have reached different conclusions. On the basis of an integrated consideration of all kinds of measurements and calculation results along with the poverty-reduction efforts taken by the Chinese Government in recent years, the number of poorer older persons is estimated at 9.2 to 11.7 million, of which 1.8 to 2.5 million are in urban China while 7.4 to 9.2 million in the rural areas. The incidence of poverty for older person is 7.1-9.0 per cent nationwide: 4.2-5.5 per cent in the cities (urban areas) and 8.6-10.8 per cent in the towns and townships (rural areas).[20]

Among the older population, more women are poverty-stricken than men. Moreover, the poverty rate of older persons increases with age and the rate is higher among the oldest old than among the elderly people in the lower age groups. Marital status also has a bearing on the poverty status of older persons. In both urban and rural areas, older persons living with a spouse are less likely to be in poverty and the rate is highest among single older persons. The incidence of poverty is also higher among the rural than the urban older population and among older persons of minority groups than among those of the Han ethnic group.

In recent years, progress in restructuring of the state-owned enterprises in urban China has led to large numbers of redundant employees laid off. In combination with increased unemployment rates in the urban areas, they have forced the older urban employees out of the labour force market, which is the main factor explaining the decline in older persons' labour force participation rate in urban China. The higher unemployment rate and lower labour force participation have resulted in an increase in the incidence of poverty in the urban areas, relegating many urban families and urban older persons down into poverty. However, the poverty situation is worse among the unemployed in rural than in urban areas. This is because of the wide differences in coverage of social security.

Table 31 summarizes information on the sources of income or financial support available to the non-working older persons in urban and rural areas.

There is a large gap between the urban and the rural areas in social security. Of older persons not working, nearly 60 per cent in the urban areas compared to only 10 per cent in the rural areas receive retirement pensions. As such less than 40 per cent of the urban older persons who are not employed have to rely on family support, such reliance is 86 per cent in the rural areas. By region, coverage of social security is better in the Eastern Region than in the Central and Western Regions. Available current statistics show that in the Eastern Region 35 per cent of the older persons have a retirement pension and subsistence allowances, compared to 29 per cent in Central and Western China.

Table 31: Older persons having no job by source of income, 2000

Source of income	Number (000)	Females (per cent)	Composition of life source (%)			
			All	Female	Urban	Rural
Retirement pension	2,510	33.8	29.3	16.9	56.2	8.2
Subsistence allowance	204	52.9	2.4	2.2	3.0	2.0
Family members	5,609	70.0	65.4	78.4	38.8	86.2
Property incomes	24	51.1	0.3	0.2	0.4	0.2
Insurance	4	45.9	0.0	0.0	0.1	0.1
Miscellaneous	225	49.7	2.6	2.2	1.6	3.4
All (60 years and over)	8,576	58.4	100	100	100	100

Source: NSB (2002)

5.4.1 Poverty among urban older population

A significant determinant of the poverty status of an older person in urban areas is the type of employment he or she has had during the working life. In the cities, older persons who have retired from a regular job have a lower rate of poverty. Among the older persons in poverty, most (about 76 per cent) have never been employed and have no social security. Access to retirement pension is essential to the urban older person's income and living. The Endowment System is a necessary assurance for the future life of older people. Nature of the previous occupation decides what benefits he or she will receive on retirement. Those who have worked in one of the three types of foreign-funded enterprises (contractual joint ventures; cooperative ventures and solely foreign-funded enterprises) are not in poverty. Otherwise, the lowest poverty rates are seen amongst those who worked for Party or government agencies, institutions, state-owned enterprises and private enterprises. Only about 5 per cent of the older persons retired from collective enterprises are in poverty and 11.5 per cent of those retired from joint-stock enterprises.

In addition to access to pensions, the poverty of an urban older person is determined by age, gender, education and health status.

(a) Poverty increases with age:

The incidence of poverty among the urban older population increases with age. Data for urban areas provided by a sample survey is given below:

Age (years)	60-64	65-69	70-74	75-79	80-84	85 and >
% in poverty	11.3	12.2	15.4	22.6	27.7	30.1

Source: UNFPA (2004)

The explanation of the increase in poverty with increasing age is that, in a perspective of the life cycle, when an older person steps out of the labour force and stops being engaged in productive activities, he or she will mainly resort to savings and endowment payments for life source. With a given amount of personal savings and endowment, increased age means a relative reduction of funds attained in the oldest old years, and puts the person in greater risk for poverty. Also for those having a regular pension, the real value of the pension seldom increases as much as the cost of living.

(b) Poverty is higher among older women

Poverty is higher among urban older women than older men, the incidence being 3 to 4 times higher among women than men.[21] The higher rate among women results from, their earlier retirement and withdrawal from the labour force, from their longer life expectancy and their lower level of education. The Labour Law of China regulates that urban female employees should normally be retired at the age of 55 years, which is 5 years earlier than their male counterparts. Earlier withdrawal from the labour force market means reduced income. Moreover, having been on average less educated they have had lower paid jobs and so the retirement pensions are smaller. Additionally, longer female life expectancy leads to a greater chance of poverty in the oldest old years.

(c) Poverty is related to the education level

The chance of falling in poverty in old age declines with a higher level of education. Of those who have never gone to school or attended a traditional private school, 5.2-8.2 per cent are poor. However, 4.3 per cent of those who went to primary school or junior high and 1.2 per cent of those who went up to senior high are in poverty. Only 0.8 per cent of older persons who have been to junior college or above are in poverty. Better education level reflects the accumulation of human capital and preparation for employment of the urban older persons. Greater human capital means higher income and social position, and, in turn, higher retirement pensions and security level.

(d) Poverty is affected by health status

While the incidence of poverty is 4.9 per cent among older persons with a chronic disease, it is 3.5 per cent among those without any such problem. The difference is small, reflecting the impact of the reforms of the Urban Medical Security which ensure urban older persons improved medical security.

5.4.2 Poverty among older people in rural China

The incidence of poverty among the older population is higher in the rural areas compared to the urban areas as shown by the percentage of older persons below the poverty line (Table 32). The table also shows the percentage of urban and rural population in the selected provinces/ municipalities reporting an improvement in their state of happiness or contentment which is generally higher in the rural areas.

Three features of poverty and happiness in rural areas are noteworthy:

(i) Although the rural elderly are poorer than those who are living in urban areas the living standard has been improved a lot over the recent years in rural China. The elderly therefore have strong sense of happiness in rural China.

(ii) Rural poverty is a long-term problem. The anti-poverty policies of China are focused in the rural areas, and have achieved a great deal, but the number of rural persons in absolute poverty has increased, instead of decreasing, in recent years and this includes additional poorer older persons.

(iii) The rural social security system is relatively backward.

The rural older persons are therefore more dependent on family old age support which is vulnerable to negative effects from external factors (including changes in market prices and natural disasters) and family factors (like illness), which adversely affect family income and consumption. Once stricken, a rural family is not able to handle the problems or keep up provisions of the basic needs for living and older persons who get less priority suffer more. The situation is even harder for rural older persons who live alone.

Table 32: Incidence of poverty and improvement in happiness among urban and rural older population in 20 selected provinces/municipalities, 2000

	Proportion of older persons (%)		Poverty in urban areas		Poverty in rural areas	
	Urban	Rural	% below poverty line	% improved happiness	% below poverty line	% improved happiness
Anhui	3.5	5.8	3.4	5.4	7.2	15.0
Beijing	3.0	0.4	1.5	4.8	6.2	8.5
Fujian	2.8	2.4	4.7	5.1	8.0	15.5
Gansu	1.2	1.9	10.9	12.1	9.3	8.7
Guangdong	7.7	4.7	8.1	8.5	7.7	10.7
Hebei	3.6	6.1	2.4	5.1	6.5	10.4
Heilongjiang	4.2	1.6	5.4	5.5	10.3	6.1
Henan	4.3	8.6	2.2	4.5	6.7	11.8
Hubei	4.6	4.2	3.4	4.0	8.3	9.1
Jiangsu	7.6	6.8	5.1	6.7	10.4	11.3
Jiangxi	2.2	3.3	4.6	9.5	9.3	15.3
Jilin	2.9	1.4	7.0	5.1	4.3	6.3
Shaanxi	2.4	2.7	2.6	4.7	11.1	12.6
Shandong	7.6	8.2	2.3	4.3	10.1	7.5
Shanghai	4.8	0.4	2.4	3.8	3.7	11.2
Sichuan	5.2	8.2	4.2	3.4	9.6	7.4
Tianjin	2.0	0.4	4.0	3.8	1.9	3.3
Xinjiang	1.2	1.1	6.2	6.4	13.6	9.2
Yunnan	1.9	3.5	6.5	10.3	13.8	12.3
Zhejiang	5.1	4.0	1.8	4.5	5.1	14.1

Sources: NSB (2002); and CNCA (2000)

Section 6: Positive Contribution of Older Persons to Economy and Society

While the Chinese Government continues to step up efforts to address the issues relating to the income security, health status and long-term care requirements of the increasing older population, it has also been devoting increasing attention to creating an enabling environment in which the older persons can continue to contribute to development. The Government cherishes the knowledge, experience and skills of older persons, respects their qualities, actively creates conditions for them to utilize their advantages and play a role, and encourages and supports their involvement and participation in community and social development. The human resources potential of the older people is being increasingly exploited as it can contribute towards improving the quality of their own lives as well as promote socio-economic development and harmony in the society.

6.1 Attitudinal change in China

The Government of China is fully cognizant that there is need to promote a new outlook to the issue of ageing. Policy makers and researchers, as well as the mass media and the general public need to change their ideas fundamentally and understand that the issue of ageing today is not only one of protecting and caring for the aged or the old, but an issue of their participation and involvement. People should realize that policies on the ageing issue and the elderly are an essential matter that closely concerns the entire community for the creation of a society for all ages, instead of an issue of caring for a segment of the vulnerable people waiting for their end.

The Law of the People's Republic of China on Protection of Interests and Rights of the Elderly includes a chapter on protecting older persons' rights and interests to participation in social development. The old age enterprise development plans or programmes regard encouraging older people to participate in social development as an essential content, and special policies have been developed to explore the roles of retired experts and technical professionals. In urban China, governments make efforts at all levels to guide older people to take part in education and training, technical consultation, medical and health care, science and technology application, caring for the younger generation and other activities, based on the local needs in economic, social, scientific and technological development. In the rural areas, older persons at lower ages are encouraged to engage themselves in agriculture, animal husbandary and processing work. In urban areas 38.7 per cent of the older population have participated in public service activities in China while 5.2 per cent continue to be gainfully employed. Of the rural older population, 36.4 per cent still participate in agricultural labour.

