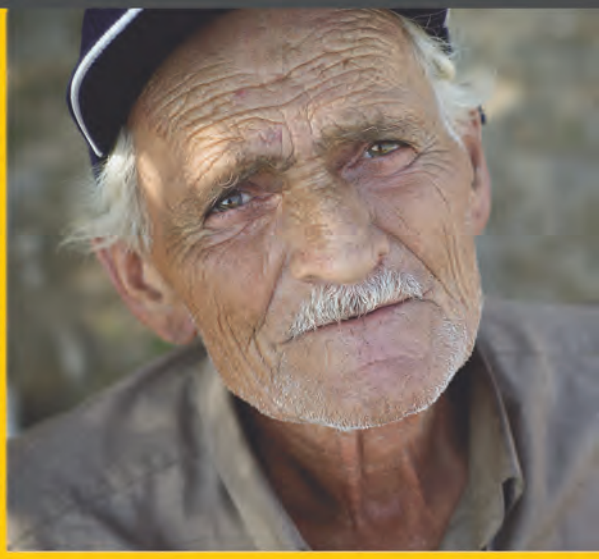
Population Ageing in I.R. Iran

Socio-economic, Demographic and Health Characteristics of The Elderly



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United Nations Population Fund

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Population Ageing in I. R. Iran

Socio-economic, demographic and health Characteristics of The Elderly: Issues and Challenges

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Acknowledgment

Over the past three decades, the Islamic Republic of Iran (I.R. Iran) has been experiencing rapid socio-demographic and economic changes. These shifts have an impact on national development patterns, as well as on the socioeconomic situation and the population structure of the country, and vice versa. Rapid urbanization, new patterns of internal migration, declining fertility, the current youth bulge, an upcoming aged population, as well as the growing number of female-headed households are some of the main population issues to have emerged due to broad socioeconomic changes. All have the potential to significantly influence the I.R. Iran's future development. Consequently, developing a comprehensive knowledge and generating scientific evidence on these emerging population issues should be a priority for all relevant government and civil society institutions. Such knowledge and evidence will significantly strengthen the capacity of decision-making, programming, planning and evidence-based policy formulation in the I.R. Iran.

Considering the importance of these emerging population issues and associated needs, the 5th Country Programme of the United Nation Population Fund (UNFPA) in the I.R. Iran (2012-2016) placed great emphasis on the analysis and utilization of relevant and up-to-date evidence for decision-making. In addition, a key focus area of the Country Programme is upstream engagement with the government for advocacy and policy formulation in the area of population and development. In this regard, UNFPA has worked closely with its national partners, including the Statistical Center of Iran (SCI), the University of Tehran and the Statistical Research and Training Center (SRTC) of SCI to provide and disseminate comprehensive data and information, as well as to develop in-depth situation analyses on four key emerging population issues: urbanization/internal migration, youth, ageing and female-headed households.

This report is a comprehensive situation analysis on ageing which has been prepared by the Department of Demography of the University of Tehran in cooperation with the Statistical Research and Training Center (SRTC) of SCI, and the Ministry of Health and Medical Education. I would like to express my deep gratitude to all the scholars and academics in these organizations who contributed to this valuable report. A special thank goes to Prof. Majid Koosheshi, Dr. Ardeshir Khosravi and their team for the invaluable efforts. I would also like to thank my colleague Mr. Kambiz Kabiri, UNFPA Programme Analyst for his contribution and support to this report.

I am confident that this report will provide valuable inputs and recommendations for policy- and decision-makers in the area of population and development in the I.R. Iran.

Dr. M. Hulki Uz
UNFPA Representative

Foreword

The world's population is rapidly ageing, and based on the United Nations estimations, the share of population 60+ which is currently 12 percent (more than 840 million) will reach 21 percent (approximately 2 billion) in the mid-21st century. All countries in the world are ageing with no exceptions in the future. The important point is that developing countries have a great share of this elderly population increase. By 2050, 8 out of every 10 elderly will be living in a developing country. The elderly population itself is ageing too. The share of 80+ (oldest old) which is now 14 percent will reach 19 percent in 2050, and there is not much time left to adapt facilities in order to improve future life quality of this group. For instance, a great share of the elderly, particularly in developing countries, will need long-term care, and the countries will have to come up with effectiveprogrammes and plans to deal with this issue. The good news is that younger age groups are predicted to experience a much better life quality and considering the great improvement in life conditions and economic specifics, a great share of future elderly will be living a more independent life (The United Nations, World Population Ageing 2013).

I suffice to mention a summary of the United Nation's report, "World Population Ageing 2013", which concludes the following about the world's population:

- *Unprecedented*, meaning that in the history of world's population there has not been anything like this.
- *Pervasive*, meaning that it is happening worldwide; of course different countries in the world are at several stages of the procedure. It will affect the lives of all human beings, including men, women and children with no exceptions. The later countries begin the process the lesser time they have to accord their facilities with their needs.
- *Enduring*, meaning that old population in the world will not ever turn young again and,
- *With profound implication on many aspects of human life*.

By taking a look at the "World Population Ageing" report published in 2013, we realize that ageing in Iran's population is very similar, especially in terms of demographics, with that of the world. At the same time different demographic patterns and socio-cultural roots in Iran, comparing to other countries have made the phenomena distinguished. This report attempts to highlight the similarities and differences between ageing in Iran's population and that of the world in 7 chapters. The report is the result of valuable efforts and cooperation of all members of the research group who participated in this study. I thank our wonderful research assistants whose names are mentioned on the report's main page. Also, I cordially thank Dr. Khosravi, Director of the Department of Statistics and Information, Ministry of Health and Medical Education, Dr. Alizadeh, Faculty member of the Center forAgingStudies, Tehran University of Medical Sciences, Ms. Fatemeh Amiri and Ms. Nazanin Aghaei, graduates of the Master of Demography and also Mr. Mohammad Torkashvand, PhD candidate of demography at Tehran University who played a valuable and great role, particularly in data gathering and preparing the charts and tables for this report. I appreciate the precious organizational and administrative assistance of the Faculty of Social Sciences and the Department of Demography at Tehran University. This research program began in 2012, and was financially and technically supported by the United Nations Population Fund. I want to express my gratitude towards

Dr. Hossein Mahmoudian, the project manager, and of course Dr. Mehmet Hulki Uz, the Representative of the United Nations Population Fund in the I.R Iran and last but not least Mr. Kambiz Kabiri, UNFPA Programme Analyst for his precious and generous support and useful recommendations for the project. Undoubtedly the privileges of the report are due to knowledge and efforts of the named persons and its shortcomings are all on the project executive. I would also thank Mr. Alireza Yarparvar for translating the report into English. The coordinator warmly welcomes any reviews and recommendations which will help improve the project.

Majid Koosheshi

Executive Summary

Rapid and extensive demographic changes have placed Iran amongst the countries that will have an old age structure by the mid 21st century. According to the United Nations' population reports, the rate of population ageing is unprecedented, pervasive, profound, and enduring, and is becoming a global phenomenon. The population increase in older age groups has differed and diverged from that of other age groups in Iran. Based on 2011 population and housing census older age cohorts have been experiencing accelerating growth. While fertility decline, from its peak in mid-1980s to below replacement level in the 2000s, has decreased the annual population growth to less than 1.7 percent in the 1986-2011 time span, the number of population aged 60-65 years and above had an annual growth rate of 5 percent during the same period. In fact, the rapid fertility decline – the effects of which on the adult and elderly population have not yet fully manifested– has not played a role in the changing number of the elderly population. The substantial growth rate is attributed to the increase in survival chances (higher life expectancy) to older ages. This is called 'individual ageing'. Emergence of individual ageing is the first phase of population ageing in Iran.