Under the guidance and support of the Government, the number of national old age social organizations has grown to 13, including the China Senior Professor Association, Association of Senior Scientists and Technicians, and Association of Senior Law Practitioners, and their branches are all over the country. The China Senior Professor Association and the Association of Senior Scientists and Technicians have more

than 650,000 individual members. Social groups, such as Association of Retired Engineers, Association of Senior Educators, and Association of Retired Medical Professionals, which target the older intellectuals, are formed in local places, where the senior intellectuals are organized to continue to contribute to socio-economic development. Attention is paid to the development of basic-level old age public organizations in the urban and rural areas. By the end of 2005, there were as many as 317,000 urban community and rural Older People's Associations, playing a positive role in organizing older people to participate in community development, social services and protection of their own rights and interests.

The policy of 'being aged but valid' helps to explore the potential of older people, allowing them to participate in the social enterprise and do what they are able to. The activities that older people are involved in in social development, including development of the primary, secondary and tertiary industries, as well as construction efforts for the material and spiritual civilization in economic and social development include:

(a) Providing children and young people with education on Socialism, Patriotism and Collectivism and on the good tradition of fighting one's way with diligence;

(b) Providing cultural, scientific and technological knowledge;

(c) Providing consultation services;

(d) Participating in scientific and technological development and application legally;

(e) Participating in management and production activities legally;

(f) Starting and running public services;

(g) Participating in maintenance of public security, and assisting with mediating of civil conflicts; and

(h) Participating in other social activities.

6.2 Participation of older persons in socio-economic development

Older persons engaged in economic activities refer to those who take part in certain social labour and earn labour rewards and operating incomes. They are directly involved in social labour and provide community with products and services. In 2000, the rate of participation in economic activities (including temporary shutdown of business) for older persons aged 60 years and over was 33 per cent. Table 33 shows the labour force participation rates of older men and women in urban (city) and rural (town and country) areas of China.

Table 33: Percentage of older persons economically active, 1990-2000

	1990			2000		
	Total	Male	Female	Total	Male	Female
CHINA	**28.3**	**44.1**	**14.1**	**33.0**	**42.7**	**23.7**
City	11.3	18.7	4.2	10.1	14.8	5.7
Town	16.0	26.3	6.2	19.7	27.4	12.4
County	32.1	49.9	16.3	43.2	54.9	31.9

Sources: NSB (2002)

Photo credit: Deng Xueyi, HelpAge International

Older woman in Shaanxi weaving cloth to earn money for college fee of her granddaughter

Participation rates of older men and women differ significantly: 42.7 per cent for older men compared to 23.7 per cent for older women in 2000. As expected the participation rates for both older men and women decline with age. For men the participation rates for those aged 60-69 years, 70-79 years and 80 years or more at respectively 54.5, 26.8 and 10.9 per cent. The corresponding rates for older females are 44.3, 19.8 and 6.9 per cent. The participation rates of older persons are higher in the rural areas. In 2000, 43.2 per cent of the older persons in the county were economically active compared to 19.7 and 10.1 per cent respectively in towns and cities.

Table 34 shows participation rates for rural areas to be much higher in all provinces/municipalities.

Table 34: Percentage of older persons economically active by province/municipality, 2000

Province/municipality	Participation rate		Province/municipality	Rate of participation	
	Urban	Rural		Urban	Rural
Anhui	18.5	47.6	Jiangxi	8.3	32.0
Beijing	4.9	18.3	Jilin	8.4	32.8
Chongqing	16.4	58.4	Liaoning	7.2	33.3
Fujian	12.1	26.8	Ningxia	8.1	27.9
Gansu	9.9	46.7	Qinghai	5.6	31.5
Guangdong	12.9	33.7	Shaanxi	14.6	42.6
Guangxi	17.1	51.5	Shandong	16.8	41.3
Guizhou	16.4	50.6	Shanghai	5.5	26.3
Hainan	15.5	47.6	Shanxi	12.3	33.8
Hebei	8.9	28.6	Sichuan	16.2	52.5
Heilongjiang	3.7	21.2	Tianjin	4.0	26.0
Henan	16.6	49.9	Tibet	15.0	35.3
Hubei	16.2	46.5	Xinjiang	9.5	46.5
Hunan	14.1	40.6	Yunnan	15.6	43.7
Inner Mongolia	7.1	24.6	Zhejiang	19.2	35.8
Jiangsu	17.8	41.2	**CHINA**	**10.1**	**39.7**

Source: Based on 9.5 per cent sample survey, NSB (2002)

The participation rate of rural older persons is highest in Chongqing and the lowest in Beijing: respectively 58.4 and 18.3 per cent. Overall, the participation rates for older persons are lower in the eastern coastal areas where the economy is more developed and higher in the inland areas with less developed economy.

6.2.1 'Silver Age Action': utilizing expertise of older intellectuals

Launched in 2003, the Silver Age Action organizes senior intellectuals to make use of their scientific and technological knowledge and professional skills to assist the western and less developed areas. China now has more than 5 million retired science and technology professionals, 70 per cent of whom are aged less than 70 years. Of these, 70 per cent have senior technical professional titles and are physically able and willing to continue to play a part. The older intellectuals are deeply bound with the country, are in the best time of life with a wealth of knowledge and experience and constitute an invaluable treasures to the nation. The Chinese Government realizes that it is an important measure favourable to the nation and the people to explore and use the human resources of the older people, as is their own will and need to be involved in social development.

The Silver Age Action is an essential measure of the Chinese Government for implementing the strategy of 'active ageing' in line with the spirit of the Second World Assembly of Ageing (Madrid 2002) which emphasized that "Potential of the older people is a strong foundation for development. Senior skills, experience and wisdom an ageing society relies on not only help to enhance the aged but also improve social conditions'.[22] The Silver Age Action provides a forum where the retired intellectuals in the Eastern Region are mobilized and organized to give aid to the less developed areas in West China, and where the retired intellectuals are encouraged and organized for various intellectual assistance efforts. According to the Plan of Action, physically able older persons at lower ages are organized to provide moral education, lecturing, supervision and care for children and to help young people with their difficulties with learning, living and psychology. The programme has been installed in over 100 cities across the country.

6.2.2 Development of cultural and educational cause of the old

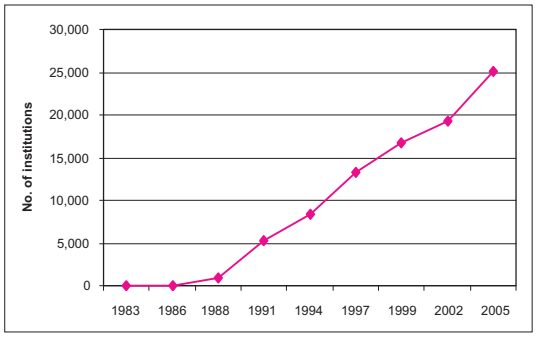
The State offers spiritual and cultural products fit for the elderly. Special programmes or columns for older persons are opened at TV and radio stations at the central and provincial levels. By the end of 2005, there were 24 newspapers for the elderly with a total circulation of 2.8 million copies, and 23 magazines with a circulation of 3 million copies. The literature, film, opera and publication communities produced a large number of works popular with the older people. Cultural and recreational activities good for the physical and mental health of older people are strongly advocated and supported. Each year, the National Finance appreciates special funds to support the National Artistic Performances for the Elderly, the China Elderly Chorus Festival, and other large events, as well as cultural and artistic exchange with foreign countries for older people. Public cultural agencies such as People's Arts Centers, Cultural Centers and Cultural Stations have enhanced their guidance for old age cultural activities, raised many amateur cultural elites, and played a remarkable part in vitalizing and enriching the spiritual and cultural lives of the aged.

Photo credit: CNCA & UNFPA China

University of the Third Age lecture at East China Normal University, Shanghai

As requested by the UN, China offers continued education to older people. The first university programme for the aged was started in Jinan of Shandong Province in 1983. For the following over 20 years, old age education has been thriving in China. At present, there are some 26,000 universities (schools) for the elderly, with a total enrolment of 2.3 million persons (Figure 24). China has the world's largest network of Universities of the Third Age both in terms of the number of institutions involved and the enrollment.[23] China Association of Universities for the Aged is part of the international U3A movement and in 2004 China hosted the Twenty-Second Congress of the Association of Third Age Universities in Shanghai.

Figure 24: Growth of third-age educational institutions, 1983-2003

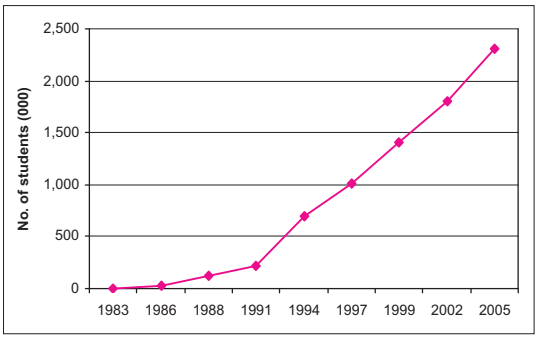


Source: Annex I, Table A–12

Old age education networks covering the levels of province, city and township (town) have been built in many places. Large numbers of older people now have opportunities of life-long learning to improve their scientific and cultural qualities, add to their pleasures in life and improve their capability of positively contributing to social and economic development.

Through more than a decade's development, Chinese old age colleges have formed an education and learning system of oriental cultural features with 'extensive coverage, multiple disciplines, multiple functions and openness'. Education in the late years is a reflection of the policy of 'providing education for the aged', which follows the guidelines of the Communist Party on education, insists on the Socialist schooling, and honours the principles of 'offering knowledge, enriching life, nurturing morality, promoting health, and serving community'. The number of older persons making use of third-age education opportunities has gradually increased since the inception of the scheme and, as shown in Figure 25, enrolment is now 2.5 million older persons.

Figure 25: Third-age university students in China, 1983-2005



Source: Annex I, Table A–12

Old age education in China is transforming from sole classroom teaching to a combination of learning via correspondence, TV and radio, classroom teaching and home-based tutoring. The contents are changed from the previously mere recreational information into a combination of recreation and professional training. Level and quality of education are enhanced to advance the enterprise properly, which is supposed to manifest the mission and objectives of old age education, 'offering knowledge, enriching life, nurturing morality, promoting health, and serving community'. Learning, recreation and action are combined, and multiple patterns such as social provision, joint management and independent investment are adopted. Different types of old age universities (schools) should be gradually made standard, socialized and form unique campus cultures and education styles, as is reflective of the principles of 'democratic education, mutual promotion of teaching and learning, being vivid and lively, and providing education according to individual character and as requested'.

6.3 Participation of older persons in social activities

Most of the older people in China are at lower ages with a favourable health status and are willing to take part in social activities and services. According to the National Rural-Urban Sample Survey Results of CRCA, 61.4 per cent of the urban older persons and 81.3 per cent of the rural older people are willing to offer at least one type of help or service to older individuals in difficulty. In the urban and rural areas respectively 50.4 and 52.9 per cent of older persons say they are willing to take messages of difficulty to superior authorities for other older people. Also 30.8 per cent of the urban and 37.8 per cent of the rural older persons are to help organize older people for recreation. In urban communities, the activities that most of the older persons like to participate in include: mutual help (69.6 per cent), voluntary labour (65.7 per cent), volunteer activities (62.9 per cent); maintenance of public security (42.9 per cent) and youth education (20 per cent). In the new era, mobilizing, organizing and guiding older people to participate in social development and further explore their potential are a new task in the ageing work.

6.4 Assistance to the family by older persons

As pointed out in the 2002 Madrid International Plan of Action on Ageing, "contributions of older people to society and economy are more than their economic activities, who often play a key role at home and in community. Many of their valuable contributions cannot be measured in economic unit: caring for family, labouring productively for maintaining livelihood, attending housework, and engaging in volunteer work in the community". Close family ties are a longstanding tradition in Chinese history and culture. Intergenerational links are strong and family members are mutually dependent and care for each other. Such a relation, on the one hand, secures adequate support, care and respect an older person can expect to receive from younger family members; and, on the other, provides older people, especially older women, the opportunity to contribute towards maintaining family harmony, carrying out housework, and taking care of other family members.

Photo credit: CRCA

Grandfather taking care of grandson

In recent years, particular attention from the international community has been paid to the burdens and impact caused by AIDS patients and HIV carriers upon their family members, in particular the older ones. Supported by UNFPA in 2005, CRCA researchers made quantitative analysis of the reported data collected by the Chinese Center for STD/HIV/AIDS Prevention and Control via the HIV/AIDS monitoring network, and conducted field surveys, case interviews, information workshops and investigations of basic information of community in the typical HIV/AIDS epidemic areas. The efforts yielded numerous findings. The first complete research report, Impact of HIV/AIDS on Older Persons, in which a special chapter was dedicated to the support and assistance offered by older parents to their HIV+ or AIDS offspring, showed that older persons offered various types of assistance.

When the children contracted HIV, most of the older parents, who previously lived separately, would return and live with their young, or might eat with their children without living together. Of the interviewed, more than 60 per cent of the older persons accompanied their children for medical care, 65 per cent bought

medicine for their children and 65 per cent helped with housework. At the beginning of infection or when the symptoms were not significant, the older persons would focus on the grandchildren. The parental help mainly included daily living, nursing, disease treatment and mental comfort. In later stage of the disease, the immune system of the patient started to collapse rapidly and the conditions were aggravated. Then the role of the older parents as caregivers became even more pronounced. Most frequently, the patients would remain in bed for 3-4 months before death, when they were mostly cared for by the older people, basically full time. The care included nursing, terminal care and other related supports. Mothers played a bigger part in nursing and terminal care than fathers. In some cases, the burden on older females was even heavier as their spouse was also infected.

Parental economic support was particularly important, which was given in many forms: partial provisions of living expenses and medical costs, feeding the grandchildren in their own homes, paying tuitions for grandchildren, buying toys, and helping the diseased offspring borrow money. Economic supports provided by the older parents typically lasted 2-5 years, even as long as 10 years in some cases. Such long-term economic provisions for their young undoubtedly made their own difficult lives even worse. More importantly the older parents provided the psychological comfort needed due to rejection by society. Most of the AIDS patients lived at home, where mental comfort from their parents was very important, in particular comfort given by the mothers. The discriminative context made the parental comfort particularly warm, which helped to relieve the negative emotions due to the disease.

Section 7: Government Policies and Programmes

7.1 Basic understanding and conception of Chinese government

The Chinese Government recognizes population ageing as a strategic issue with a bearing on the country's socio-economic development. Along with ageing come changes in the age structure of population, followed by social, economic and political alterations in structure of national financial expenditure, industrial composition, consumption structure, investment structure and family structure. As a result, population ageing will inevitably cause major impact on the politics, economy and society of China. The enormity, urgency, difficulty and complexity of the issue are posing grave challenges upon China's work on ageing. The Central Government has repeatedly requested local authorities to pay attention to the trends in rapid population ageing and make timely and adequate responses. The Political Report of the 15th General Conference of CPC also emphasizes "controlling population growth, enhancing population quality, and paying attention to the issue of population ageing". China has had to face ageing as a less developed economy. Therefore, the key to solution rests with vigorous development of the economy to enhance the nation's economic capacity and overall national strength. The industrial composition must be adjusted on a potent economic foundation with efforts taken to advance the old age welfare enterprise and resolve the social problems brought about by ageing. The Chinese Government will continue to uphold the principle of economic development as the central response to population ageing. The development objectives of China's old age enterprise are "provisions of support, health care, education, learning, action and recreation to all older people".

Through long-term actions, the Chinese Government has realized that the issues of ageing must be viewed in a strategic perspective, where leadership and planning should be strengthened to handle the problem of population ageing in an integrated manner. The older population, economy, society, environment and resources should be harmonized for sustainable development. A working mechanism suited for the Socialist Market Economy and ageing society should be basically established, a complete and coherent policy and statute system framed, and a favourable social context where the elderly are respected, supported and assisted be sought. Measures should be taken to protect the fundamental rights and interests to life of older persons as provided by the law, promote their quality of living, and deliver the 'provisions of support, health care, education, learning, action and recreation to all older people' for healthy ageing. 'A society for all ages' is the inevitable solution to China's ageing problem.

The Chinese Government also understands that the traditional perception of older people as a vulnerable, dependent and frail group is incorrect. Older people are treasures of society who have been part of the process of creating and will pass on the tangible and spiritual civilization of China. Older persons are a source of intelligence for the construction of socialization with Chinese features that must not be underestimated. Respecting the elderly is equivalent to respecting life, the rules of social development and the history. The Government believes that the older people must be well organized so that they may continue to contribute their knowledge and experience; conditions should be created for them to play

their part and be involved in social development, who should find the later years of a longer life meaningful and be respected and honoured in the community. Full utilization of the potential of older persons and creating conditions to enhance their participation in social development are a crucial response to an ageing society.

The State respects, advocates and encourages independence and self-reliance of older people, develops the social welfare enterprise, and promotes old age welfare enterprise by adopting an approach of shared burden upon the State, society, family and individual. The State encourages and supports social groups or individuals to open Homes for the Aged, Senile Apartments, elderly medical rehabilitation centres and facilities for old age cultural and physical activities. Local governments should increase their input in old age welfare, and start old age welfare facilities according to the local economic development level, enriching the cultural and physical recreations for the elderly and advocating healthy lifestyles in the late years.

The approach of family old age support is a tradition in China. For thousands of years, it has maintained social stability, and ensured people's lives in their late years, which is impossible to be replaced with another way. The Chinese Government recognizes the fact that the traditional approach cannot be overlooked while taking full strength to develop social welfare and improve the social security system. As a result of the current economic development level and moral and cultural traditions, family old age support will remain the leading approach for economic provision, life care and mental comfort for the aged. The traditions of respecting and honouring the old should continue to be upheld. The role of family support should be emphasized. New home-based support environments should be actively created according to the changes in family old age support in the context of market economy. Appropriate policies and measures should be framed to continue on the track of combined home-based support of family and social old age support, in addition to improving the social security system.

7.2 Major activities of the Chinese Government

7.2.1 Organizations

The Chinese Government has always attached priory to the ageing issues. Since the early 1980s, the State has paid close attention to trends in population ageing. In 1982, China participated in the World Assembly on Ageing held in Vienna. The Chinese Government took this as the opportunity to start its activities in the area of population ageing. Major measures introduced by the Government since 1982 are listed in Annex II.

The Chinese Government responded actively to the 1982 Vienna International Plan of Action on Ageing, adopted at the World Assembly, by forming a national-level working agency on ageing, namely the China National Working Commission on Aging (CNWCA). The CNWCA is responsible for planning, coordinating and directing ageing work across the country, researching and making development strategies and major policies for ageing undertakings, coordinating and facilitating relevant sectors to implement the plans for development of ageing undertakings, and guiding, monitoring and inspecting local practice. The Commission is composed of a Vice-Premier of the State Council as its Chairperson and 26 Vice-Ministers from relevant departments as its members. An office is affiliated to it, which handles its daily work. So far China has formed Working Committees on Ageing and the executive agencies at the provincial (province, autonomous region, municipality directly under the Central Government), prefectural (city, prefecture, league), county (county, city at the county level, district), and township and town (sub-district) levels, and special personnel are assigned in village (neighborhood) committees, creating a working network from the Centre right down to the grassroots level.

With the support from the Chinese Academy of Sciences and the Chinese Academy of Social Sciences, the State Commission for Economic Restructuring approved the establishment of the China Academy of Gerontology. As a comprehensive science, gerontology has been

well recognized by society. The Academy is a national public academic body specialized in the science of ageing, with a mission to unite experts, scholars and old age work professionals dedicated to academic research in gerontology based on the reality of China, to develop the science of ageing, and to provide the Communist Party and the Government with references for guidelines and policies related with the issue of population ageing, and to serve as an advisory agency. The Academy has held a series of national academic workshops and edited and published symposia of the workshop papers. China Academy of Gerontology has joined the International Gerontology Association, and made connections with gerontology organizations in many countries.

Photo credit: EU Project Sichuan University

Older persons receiving seed money loans

In 1986, the China Fund for the Elderly was founded in Beijing. This is a social group created with raised funds, dedicated to developing the old age welfare enterprise in China. Its major tasks are raising, using and managing funds for old age welfare, developing the enterprise of old age welfare, and communicating and cooperating with overseas Chinese, Chinese in Hong Kong and Macao, friendly international groups and individuals on issues related with the old age welfare fund. Its mission is to promote the traditional virtue that the entire community supports, respects and cares for the aged, to develop the old age welfare enterprise with different strengths of society, and to serve and raise needed funds for providing support, health care, education, learning, action and recreation to all older people for comfortable late years. The funding of the Foundation finds its sources from State support, donations from businesses, institutions, government agencies and individuals, and contributions from overseas Chinese, Chinese in Hong Kong and Macao, friendly foreign groups and individuals. The Foundation also accepts international supports and State sponsorships.

7.2.2 Laws and regulations

Since the founding of the People's Republic of China, the State has promulgated a series of laws, regulations and policies relating to aspects of social security, welfare and service, health care, cultural and physical education, and rights protection for the aged and ageing industry. In the last two decades, the National People's Congress and its Standing Committee, the State Council and the related departments have issued more than 200 ageing-relating laws, regulations, rules and policies, forming a preliminary legal and administrative framework on ageing on the basis of the Constitution of China with the Law on Protection of Rights and Interests of the Elderly as the frame, which includes the relevant laws, administrative regulations, local laws and regulations, rules and the related policies issued by the State Council and the local governments. However, as the situation changes, some of the legal and regulatory codes are no longer suited for the new set up. Some of the items were formulated in earlier times with intense features of the Planned Economy. The laws fail to address certain issues in the time of Socialist Market Economy. Legal vacuum exists relating to some issues. Thus, modification of the Law on Protection of Rights and Interests of the Elderly seems particularly necessary. In 2006, ten years after its promulgation, the work to modify the Law on Protection of Rights and Interests of

the Elderly was approved by the Committee of Internal and Judicial Affairs of the National People's Congress. A working group in China National Committee on Aging (CNCA) is currently working on the modification.