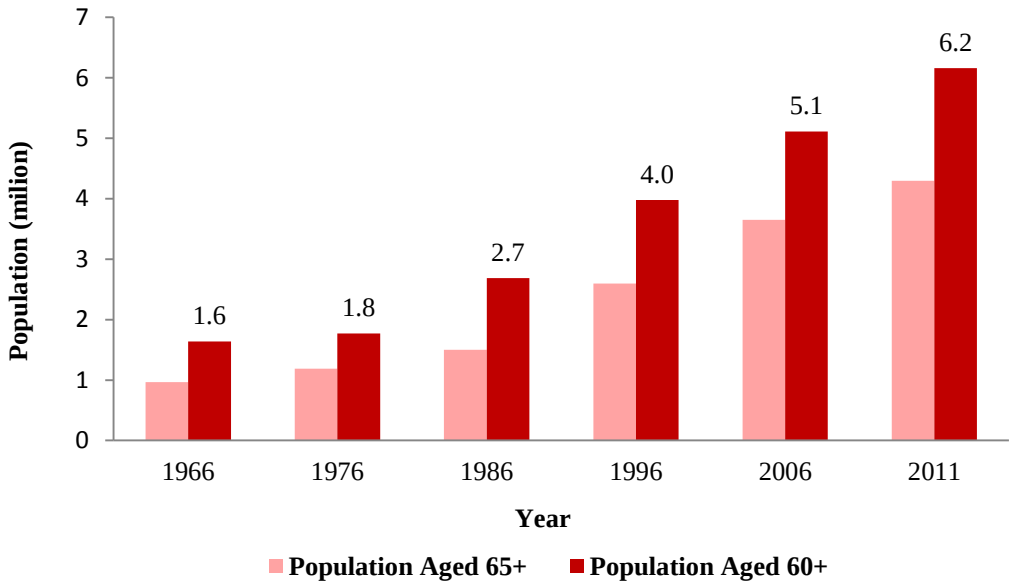
Demographic changes are not the only transformations that affected the elderly. The demographic dynamics of the latter part of the 20th century engendered widespread socioeconomic changes, which had significant impacts on the life of the elderly. The occurrence of large migration waves, particularly rural-urban migration patterns, constitutes one of the social changes that have immensely influenced the lifestyles of the elderly –placing them among other vulnerable groups. These migration waves have created a myriad of social and health consequences, including the separation of family members; increased urbanization; the epidemiological transition progression to the fourth stage – the increase in the prevalence of chronic and non-contagious diseases; social changes which tend to have a weakening effect on family and intergenerational relations; the emergence of socioeconomic stratification, and (to some extent) gender inequalities in the aged population.

The aforementioned changes have occurred so rapidly that social institutions were unable to acquire necessary capacities and capabilities to cope with and keep pace with them. Only during recent years, these emerging issues attracted the attention of official institutions and bodies. However, the necessary infrastructures and capacities required to overcome the problems of the elderly do not exist in the country. The weak/low coverage of retirement funds and basic supplementary insurance policies/schemes, as well as insufficient financial support on one hand and the weakness of informal and kinship supports due to changes in living conditions in modern societies, separation of children from parents (due to widespread migration among younger generations) and the spread of modern ideals and priorities on the other hand, are other aspects contributing to the uneven population-social changes in the society of Iran, which is itself undergoing transitions. As explained by Knodel (1999) what is predictable for oriental societies such as Iran is that development, alongside formal protection and support systems, tends to bring about improvements in the lives of the elderly in the future, but informal support would be weakened by demographic changes; a paradoxical set of effects of development of family and social life of the elderly (Knodel, 1999).

In the section of demographic situation and ageing of this report, population ageing in Iran and socioeconomic characteristics of the elderly are described. In the section on the institutions and bodies responsible for planning for the elderly, the activities of these institutions are reviewed. In the health section, some issues and aspects of the health of the aged population are defined. An outline of the key findings of the situation of the elderly in Iran is as follows:

1- Increase in life expectancy at birth, from less than 30 years prior to 1920 to more than 70 years in the first decade of 21st century has led to an increase in survivorship up to ageing years.This is resulting an increase in the growth rate of elderly population and subsequent emergence of effects of momentum of mortality changes which have further augmented this increased growth rate. The strongest effect of the momentum was observed during 1980-2012 period. The consequence of this effect was a size increase in the population aged 60-65 years and over as shown in Figure 1.