The Communist Party of China (CPC) Central Committee and the State Council issued the Decision on Strengthening the Work on Aging in 2000, which is a guiding document for the old age enterprise. The Decision finds the issue of population ageing concerning many areas of political, economic, cultural and social lives, which is a major social problem that matters for the national economy and the people's livelihoods as well as the long-term stability of the country. The whole community must prioritize and properly carry out work on ageing in view of reform, development and stability. The Decision stresses the considerable significance of full perception of strengthened work on ageing, and requests the CPC Committees and the People's Governments to implement the ideas of the Decision, which is a major determination made by the Chinese Government in the dawn of the new century.

The Decision points out that the age structure of Chinese population has entered a stage of ageing and the older population will continue to grow at a high rate for some period. Taking active measures to develop the work on ageing in China is an important and urgent strategic task. Older people are a crucial component of society. Allowing them to share in the achievement of economic and social development is a reflection of the fundamental principle of the CPC to serve the people whole heartedly, and also an undeniable obligation of the State and society. Given the context of the Socialist Market Economy, it is an essential part of the Socialist spiritual civilization development to uphold the traditional virtues of the Chinese nation and form a good social fashion of respecting, supporting and assisting the aged. Correct management and solution of the conflicts and problems emerging in the ageing process, and protecting the legal rights and interests of the elderly have indispensable significance for economic and social development.

The Decision also points out that the Social Security System should be improved and an old age security mechanism that combines the State, society, family and individual be established step by step to secure the basic needs of life, health care and other aspects of older people. A relatively complete Endowment Security System should be framed in rural China, mainly including the Basic Endowment Insurance, Basic Medical Insurance, Commercial Insurances, Social Assistance, Social Welfare and Social Mutual Assistance. In the countryside, family old age support should continue to act as the lead approach, besides further improved social relief and Five-Guarantee Support System (guarantees of food, clothing, housing, medical care and burial), where mutual assistance among villagers should be advocated.

The Decision points out that, community development should be strengthened, and the role of community to serve the aged should be furthered by developing an ageing service industry, which is community-based. The existing facilities should be used to open Homes for the Aged, nursing centres for the elderly, Senile Apartments, and day care centres for the aged in different forms and at different levels, where life care, cultural, nursing and health care services are provided. Community activity centres or stations for the elderly should be built up to satisfy the older people's spiritual and cultural needs, and enrich their spiritual and cultural lives. The old age consumption market should be raised and developed, guidance on reasonable consumption should be offered to older persons, and consumption demands at different levels and of different types should be met. The Decision requests the People's Governments to include the old age enterprise in their medium- and long-term and annual plans for national economy and social development. Community development should be prioritized, and community development during the Tenth Five-Year Plan Period should be carefully engineered. The directives and policies issued by the Central Government and the State Council must be properly enforced. The Subsistent Security for Urban Resident and the Basic Endowment for Retired Person must be paid in full sum in a timely manner without delay,

which should be increased with economic growth. The rural Five-Guarantee Support System should be further enhanced to elevate the level of support. The scope of services of Rural Homes for the Aged should be expanded. Civil strengths should be encouraged to open welfare service facilities for the aged.

In July 2001, the Chinese Government issued the Outline for the 10th Five-Year Plan Programme for the Development of Aging-relating Undertakings in China (2001-2005), which prescribed the specific goals for the 10th Five-Year Period, including improved economic support, health care, care services, spiritual and cultural lives for the aged, and protection of the older persons' legal rights and interests, full realization of the Five Provisions for All Aged, and enhanced quality of living of the older population. Since then, the Chinese old age enterprise entered a phase of all-round development under the working guidelines of 'the Party and government leadership, social participation, and universal attention'.

7.2.3 Research institutes on ageing

The Chinese Government has attached importance to research on population ageing to provide a better insight into ageing-related issues to serve as a basis of policy making. A national research institution, the China Research Center on Aging (CRCA), was established in 1989. The main tasks of CRCA are:

(a) To survey and study the development trends in population ageing of China, conduct proper work on forecast and projection of population ageing, and to provide scientific references for research into the ageing issue;

(b) To study the implications of population ageing for social and economic development, and pose strategic responses suited for the social and economic development in China;

(c) To coordinate different social sources to conduct basic theoretical research activities in the fields of social gerontology, demography relevant to ageing, statistics and psychology etc.;

(d) To make long- and short-term plans for scientific research in ageing;

(e) To strengthen the development of research personnel in ageing; and

(f) To enhance international cooperation and academic exchange.

Since its establishment, CRCA has conducted three national sample surveys on the older population, established a basic database for research into ageing, and conducted a number of research studies.

Provinces, cities and universities also started their research institutions and carried out studies and surveys, the results of which are used as scientific references for government policy-making relating to ageing. In 2003, Renmin University of China introduced a new major, Gerontology, which is an independent discipline of social sciences. According to the categorization of disciplines of the National Education Commission, Gerontology is a Level 1 discipline listed under the section of science of law.

7.3 International cooperation

The Chinese Government actively participates in and encourages international exchanges and cooperation in the area of population ageing. Delegation of the Chinese Government attended the two World Assemblies on Ageing, in Vienna in 1982 and in Madrid in 2002, as well as many other international and regional events on ageing. The Government also held the Asia-Pacific Seminar on Regional Follow up to the 2nd World Assembly on Ageing and a number of international and regional ageing conferences, and was actively involved in making and implementing the International Plan of Action on Ageing and the Plan of Action on Ageing in Asia and Pacific Region. It is enthusiastic about multilateral and bilateral exchanges and cooperation on ageing at the global and regional levels, has joined six international ageing organizations and formed working connections with ageing organizations in more than 90 countries and regions. The Government has been conducting cooperative programmes with relevant UN bodies, the European Union (EU), governments of some countries and international NGOs on ageing research, poverty relief for the older population, education for the aged and in other related fields.

7.3.1 Cooperation with UNFPA and other international organizations

The cooperation of the Chinese Government with UNFPA started in 1979, and has continued under 6 cycles of cooperation over the past 28 years. The cooperation has been in many areas, including family planning, reproductive health, maternal and child health, census, demographic research and population education, research and development of contraceptives, prevention and control of HIV/AIDS, gender equality, population ageing, and South-South cooperation. All the projects have yielded remarkable social benefits.

CNCA has worked with UNFPA on ageing since 1985, that is, from its 2nd cycle of cooperation (1985-1989) to build research and policy capacity for ageing. With continuous efforts at constructive collaboration throughout UNFPA cycles of cooperation (CP3 1990-1995, CP5 2003-2005 and CP6 2006-2010), areas of capacity building for academia, large scale national surveys related to ageing, researches relating to respective ageing dimensions, amendment of laws on ageing and capacity building for government have been covered. The recent focus of this collaboration is to support building of government capacity to formulate and implement evidence-based strategic plans and policies on ageing, with special emphasis on active and healthy ageing. Activities will be implemented in pilot projects in 6 counties located in western, central and eastern China.

In addition, other international organizations have also launched programmes in China to promote the development of Chinese old age enterprise. The Regional Development Center for Asia-Pacific Region and HelpAge International implemented the project on ageing called Project on Older Population in Middle and Western Regions of China and Community Poverty Relief. The project was supported by the EU, which provided 750 thousand Euros and included two parts – poverty relief and medical care. It was initiated in Sichuan and Shaanxi Provinces in 2003. Instead of the conventional social assistance approach, the project adopted sustainable development for poverty relief, and involved the marginalized group of older people in the development of society by forming autonomous bodies of the old, the old age associations, to mobilize older persons to participate in project decision-making, management and implementation, in communication with young people, interaction with village leaders and service personnel, and in the development of the entire community, helping to relieve poverty of the community.

7.3.2 Actions since MIPAA

On the basis of the 2002 Madrid International Plan of Action on Ageing (MIPAA) and the commitments of the Chinese Government, the Government has taken a number of actions. It regards the Plan of Action as a guideline for China to respond to the challenges of population ageing, and switches its focus to the developing countries as requested by the Second World Assembly on Ageing, framing more exchange and cooperation between the developed and developing nations to fight the challenges in joint effort. In September 2002, as requested by the resolution of the Madrid Assembly, countries of the Asia-Pacific Region attended the Conference on the Regional Implementation Strategy for the Madrid International Plan of Action on Ageing (UN, 2002) held in Shanghai. The most important outcome of the Shanghai Conference was the adoption of the Shanghai Implementation Strategy for the Asia-Pacific Region, which integrated the guiding document of the UN 2002 International Plan of Action on Ageing with the ground realities in the Region. Increasing consideration was given to the fact that most of the countries in the Region are developing ones with less developed economies. The Strategy prescribed guidance in such aspects as ageing-related policy-making in the Member States, appropriate fund allocations, and training of aged-oriented service personnel. The Shanghai Strategy incorporated the spirit of the MIPAA and incorporated the survey findings of the ageing problem in the Asia-Pacific Region provided by the UN Economic and Social Commission for Asia and the Pacific Region in 2002, along with the main contents and proposals of the 1999 Macao Declaration.

Hearing of the ideas of governments and NGOs of different countries and regions, exchange of experience, partnership and collaboration, sharing of experience and achievements are the most prominent features characterizing the Strategy, which is another reflection of the unification of the nations of the Region in addressing the challenge of population ageing. It marks the beginning of actions taken by the countries and regions in the Asia-Pacific Region in the dawn of the new century. China has promoted international exchange of information and views on ageing. In 2004, the Twenty-Second Congress of the Association of Third Age Universities was held in Shanghai. In 2006, more than one hundred delegates from various countries attended the Shanghai International Symposium on Caring for the Elderly held in June in Shanghai.

Section 8: Policy Recommendations

The Second World Assembly on Ageing in 2002 was aimed at generating awareness among countries, especially in the less developed regions, to start initiating effective strategies and responses to the ageing issue in order to avoid missing strategic opportunities and suffering grave losses. As a developing country, China is faced with various opportunities and challenges brought about by population ageing, and the Chinese Government has included the ageing issue in its overall strategy of national socio-economic development. Governments, ageing institutions, research institutions, experts and all walks of life are presenting policy recommendations and proposals regarding the ageing issue via all channels, which may be summarized as follows:

1. The issue of population ageing should be regarded as a serious national condition of China in the 21st century. China has become and will remain for a long-term an ageing society. Governments, related sectors and the whole community must have full understanding of the gravity of the challenges, develop awareness of ageing, and reinforce their sense of urgency and responsiveness for handling the challenges imposed by population ageing and ageing society. In researching and developing socio-economic development strategies, the basic national condition of ageing society should be taken into account, and responses to the challenges included in future strategies.

2. The 25-year period of strategic opportunity should be fully taken advantage of to prepare for responding to the ageing society. The approaching 25 years starting from this day is a key preparatory period for response, which is also the only strategic window of opportunity open to China, with the 11th Five-Year period (2005-2010) the most crucial. Government should fully perceive and seize the challenges and opportunities of ageing society, incorporate solving of the related conflicts and problems in the overall development strategy for construction of a well-off society and Socialist Modernization, produce development plans, improve laws and regulations, adjust socio-economic policies, and be prepared for response to the ageing society. Medium- and long-term strategic plans should be developed in response to the ageing society. The current situation should be considered when improving the working mechanism on ageing in the country with the World's largest older population while enhancing policies, increasing input and driving ageing undertaking forward faster.

3. The old age social security system should be developed at a fast pace. Expanding and improving the old age social security system should be considered fundamental to solving the increasing requirements of support and medical care for the aged in the ageing society. In addition to improvements in the urban mechanisms of Social Endowment Insurance and Medical Insurance, efforts should be made to promote the Medical Assistance System for urban and rural people in difficulty. Given the fresh drive of constructing a new Socialist countryside, the Rural Five-Guarantee Support System should be enhanced, the Rural Novel Cooperative Medical Care System widely disseminated, a subsistence security system created for rural residents, and the Social Endowment Insurance System be practiced in pilot sites. Before 2030 when the most severe situation in population ageing arrives, an

old age security system, which matches the conditions of China and suited for the Socialist Market Economy, should be put in place to assure proper solutions to the support and medical care problems for older people in urban and rural China.

4. The "silver" industry should be vigorously developed. Development of the silver industry is an essential response to ageing society, which helps to satisfy the massive demand of older population and adds impetus to harmonious socio-economic development. Development plans for ageing service industry should be made, supportive and protective policies for the ageing service industry of the State implemented and an administrative mechanism for development of the silver industry be created. An aged-oriented service industry should be developed on the basis of urban and rural communities, agent organizations for ageing services be raised, professional service workforces produced, and the industry should see considerable advances by 2030. At the same time, the following efforts should be made to research and develop consumption products for the elderly, and explore the ageing market:

   (a) Use the market mechanism to drive development of the ageing industry. The State should make structural adjustments to some products, develop old age products suited for marketing, and encourage and guide the development of the old age product market, according to the trends in population ageing. Authorities responsible for economic management should make use of the market mechanism, produce necessary preferential policies, and support development of aged-oriented service industry of charity nature.

   (b) Use the ageing industry to advance the social welfare enterprise. Socialized services of old age support in urban and rural China should gradually move onto the track of industrial development. In addition to provisions of necessary financial support, social groups and individuals should be encouraged to participate. The mechanism of ageing industry should be used to develop social welfare facilities. A system where the investor is the manager should be installed, and the facilities be operated according to law. Initiative of all stakeholders should be mobilized.

   (c) Efforts should be made to reduce the costs for development of aged-oriented service industry. The existing social resources should be fully used to develop the ageing industry. Development funding should be raised via multiple levels and channels, which should be used more efficiently. The effect of financial leverage should be properly utilized. Consideration should be given to fiscal measures that can assist in the development of the aged-oriented service industry.

5. Prospective and strategic studies of ageing society should be strengthened. The challenges of an ageing society are unprecedented. Developing Countries, particularly such a large country as China, are given no success stories to learn from in a context of handling the challenge without before being modernized. Therefore, research into the characteristics and rules of ageing society must be strengthened, alongside studies of the Ageing Enterprise with Chinese features. Conditions should be formulated to found comprehensive national research institutions, organize research personnel in relevant disciplines, target population ageing and ageing society as major strategic subjects for the nation, and conduct key research projects to provide scientific evidence for responding to the critical situation of population ageing.

6. Create a home-based old age support system with family support as the basis, community old age service network in support, public welfare facility approach for

complementation, and social insurance system providing security, and combine the roles of older individual, family, society and State for the best effects. This will call for:

(a) Creating an environment for home-based old age support. To make daily living easier for older persons, consideration should be given to the needs of the aged and that the household housing both the old and young can be easily divided when necessary as the dwelling is designed, and space good for activity of the older persons should be arranged in public facilities to allow most older people to live in their own homes for continued functioning of family support. Healthy lifestyles should be advocated. A family old age support system with the tradition of respecting and caring for the old should be enhanced.

(b) Developing community old age services at a quick pace. Urban development plans should fully consider the trends in population ageing, design communities reasonably, allow older people to access consultation, shopping, cleaning, company, nursing, emergency care and other services within close range, and offer conditions to meet the demand of older persons to learning, physical and cultural activities, healthy recreation, communication and other social activities, forming a community old age service mechanism that suits different characteristics of urban and rural areas with multiple levels, functions and items.

(c) Developing welfare facilities for public old age support to proper extent. For old age support and elderly agencies and facilities started by Government such as Homes for the Aged, the Government should increase investments based on the local economic development level and the conditions of older persons in need of support from public welfare agency, in order to improve the facility conditions and enhance the residential and support levels. Civil investments should be encouraged and supported to open old age support facilities. Preferential policies should be made to develop facilities of welfare nature. Market approaches should be correctly used to guide and start profitable public old age support facilities, forming an assistance and security mechanism for older persons in difficulty with family support.

(d) Improving the social protection and security system for older people. Measures should be taken to enhance the regular growth mechanism of the basic endowment for urban retired employees, improve relatively independent endowment agent bodies, which will be responsible for levying, payment, operation and management of the endowment, explore the creation of an endowment insurance fund via national debt, and secure timely payment in full sum. A rural old age security mechanism with personal savings and family security as the core, supported by collective subsidies and national policies should be erected in rural China step by step. Social and commercial insurances for old age and medical care should be actively promoted in urban and rural areas, gradually forming a social protection system for urban and rural older persons.

Endnotes

1 MDRs include all countries of Europe, North America, Australia, New Zealand and Japan. The rest of the world is classified as LDRs.

2 NSB (2002).

3 UNDESA (2007a).

4 While doubling of the proportion from 7-14 per cent of the population aged 65 years and over took 115 years in France and 85 years in total population, it is projected to take only 26 years in China. Kinsella & Phillips (2005).

5 IPRC (2000).

6 UNDESA (2007b).

7 At some stage after 2050, the population of older persons will start declining as the declining number of babies start entering the old age cohorts. According to UN estimates, (UNDESA 2007a) older population will begin to decline in absolute terms in Japan after 2040 and in the Republic of Korea after 2045.

8 UNDESA (2007b).

9 In nationwide surveys in China "rural areas" include "county", "town" and "township". Cities (provincial capitals) and the 4 Municipalities (Beijing, Shanghai, Tianjin and Chongqing) are defined as "urban areas". However, the actual situation becomes somewhat complicated in treating a "county-level city".

10 China comprises 4 Municipalities, 23 Provinces, 5 Autonomous Regions and 2 Specially Administered Regions of Hong Kong and Macao. The analysis includes 22 Provinces, the 4 Municipalities and the 5 Autonomous Regions (classified with the Provinces). It excludes the 2 Specially Administrative Regions and the Province of Taiwan.

11 UNDESA (2007b).

12 Bruntland (2002).

13 'Prior employee' refers to those who had been retired before 1st January 2006, when the New Policy was put in place. They are provided with the Basic Endowment as prescribed in the previous national policies, and the benefits of the Endowment Insurance were added when the Basic Endowment System was adjusted. 'Middle employee' refers to those who were employed before 1997 when the Decision of the State Council on Establishing a Unified Basic Old Age Insurance System for Enterprise Employees, and had paid the accumulation fund for 15 years accumulatively following the implementation of the New Policy. These people had less accumulation on their personal accounts, and are provided with the transitional endowment by the State in addition to their Basic Endowment Insurance benefits and personal account pension. 'Later employee' refers to those employed after 1997 when the New Policy was launched, who had paid the accumulation fund for 15 years and are provided with the basic endowment per month after retirement.

14 Tian (2006).

15 Estimated at 2.9 per cent per annum.

16 For evidence on increase in medical costs with age, see Mujahid (2006).

17 Lei (1996).

18 CRCA (2003a).

19 Owing to the migration of young people from rural to urban along with the rapid ageing, the social needs for medical service, nursing care, home service and leisure activity etc., has been increasing in rural area. But the actual utilization of these services is proportionally low for reasons e.g., low level of socialization, low income and educational level in the rural elderly etc. The utilization of free services is proportionally higher than that of paid services in rural area.

20 CNWCA (2005a).

21 UNFPA (2004).

22 UN (2002).

23 Thompson (2002).

Annex I: Statistical Data

Table A-1

Population of China by Age Group and Sex, 1950-2050

(thousands)

Age		1950	1955	1960	1965	1970	1975	1980
All ages	Male	288,204	314,725	338,496	375,123	427,345	477,851	514,711
	Female	266,561	294,279	318,998	354,068	403,327	449,958	484,165
	Total	554,765	609,004	657,494	729,191	830,672	927,809	998,876
0–14 years	Male	98,711	117,495	131,894	150,500	170,071	189,190	183,056
	Female	87,337	108,464	123,903	142,494	159,967	177,188	171,577
	Total	186,048	225,959	255,797	292,994	330,038	366,378	354,633
15–59 years	Male	170,973	175,848	184,678	201,587	231,843	259,593	297,902
	Female	156,171	161,001	169,503	183,752	212,006	237,505	272,476
	Total	327,144	336,849	354,181	385,339	443,849	497,098	570,378
60 years and over	Male	18,520	21,382	21,924	23,036	25,431	29,068	33,753
	Female	23,053	24,814	25,592	27,822	31,354	35,265	40,112
	Total	41,573	46,196	47,516	50,858	56,785	64,333	73,865
80 years and over	Male	472	631	857	1,224	1,650	2,178	1,459
	Female	1,087	1,262	1,488	1,890	2,351	2,925	2,869
	Total	1,559	1,893	2,345	3,114	4,001	5,103	4,328
15–64 years	Male	179,056	184,796	192,065	210,262	241,701	271,053	311,025
	Female	164,809	170,139	177,862	193,877	223,128	249,550	285,793
	Total	343,865	354,935	369,927	404,139	464,829	520,603	596,818
65 years and over	Male	10,437	12,434	14,537	14,361	15,573	17,608	20,630
	Female	14,415	15,676	17,233	17,697	20,232	23,220	26,795
	Total	24,852	28,110	31,770	32,058	35,805	40,828	47,425
50–64 years	Male	31,293	31,504	31,221	34,340	38,678	44,330	51,107
	Female	30,798	32,000	33,420	36,460	39,567	43,541	48,334
	Total	62,091	63,504	64,641	70,800	78,245	87,871	99,441
85 years and over	Male	149	124	179	255	404	564	592
	Female	348	303	377	463	663	852	1,037
	Total	497	427	556	718	1,067	1,416	1,629

Table A-1

Population of China by Age Group and Sex, 1950-2050

(thousands)