Figure I- Population aged 60+ and 65+, Iran, 1966-2011

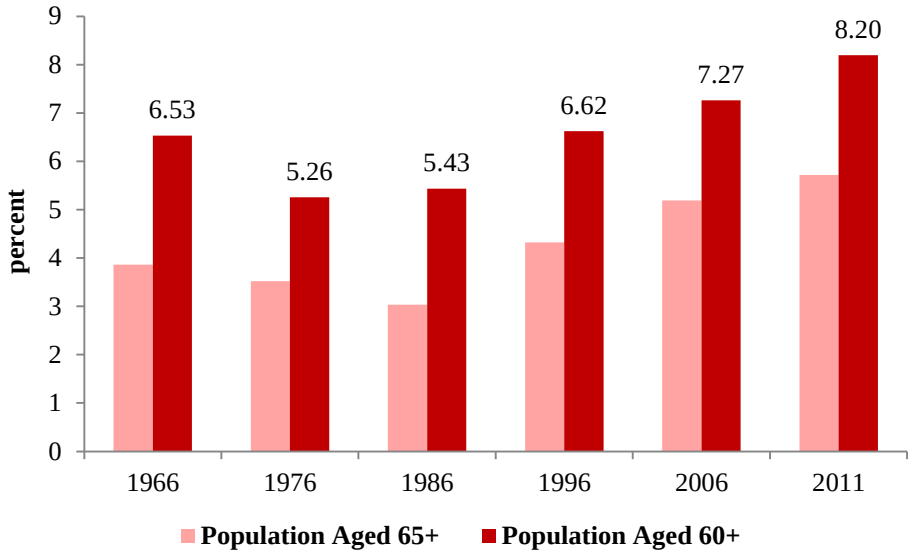


2- The stronger effect of momentum of mortality change and increase of ageing population aged 60 and 65 years old and above can be observed in the 1986-2012 period. Based on the 1986 population and housing census and estimations by demographers (Zanjani, 1991), the size of the population aged 60+ in 2006 was about 5 times greater than it was at the onset of mortality decline (around 1906). The rates of increase for the population aged 65+ and 80+ during the aforementioned period were 6 and 22 times higher, respectively. This means that the highest rate of elderly population growth due to the effects of the momentum was experienced by 2006. The effect diminished after this date.

3- Although Iran experienced a sharp fertility decline during 1985-2000, it has not had a significant effect on the increase in the population of the elderly. In fact, lower fertility is expected to have a decelerating effect on elderly population growth in future years. Therefore, it is suggested that a decline in fertility contributes to the decrease in the growth rate of the elderly population. However, this variable requires at least a 60-year period from the first change in the fertility level for a significant effect on the change of the elderly population to be observable. Even with the assumption of a stable total fertility rate (for instance, the total fertility rate of nearly 7 children per woman – as was the case in the early-to-mid-1980s), as noted in this report, the aged population would increase by 5 to 6 times compared with the population size at the onset of the demographic transition and decline in mortality.

4- As a result of the fertility decline, the decrease of the proportion aged less than 15 years since 1986 had subsequently increased the population aged 65 years and over by about 5.7 percent by 2011. This trend has changed the composition of the Iran's population age structure. What is most notable is that the elderly population has grown despite the fertility decline. (Figure 2).