Age		1985	1990	1995	2000	2005	2010	2015
All ages	Male	550,440	593,308	626,866	655,997	678,178	697,726	716,324
	Female	516,464	555,763	586,865	613,968	634,803	653,792	672,279
	Total	1,066,904	1,149,071	1,213,731	1,269,965	1,312,981	1,351,518	1,388,603
0–14 years	Male	168,603	166,219	169,853	167,289	151,087	142,041	138,076
	Female	156,640	152,355	153,436	149,486	132,685	123,049	118,918
	Total	325,243	318,574	323,289	316,775	283,772	265,090	256,994
15–59 years	Male	342,394	380,893	402,866	426,285	456,526	473,088	476,353
	Female	314,916	352,859	375,814	399,128	428,657	444,441	445,395
	Total	657,310	733,752	778,680	825,413	885,183	917,529	921,748
60 years and over	Male	39,443	46,196	54,147	62,423	70,565	82,597	101,895
	Female	44,908	50,549	57,615	65,354	73,461	86,302	107,966
	Total	84,351	96,745	111,762	127,777	144,026	168,899	209,861
80 years and over	Male	1,896	2,411	3,039	4,372	6,164	8,045	10,133
	Female	3,693	4,531	5,299	7,059	9,240	11,433	14,128
	Total	5,589	6,942	8,338	11,431	15,404	19,478	24,261
15–64 years	Male	357,728	398,510	422,990	447,593	478,989	501,540	514,320
	Female	329,945	369,472	394,632	418,856	449,755	471,945	483,386
	Total	687,673	767,982	817,622	866,449	928,744	973,485	997,706
65 years and over	Male	24,109	28,579	34,023	41,115	48,102	54,145	63,928
	Female	29,879	33,936	38,797	45,626	52,363	58,798	69,975
	Total	53,988	62,515	72,820	86,741	100,465	112,943	133,903
50–64 years	Male	58,294	64,165	68,659	77,292	95,130	109,942	127,913
	Female	53,824	58,372	62,589	71,452	90,484	106,078	124,926
	Total	112,118	122,537	131,248	148,744	185,614	216,020	252,839
85 years and over	Male	357	553	750	1,165	1,916	2,707	3,570
	Female	934	1,330	1,725	2,358	3,433	4,530	5,763
	Total	1,291	1,883	2,475	3,523	5,349	7,237	9,333

Table A-1

Population of China by Age Group and Sex, 1950-2050

(thousands)

Age		2020	2025	2030	2035	2040	2045	2050
All ages	Male	732,546	744,434	749,870	748,634	742,437	732,859	720,678
	Female	688,718	701,349	708,550	709,660	705,918	698,588	688,169
	Total	1,421,264	1,445,783	1,458,420	1,458,294	1,448,355	1,431,447	1,408,847
0–14 years	Male	139,471	139,557	135,191	127,651	120,172	115,428	113,459
	Female	120,319	120,591	117,288	111,472	105,953	102,747	101,941
	Total	259,790	260,148	252,479	239,123	226,125	218,175	215,400
15–59 years	Male	475,668	466,034	448,652	434,663	430,955	421,498	401,321
	Female	442,522	430,057	409,467	391,859	384,681	374,176	354,271
	Total	918,190	896,091	858,119	826,522	815,636	795,674	755,592
60 years and over	Male	117,407	138,843	166,027	186,320	191,310	195,933	205,898
	Female	125,877	150,701	181,795	206,329	215,284	221,665	231,957
	Total	243,284	289,544	347,822	392,649	406,594	417,598	437,855
80 years and over	Male	11,949	13,620	17,101	23,271	26,851	33,035	41,453
	Female	16,602	19,183	24,506	34,009	39,885	49,259	61,565
	Total	28,551	32,803	41,607	57,280	66,736	82,294	103,018
15–64 years	Male	512,768	512,079	504,289	487,925	473,345	466,874	454,577
	Female	479,135	476,172	465,238	445,378	427,122	417,906	405,202
	Total	991,903	988,251	969,527	933,303	900,467	884,780	859,779
65 years and over	Male	80,307	92,798	110,390	133,058	148,920	150,557	152,642
	Female	89,264	104,586	126,024	152,810	172,843	177,935	181,026
	Total	169,571	197,384	236,414	285,868	321,763	328,492	333,668
50–64 years	Male	146,563	162,632	157,565	146,556	146,902	151,489	149,940
	Female	143,326	160,183	155,640	143,067	140,631	142,488	139,191
	Total	289,889	322,815	313,205	289,623	287,533	293,977	289,131
85 years and over	Male	4,566	5,426	6,237	8,124	11,418	13,111	16,480
	Female	7,321	8,754	10,302	13,626	19,560	22,828	28,667
	Total	11,887	14,180	16,539	21,750	30,978	35,939	45,147

Source: UNDESA (2007a)

Table A-2

Total, Older and Oldest Old Population in the World and Major Regions, 1950-2050

Year	Population (thousands)			% of females in age group		
	Total	60+	80+	Total	60+	80+
	World					
1950	2,535,093	204,974	14,407	50.1	55.4	62.3
1975	4,076,080	345,714	31,444	49.7	56.2	63.6
2000	6,124,123	608,690	70,109	49.6	54.8	64.1
2025	8,010,509	1,200,877	163,017	49.7	54.2	61.9
2050	9,191,287	2,005,746	401,777	50.0	54.1	61.4
	More developed regions					
1950	813,561	95,472	8,528	52.4	57.6	62.9
1975	1,048,104	161,949	18,472	51.7	60.0	68.2
2000	1,194,199	232,408	36,720	51.5	58.5	68.8
2025	1,258,970	343,775	68,446	51.5	56.7	64.9
2050	1,245,247	405,941	117,407	51.4	56.1	63.0
	Less developed regions					
1950	1,721,532	109,502	5,879	49.0	53.6	60.2
1975	3,027,977	183,765	12,972	49.0	52.9	57.0
2000	4,929,924	376,282	33,389	49.1	52.6	58.9
2025	6,751,540	857,103	94,571	49.4	53.2	59.5
2050	7,946,040	1,599,805	284,370	49.8	53.6	60.4
	Asia					
1950	1,410,649	94,531	4,921	48.7	53.6	61.6
1975	2,393,643	154,688	11,125	48.7	53.0	57.5
2000	3,704,838	320,133	29,639	48.8	52.4	60.2
2025	4,778,988	708,829	84,558	49.1	52.9	60.0
2050	5,265,895	1,249,316	237,825	49.5	53.4	60.5

Source: UNDESA (2007a)

Table A-3

Key Indicators: World, Major Regions and China, 1950-2050

	TFR	Life expectancy at birth (years)	Ageing index	Median age (years)	Potential support ratio	Parent support ratio
	World					
1950–1955	5.2	46.4	23.7	23.9	11.8	1.9
1975–1980	3.9	60.2	23.0	22.4	10.3	2.6
2000–2005	2.7	66.0	32.9	26.7	9.2	4.3
2025–2030	2.2	71.9	62.2	32.7	6.2	6.1
2045–2050	2.0	75.4	109.9	38.1	3.9	12.1
	More developed regions					
1950–1955	2.8	66.1	42.9	29.0	8.2	2.9
1975–1980	1.9	72.2	63.8	31.1	6.0	4.4
2000–2005	1.6	75.6	106.4	37.4	4.7	8.7
2025–2030	1.7	79.8	175.0	43.0	3.1	14.2
2045–2050	1.8	82.4	213.9	45.7	2.2	29.9
	Less developed regions					
1950–1955	6.2	40.8	17.0	21.5	15.2	1.1
1975–1980	4.7	57.2	14.7	19.4	14.4	1.5
2000–2005	2.9	64.1	23.1	24.1	12.2	2.4
2025–2030	2.3	70.5	49.4	30.8	7.7	4.0
2045–2050	2.1	74.3	97.9	36.9	4.4	9.2
	Asia					
1950–1955	5.9	41.0	18.5	22.2	14.6	1.1
1975–1980	4.2	59.1	16.3	20.2	13.8	1.6
2000–2005	2.5	67.5	28.3	26.0	11.0	2.7
2025–2030	2.0	74.1	65.7	33.6	6.7	4.7
2045–2050	1.9	77.4	132.1	40.2	3.7	10.7
	China					
1950–1955	6.2	40.8	22.3	23.9	13.8	0.8
1975–1980	3.3	65.3	17.6	20.6	12.8	1.6
2000–2005	1.7	72.0	40.3	30.0	10.0	2.4
2025–2030	1.9	76.6	111.3	39.4	5.0	4.4
2045–2050	1.8	79.3	203.3	45.0	2.6	15.6

Source: UNDESA (2007a)

Table A-4

Life Expectancy at Birth in Selected Countries, 1950-2050

(years)

Year	China	Republic of Korea	Singapore	USA	Japan
1950–1955	40.8	47.5	60.4	68.9	63.9
1955–1960	44.6	52.7	63.2	69.7	66.8
1960–1965	49.5	55.3	65.8	70.0	69.0
1965–1970	59.6	57.7	67.9	70.4	71.1
1970–1975	63.2	62.6	69.5	71.5	73.3
1975–1980	65.3	64.8	70.8	73.3	75.5
1980–1985	65.5	67.1	71.8	74.1	76.9
1985–1990	67.3	69.8	73.6	74.7	78.3
1990–1995	68.7	72.2	75.8	75.3	79.5
1995–2000	70.4	74.6	77.2	76.5	80.5
2000–2005	72.0	77.0	78.8	77.4	81.9
2005–2010	73.0	78.6	80.0	78.2	82.6
2010–2015	74.0	79.6	80.6	78.9	83.5
2015–2020	74.9	80.2	81.2	79.5	84.2
2020–2025	75.8	80.8	81.8	80.1	84.7
2025–2030	76.6	81.4	82.4	80.7	85.2
2030–2035	77.4	81.9	83.0	81.2	85.7
2035–2040	78.1	82.5	83.5	81.8	86.1
2040–2045	78.7	83.0	84.1	82.4	86.6
2045–2050	79.3	83.5	84.6	83.1	87.1

Source: UNDESA (2007a)

Table A-5

Fertility, Mortality and Population Growth in China, 1949-2000

Year	CBR (per 000)	CDR (per 000)	Natural rate of growth (%)	TFR
1949	36.0	20.0	1.6	6.1
1950	37.0	18.0	1.9	5.8
1955	32.6	12.3	2.0	6.3
1960	20.9	25.4	–0.5	4.0
1965	37.9	9.5	2.8	6.1
1966	35.1	8.8	2.6	6.3
1967	34.0	8.4	2.6	5.3
1968	35.6	8.2	2.7	6.5
1969	34.1	8.0	2.6	5.7
1970	33.4	7.6	2.6	5.8
1971	30.7	7.3	2.3	5.4
1972	29.8	7.6	2.2	5.0
1973	27.9	7.0	2.1	4.5
1974	24.8	7.3	1.8	4.2
1975	23.0	7.3	1.6	3.6
1976	19.9	7.3	1.3	3.2
1977	18.9	6.9	1.2	2.8
1978	18.3	6.3	1.2	2.7
1979	17.8	6.2	1.2	2.8
1980	18.2	6.3	1.2	2.2
1981	20.9	6.4	1.5	2.6
1982	21.1	6.6	1.5	2.9
1983	18.6	7.1	1.2	2.4
1984	17.5	6.7	1.1	2.4
1985	17.8	6.6	1.1	2.2
1986	20.8	6.7	1.4	2.4
1987	21.0	6.7	1.4	2.6
1988	20.8	6.6	1.4	2.5
1989	16.5	5.5	1.1	2.4
1990	21.1	6.7	1.4	2.3
1991	19.7	6.7	1.3	2.2
1992	18.2	6.6	1.2	2.2
1993	18.1	6.6	1.2	2.0
1994	17.7	6.5	1.1	1.9
1995	17.1	6.6	1.1	1.9
1996	17.0	6.6	1.0	1.8
1997	16.6	6.5	1.0	1.8
1998	16.0	6.5	1.0	1.8
1999	15.2	6.5	0.9	1.8
2000	15.0	6.4	0.9	1.8

Source: IPRC (2000); and Yu (2000)

Table A-6

Average Annual Number of Births in China, 1950-2050

Year	Births (000)
1950–1955	25,468
1960–1965	26,313
1970–1975	25,131
1980–1985	21,627
1990–1995	21,555
2000–2005	17,569
2010–2015	17,976
2020–2025	17,380
2030–2035	15,140
2040–2045	14,582
2045–2050	14,510

Source: UNDESA (2007a)

Table A-7

Older Population in China by Level of Education, 2000

(thousands)

Level of education		Age (years)						
		60	61	62	63	64	60-64	65+
Illiterate/Semi–illiterate	M	710.1	618.7	789.5	813.5	884.1	3,815.8	14,202.9
Primary School	F	1,788.4	1,583.1	1,925.1	1,974.6	2,166.1	9,437.4	34,335.7
	M	2,328.6	1,971.2	2,287.2	2,153.5	2,157.1	10,897.6	19,056.5
Junior High	F	1,839.1	1,497.4	1,625.6	1,470.1	1,431.5	7,863.8	10,042.5
	M	1,046.7	766.1	820.9	719.8	696.0	4,049.4	5,323.0
Senior High/Technical Secondary School	F	459.3	336.7	325.2	264.8	239.6	1,625.7	1,299.6
	M	465.9	360.3	388.2	340.3	318.4	1,873.1	2,068.9
University or above	F	212.5	168.1	160.3	132.4	118.1	791.5	624.2
	M	218	205.6	225.8	202.7	186.4	1,038.5	1,056.6
	F	72.5	67.1	64.1	56.6	50.8	311.0	264.2

Source: NSB (2002)

Table A-8

Child and Old-Age Dependency Ratios in China, 1953-2050

Year	Child dependency ratio % (0-14 years of age)	Old-age dependency ratio % (60+ years of age)
1953	64.3	13.0
1964	76.5	11.4
1982	57.2	13.0
1990	43.4	13.5
2000	34.2	15.1
2005	34.0	16.6
2010	32.4	18.6
2015	29.7	22.6
2020	29.6	25.9
2025	29.9	31.6
2030	30.8	40.3
2040	30.4	48.2
2050	31.3	55.3

Sources: 1953–1982 – Yang (1996);
1990–2000 – IPRC (2000); and
from 2005 – Wang (undated)

Table A-9

Per Capita Pension and Ratio of In-Service Staff Members to Early Retired/Retired/Discharged Persons, 1980-2000

Year	Ratio of employed workers to retired persons	Per capita pension (Yuan)
1980	12.8	714
1981	11.5	706
1982	10.1	709
1983	8.9	726
1984	8.0	766
1985	7.5	935
1986	7.1	983
1987	6.7	1,083
1988	6.4	1,322
1989	6.2	1,450
1990	6.1	1,726
1991	6.0	1,936
1992	5.7	2,260
1993	5.4	2,779
1994	5.1	3,597
1995	4.8	4,263
1996	4.6	4,839
1997	4.4	5,458
1998	4.0	5,972
1999	3.7	6,614
2000	3.5	7,190

Sources: DPF (1998); and DPF (2001)

Table A-10

Social Fund for Old Age Pension in China: Income and Payments, 1990-2002

(hundred million Yuan)

Year	Income of social fund	Payments from social fund
1990	153.6	120.9
1990	186.8	151.9
1991	225.0	176.1
1992	377.4	327.1
1993	526.1	482.2
1994	742.0	680.0
1995	1,006.0	877.1
1996	1,252.4	1,082.4
1997	1,458.2	1,339.2
1998	1,623.1	1,636.9
1999	2,211.8	2,108.1
2000	2,644.5	2,385.6
2001	3,101.9	2,748.0
2002	4,048.7	3,471.5

Source: SBC (2005)

Table A-11

Coverage of Basic Medical Insurance for Urban Employees in China, 1993-2006

Year	Participants (000)	Urban employees and retired covered (%)
1993	290.1	1.4
1994	400.3	1.9
1995	745.9	3.4
1996	855.7	3.7
1997	1,762.0	7.3
1998	1,877.7	7.4
1999	2,065.3	7.9
2000	3,787.0	14.0
2001	7,222.9	25.8
2002	9,401.2	32.4
2003	10,901.7	36.1
2004	12,403.7	39.8
2005	13,782.9	42.5
2006	15,737.0	46.6

Source: SBC (2006)

Table A-12

Third-age University Education in China, 1983-2005

Year	Institutions	Students
1983	1	300
1986	61	30,000
1988	916	124,800
1991	5,331	218,400
1994	8,378	695,900
1997	13,265	1,011,000
1999	16,676	1,413,000
2002	19,309	1,810,000
2005	25,066	2,313,573

Source: CNWCA (2006a)

Annex II

Landmark Initiatives of China in Addressing Ageing-Related Issues, 1982-2006

Date	Initiative
March 1982	Formally approved by the State Council, the Committee of China to the World Assembly on Ageing was formed, which represented China at the World Assembly on Ageing held in Vienna.
October 1982	Approved by the State Council, the Delegation of China to World Assembly on Ageing changed its name into China Aging Problem National Commission.
August 1984	The 1st National Old Age Work Conference was held in Beijing, which was China's first national event on research of the ageing issue.
1985–1989	UNFPA project Perform Studies of Ageing for Policy–making (Project code: CPR/85/p54) was implemented in China, which was the first research project on the ageing issue with UNFPA assistance.
April 1986	China Academy of Gerontology was founded.
May 1986	China Fund for the Elderly was founded in Beijing.
March 1989	China Research Center on Aging was founded.
October 1989	The 2nd National Old Age Work Conference was held in Beijing, where the strategic objectives of the old age enterprise were identified.
1991–1995	CRCA conducted UNFPA assistance project Study of Old Age Support Mechanism in China (P22 Project).
1991–1995	Multi–dimensional Vertical Study of Ageing in Beijing, UNFPA 3rd Round Assistance Project for China (CPR/91/P23).
February 1995	Approved by the State Council, the China Aging Problem National Commission changed its name into China Aging Association, keeping the English title unchanged.
August 1996	The Law of The People's Republic of China on Protection of The Rights and Interests of The Elderly was adopted by the 21st Session of the Standing Committee of the 8th National People's Congress, which was issued and went into force on October 1 the same year.
1994–2000	The Seven–Year Development Programme for Aging–related Undertakings in China was issued by the Chinese Government.
1998	The Chinese Government held the Macao Conference on the issue of population ageing, which was attended by representatives from countries in the Asia–Pacific Region.
July 1999	Commending Conference for Gold Prize for Outstanding Respect for Parents, Contribution Prize for Able Older Person, and Merit Prize for Prioritizing Old Age Work was held in the People's Hall by the Ministry of Civil Administration, Ministry of Labor, All–China Federation of Labour, Central Committee of the Communist Youth League, All China Women's Federation, and CNCA, where 967 persons were awarded the Gold Prize for Outstanding Respect for Parents, 1,007 were awarded the Contribution Prize for Able Older Person, and 599 awarded the Merit Prize for Prioritizing Old Age Work.
October 1999	Approved by the Central Committee of the Communist Party of China (CPC) and the State Council, the National Committee on Aging was founded.
August 2000	The CPC Central Committee and the State Council promulgated the outline paper on development of old age enterprise, the Decision on Strengthening the Work on Aging.
September 2000	China Cross–sectional Rural–Urban Elderly Sample Survey was conducted by CRCA, which was the largest survey of its type in China in the 21st century.

Annex II *(continued)*

Date	Initiative
2000	The Basic Database for Scientific Studies of Aging, which is a specialized data platform on ageing in China, was developed in China Research Center on Aging.
2000	The General Office of the State Council forwarded the Suggestions on Quickening Socialization of Social Welfare to the 11 commissions and ministries including the Ministry of Civil Administration.
2001	The State Council circulated the 10th Five–Year Plan Programme for the Development of Aging–relating Undertakings in China (2001–2005), proposing the guideline of 'leadership of government and the Communist Party, social participation, universal care', when the old age enterprise entered its phase of full development in China.
July 2001	Outline of the 10th Five–Year Plan Programme for the Development of Aging–relating Under–takings in China (2001–2005) was approved for printing.
June 2001	Ministry of Civil Administration started to implement the Start Light Program on Community Old Age Welfare Services.
April 2002	The Chinese Government sent delegation to attend the 2nd UN World Assembly on Ageing in Madrid.
September 2002	The Chinese Government held the Regional Strategy Conference on Implementing the Madrid International Plan of Action on Ageing in Asia–Pacific Region in Shanghai, where the Shanghai Implementation Strategy for Asia–Pacific Region was adopted.
2003	The Chinese Government initiated the Silver Age Action.
2004	XXIInd AIUTA Congress held in Shanghai in October.
August 2003 – June 2006	Regional Development Center for Asia–Pacific Region, Help Age International implemented the project on ageing called Project on Older Population in Middle and Western Regions of China and Community Poverty Relief.
August 2005	The General Office of the Government Body Administration circulated the Circular on Adjusting Organization of Old Age Work Bodies in China, and the Office of CNCA was combined with China Aging Problem National Commission for operation.
December 2005	The Office of CNCA, jointly with 21 State ministries and commissions including the Propaganda Department of the CPC Central Committee and the Ministry of Construction, issued the Suggestions on Strengthening Preferential Treatment for Older Person.
February 2006	CNCA issued the Suggestions on Strengthening Old Age Work at Grassroots Organizations.
February 2006	General Office of the State Council, jointly with the Office of CNCA, issued the Suggestions on Quickening Development of Old Age Support Service Industry.
February 2006	Office of CNCA published the 100–year Projection on Development Trends in Population Aging in China.
April 2006	CRCA initiated the Ageing Project of the 6th UNFPA Country Programme of Assistance for China.
June 2006	CRCA implemented a large survey on the older population, Follow–up Survey of Rural–Urban Elderly Conditions.
June 2006	Shanghai International Symposium on Caring for the Elderly, 26–29 June.
August 2006	Approved by the State Council, the 11th Five–Year Development Plan for the Development of Aging Cause was published and implemented.
December 2006	The Ministry of Civil Administration initiated the Sunset Project on Development of Service Facilities for Supporting Rural Five–Guarantee Persons.