Figure II – Proportion of population aged 60+ and 65+, Iran, 1956-2011



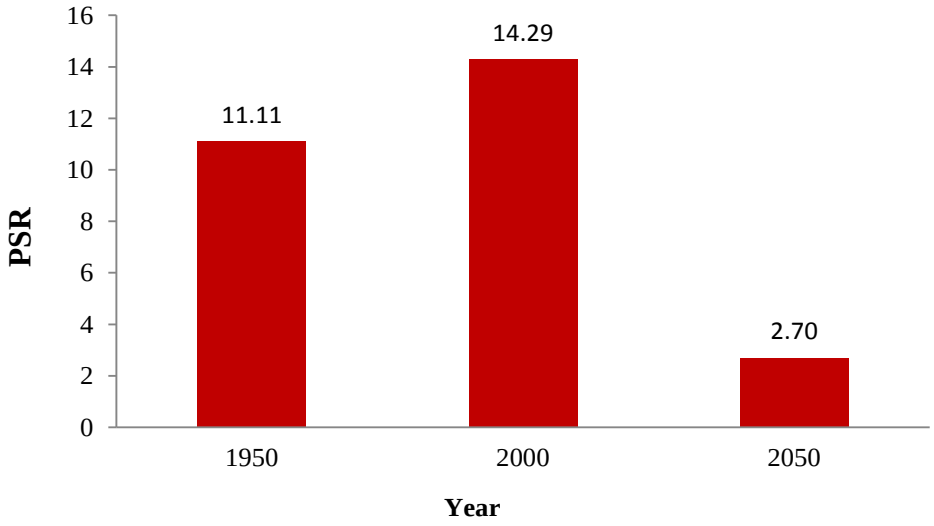
5- The increase in the proportion of population aged 60 and 65 years old and above was higher in rural areas than in urban, such that the proportion aged 65+ in rural areas reached about 7.7 percent in 2011 (in comparison to the 5.7 percent overall and 5.6 percent in urban areas). Based on the previous censuses carried out in the country, rural-urban differences have become exacerbated during the last two decades. Rural-urban migration (primarily by younger age cohorts from rural to urban areas) is an important factor that has significantly impacted the age structures of urban and rural populations by increasing the proportion of older people in rural areas and decreasing this proportion in urban areas.

6- The main challenge in reconciling issues associated with Iran's population ageing is the regional and provincial differences in the proportions of population aged 60+ and 65+. In less developed provinces, which are more vulnerable for ageing, the proportion of population aged 65+ is lower than those in more developed provinces in the north and center of the country. Provinces located in the south, southeast, and southwestern regions, namely Sistan&Baluchistan, Ilam, Kohkilouyeh&Boyer Ahmad, Hormozgan, Bushehr, Khuzestan and those located in the northeast and west, namely West Azerbaijan and Golestan have the lowest proportion of population aged 65 years old and above. On the contrary, Gilan, Mazandaran and Tehran provinces in the north and east of the country have the highest proportions. Provincial variations in population ageing are mainly due to fertility differences and vast migration waves during recent decades.

7- The elderly dependency ratio has increased during the last two decades. Projections by the United Nations indicate that this index will experience a further increase after 2012. The

findings of the 1986 and 1996 population and housing censuses show that the potential support ratio declined during 1980s and 1990s. The decline is expected to continue and the capacity of care to reach 2 to 3 per elderly individual aged 65+ by 2051 (Figure 3).

Figure III: Potential support ratio (PSR), Iran, 1950-2050



8- One of the specific demographic characteristics of the aged population in Iran before 2010s was the higher sex ratio biased towards males, despite the fact that the life expectancy was in accordance with second phase of epidemiologic transition. The findings of 2006 and 2011 population and housing censuses and regressive analysis of assumed generations, however, indicate that population ageing is becoming more feminized. These results show that proportion of age, males are decreasing while the proportion of aged females is increasing. The Elderly population in various provinces of the country has a diverse sex composition.

9- In spite of literacy programs, the literacy rate for the aged population is still low in Iran. The overall level of literacy in 2011 has been slightly over one third of the aged population (both sexes). Although in the same year, nearly half of the aged male population was considered literate, the literacy rate for the female proportion of the aged population was less than 24 percent. Moreover, the rural-urban difference indicates one of the most significant gender inequalities in terms of literacy. Based on data from the 2011 population and housing census, nearly 32 percent of urban elderly females were literate. However, this rate was nearly 5 percent among rural elderly females. In other words, by this general definition, 95 percent of women 60 years and over, and predominantly rural women, were illiterate. Results of this study indicate that the past educational performance and the activities in the three decades following the revolution have widened the gender gap in literacy rate. Estimations based on hypothetical cohorts show that future generations of the elderly will boast a more favorable situation both in terms of literacy rate and gender differences in comparison to current generations.