Bibliography

BMSB (2002) – 2000 Population Census: Beijing Municipality, Beijing Municipal Statistics Bureau, China Statistics Press, Beijing.

Bruntland, G.H. (2002) – Statement on Building a Society for All Ages, (press kit of the Second World Assembly on Ageing, Madrid).

BSB (2002) – 2000 Population Census of Beijing, Office of Population Census of Beijing, Beijing Statistical Bureau, China Statistics Press, Beijing.

CASS (2000) – Population 2000, Institute of Population Research, China Academy of Social Sciences, China Social Science Press, Beijing.

CICA (1982) – Aging Research, Corpus of International Conferences on Aging, China Translation and Publishing Corporation, Beijing.

CNCA (2000) – Data of China Cross-sectional Rural-Urban Elderly Sample Survey 2000, China National Committee on Aging, China Aging Problem National Commission.

CNCA (2006) – Projection of China's Population Aging for One Century, Beijing.

CNWCA (2003) – Selection of papers of the 2nd World Assembly on Ageing and Asia-Pacific Seminar on Regional Follow up, The Office of China National Working Commission on Aging China Aging Press, Beijing.

CNWCA (2005a) – P.R. China/UNFPA CP5 (2003-2005) Country Cooperation Scheme, Abstracts of Research Reports for Project on Study of Population Aging Policies, Office for International Cooperation Project, Office of China National Working Commission on Aging, Beijing.

CNWCA (2005b) – Review of Old Age Enterprise Development in China, Office of China National Working Commission on Aging, Beijing.

CNWCA (2005c) – Survey and study of work on ageing – selection of excellent research reports on ageing work in China, Office of China National Working Commission on Aging, China Aging Press, Beijing.

CNWCA (2006a) – Review of Old Age Enterprise Development in China, CNWCA.

CNWCA (2006b) – Selection of suggestions, proposals and reply messages related with population ageing from representatives to the National People's Congress and members of the National Political Consultative Conference, The Office of China National Working Commission on Aging, Beijing.

CRCA (2003a) – 2000 Sampling Survey on the Status of Elderly in Urban/Rural China, China Standard Press.

CRCA (2003b) – Data analysis of the sampling of survey of the aged population in China, China Research Center on Aging, Standards Press of China, Beijing.

CRCA (2003c) – Population Aging Research: based on the data of the Fifth Census, China Research Center on Aging, Beijing.

CRCA (2003d) – Research Topic for the 5th National Census –Study of Population Aging, Task Force of China Research Center on Aging.

CRCA (2003e) – Sampling Survey on the Status of Elderly in Urban/Rural China, China Research Center on Aging, China Standard Press.

DPF (1998) – China Labor Statistical Yearbook 1998, Department of Population, Society, Science and Technology Statistics, Department of Planning and Finance, China Statistics Press, Beijing.

DPF (1999) – China Labor Statistical Yearbook 1999, Department of Population, Society, Science and Technology Statistics, Department of Planning and Finance, China Statistics Press, Beijing.

DPF (2004) – China Labor Statistical Yearbook 2003, Department of Population, Society, Science and Technology Statistics, Department of Planning and Finance, China Statistics Press, Beijing.

Du, P. (1988) – Study of population ageing process in China, China Renmin University Press, Beijing.

Du, P. (1995) – "Decreasing Fertility and Aging of Chinese Population", Chinese Journal of Population Science, Vol. 2.

Du, P., Zhai, Z.W. & Chen, W. (2005) – The Elderly Population of China: A Century-long Projection, Population Research, Vol. 6, Beijing.

Elderly Chinese (2006) – (Journal) Elderly Chinese Press, Vol. 4, 2006, Beijing.

Gu, X., (2007) – Medical Insurance for Urban Resident: Fund Raising and Payment, China Social Security, Vol. 5, Beijing.

HSB (2002) – 2000 Population Census of Hubei, Hubei Statistical Bureau, China Statistics Press, Beijing.

IPRC (2000) – Almanac of China's Population 2000, (and issues of other years), Institute of Population Research, China Academy of Social Sciences, China Social Science Press, Beijing.

Jiang, X.Q. (2005) – Social security system of China – history and evolution, China Renmin University Press, Beijing.

Kinsella, K. & Phillips, D.R. (2005) – "Global Challenge of Aging: The Challenge of Success", Population Bulletin, Population Reference Bureau.

Lei, H.C. (1996) – "Projection of Costs for Treatment of Chronic Diseases in China", Chinese Health Economics, Vol. 10, 1996.

Li, B.G. (2007) – 100-year Projection on Development Tends in Population Aging in China, China Aging Press, Beijing.

Li, B.K. (Chief Editor) (2002) – Civil affairs across centuries: Volume on Old Age Enterprise in China, 1982-2002, China Society Press, Beijing.

Li, H. & Yu, Q.K. (2005) – Survey on Studies of Population Transformation in China, Population Journal, Vol. 4, Beijing.

Li, J.X. (2005) – "The Features of Aging Population in China: a Comparative Perspective", Xuehai, Vol. 6.

Mu, G.Z. & Chen, W. (2001) – "Population Remoulding in China", Open Times, Vol. 1, Beijing.

Mujahid, G. (2006) – Population Ageing in East and South-East Asia: Current Situation and Emerging Challenges, Papers in Population Ageing No. 1, UNFPA Country Technical Services Team for East and South-East Asia, Bangkok, Thailand, July 2006.

NSB (1985) – 1982 Population Census of China, Office of Population Census, State Council. Compiled by Department of Population Statistics, National Statistical Bureau. China Statistics Press, Beijing.

NSB (1993) – 1990 Population Census of China, Office of Population Census, State Council. Compiled by Department of Population Statistics, National Statistical Bureau. China Statistics Press, Beijing.

NSB (2002) – 2000 Population Census of China, Office of Population Census, State Council. Compiled by Department of Population, Society, Science and Technology Statistics, National Statistical Bureau. China Statistics Press, Beijing.

OPCJ (2002) – 2000 Population Census: Jiangsu Province, Office for Population Census of Jiangsu Province, China Statistics Press, Beijing.

Qiao, X.C., Chen, W., Mu, G.Z. & Zhang, K.T. (1999) – Aging China – Topic Report on the 1st Academic Symposium for Younger and Middle-aged Scholars in China, Beijing.

SBC (2005) – Statistic Yearbook 2005, Statistics Bureau of People's Republic of China, China Statistics Press, Beijing.

SBC (2006) – Statistic Yearbook 2006, Statistics Bureau of People's Republic of China, China Statistics Press, Beijing.

SBH (2002) – Mechanic Summary of the 5th Census Data: Hubei Province, Statistics Bureau of Hubei Province, China Statistics Press, Beijing.

SMRCA (2007) – Up-to-date Project of Population Aging in Shanghai, Shanghai Municipality Research Center on Ageing.

Tang J. What (2005) – "About 600 billion 'empty account'?", China Old Age, Vol. 1.

Tao, L.Q. (2006) – "Population Aging in China: Trends and Characteristics, Scientific Decision-Making", Research on Aging, Vol. 1, Beijing.

TEM (2006) – "Results of the 2nd National Sample Survey of Handicapped Persons", Tianjin Elderly Times, 12.04, p. 001, Tianjin.

Thompson, J. (2002) – "The Amazing University of the Third Age in China today", http://worldu3a.org/worldpapers/u3a-china.htm.

Tian, X.Y., Wang, J.Y. & Zhou, G.Q. (2006) – Aging: From Population Gains to Deficits, China Economics Publishing House, Beijing.

UN (2002) – Political Declaration of the Second World Assembly on Ageing.

UNDESA (2007a) – World Population Prospects: the 2006 Version, Population Division, Department of Economic and Social Affairs, United Nations, New York.

UNDESA (2007b) – World Population Ageing 2007, Population Division, Department of Economic and Social Affairs, United Nations, New York.

UNFPA (2004) – No. 5 China Project: The General Report of Research on Assistance Pattern for the Destitute Elderly, Beijing.

Wang, G.Z. (undated) – unpublished information, China Population and Development Research Center.

Wang, L. (2004) – "International Comparison Study on the Aged Trend and Reasons in China", Population and Economics, Vol. 1, Beijing.

Wu, C.P. (editor) (1999) – Social Gerontology, China Renmin University Press, Beijing.

Wu, C.P., Du, P., et al. (2006) – Population Aging in China: Changes and Challenges, China Population Press, Beijing.

Wu, C.P., Wang, L. & Miao, R.F (date) – Process, Prospects and Countermeasures of Population Aging with Chinese Characteristics, Beijing.

Xiang, M.J., et al. (1998) – "Medical Care for All Aged: a Perspective of Current Health Care Situation among Older Chinese", Population Research, Vol. 5, Beijing.

Xiong, B.J., Cheng, Y. et al. (2000) – Study of response to population aging in the first half of the 21st century, China Aging Press, Beijing.

Xu, Q. (2006) – "Long-term Care Strategy for Elderly in China", China Society Periodical, Vol. 8, Beijing.

Yang, H. (2005) – "The analyzation of provinces aging differences" Northwest Demography, Vol. 3.

Yang, Z.H. (1996) – Study of Population Statistics of Generation in China, Reform Press, Beijing.

Yao, X.W. & Yin, H. (editor) (1994) – Common Data on Population in China, China Population Press, Beijing.

Yu, Xuejun (2000) – "Research on Fertility of China's Population", Nanfangrenkou, No. 4.

Yuan, X. (2000) – "Population Transition and Its Trends in the Future in China", Chinese Journal of Population Science, Vol. 1, Beijing.

Zha, R.C., Hu, W.L. & Zhai, Z.W. (editors) (1999) – A Century of Demographics, Beijing Publishing House, Beijing.

Zhai, Z.W., Liu, S. & Duan, C.R. (1993) – Formula Handbook for Population Statistics, China Population Press, Beijing.

Papers in Population Ageing

No. 1: *Population Ageing in East and South-East Asia: Current Situation and Emerging Challenges*
by Ghazy Mujahid, 2006

No. 2: *Migration and Intergenerational Solidarity: Evidence from Rural Thailand*
by John Knodel, Jiraporn Kespichayawattana, Suvinee Wiwatwanich and Chanpen Saengtienchai, 2007

No. 3: *Older Population in Indonesia: Trends, Issues and Policy Responses*
by Nugroho Abikusno, 2007

No. 4: *Demographic Change in China: Ageing of the World's Largest Population*
by China Research Center on Aging, 2007

"It is not by muscle, speed or physical dexterity that great things are achieved, but by reflection, force of character, and judgement; and in these qualities old age is usually not only not poorer, but is even richer"

Marcus Tullius Cicero, Roman Senator (106-43 B.C.)

UNFPA China
and Country Technical Services Team
for East and South–East Asia, Bangkok, Thailand
December 2007