10- The findings of this study indicate that differences and gaps between provinces in literacy rates is another type of social inequality faced by the Iranian elderly population. While in Lorestan, North Khorasan, Hormozgan, Ilam, Kurdistan, Kohkilouyeh& Boyer-Ahmad and

Sistan&Baluchistan, less than one third of elderly males were registered as literate in the last census, the literacy rate reaches over 50 percent in Isfahan, Semnan and Yazd, and 65 percent in affluent provinces such as Tehran and Alborz. Women face even further inequalities. Literacy rate of elderly females in Lorestan, North Khorasan, Ardabil, Chaharmahal & Bakhtiari, Kurdistan, Sistan&Baluchistan, Ilam and Kohkilouyeh&Boyer-Ahmadis less than 10 percent, while in Tehran and Alborz provinces, over 50 percent and 40 percent of elderly females were literate, respectively.

11- The proportion of the aged population who live alone is increasing and there are remarkable provincial differences in this area. Latest statistics from the living arrangements of the Iranian elderly reveal that the proportion of the elderly who live on their own throughout the country is approximately 13 percent. Sex differences in this area are remarkable and requires review and discussion. In 2010, less than 6 percent of total number of elderly males occupied such living arrangements. Yet this figure for the elderly females stands at over 30 percent. Considering that this ratio would most likely increase, further widening the gap, and considering the high vulnerability of this part of the population, special attention must be focused on this elderly group –particularly elderly women who live alone– in terms of support plans and quality of life promotion programs.

12- One major inequality, which has its roots in social traditions, is the social prohibition against remarriage that women, especially older women, face. This deprives them from an important member of their social network at a critical stage of life. The spouse, as the principal source of support for financial needs and shelter, is the most important family member for elderly women. Findings of this study indicate the ratio of unmarried elderly women is extremely higher than that of unmarried elderly men. In the 2011 population and housing census, less than 9 percent of men at 60 years old and over, were reported as unmarried, while for women in the same age group this figure reached 49 percent. Although the changes in this proportion show a decline, gender inequality in the presence of a spouse continues to be one of the largest of inequalities. This difference, however, is not consistent with the large geographical inequalities. The difference between provinces in the proportion of unmarried elderly is negligible. Unmarried elderly people (including never married, divorced, and widowed especially for women), especially those without any children are an important vulnerable group and despite the fact that they are mentioned in the national elderly document, preserving their standard and quality of life requires separate and comprehensive programs.

13- The level of economic participation and employment among elderly men, especially in rural areas, is still high and the difference between the two sexes is similar to differences between years leading to old age. The level of economic participation of elderly males in North and South Khorasan provinces is very high. In Ardabil, Mazandaran, Zanjan, West Azerbaijan, Hamedan, Gilan, Ilam, Kurdistan and Kohkilouyeh & Boyer-Ahmad provinces, this level is about 50 percent or higher. Meanwhile, the lowest level of economic participation for men in Tehran, Alborz, Khuzestan and Qom is around 30 percent or below. The economic participation and employment rate of elderly women is lower than that of elderly men, and it is even lower in the working years leading to old age. Nevertheless, in less developed provinces of the country such as North and South Khorasan, Ilam and in provinces with a lower urbanization rate like Gilan and Mazandaran, the economic participation rate of women is higher than in other provinces. In more affluent provinces with higher urbanization rates,

such as Tehran, Qom, Alborz and Khuzestan the participation rate of elderly women is at the lowest – around 3 percent or less.

14- The prevalence of disability due to chronic diseases among the elderly is higher than any other age group. Therefore, any increase in the total number of the elderly would lead to an increase in the number of disabled people who require regular and constant care. An increase in the elderly population, regardless of increases or decreases in the prevalence of these diseases, requires a focus on elderly medicine, education programs which are foreseen in the draft of *the National Strategic Plan for the Elderly* under the activities for the Ministry of Health and Medical Education.

15- A considerable proportion of health problems in the elderly are noninfectious and chronic diseases, and require more comprehensive health care services. Hence, preventive policies, health promotion and early treatment of the elderly are of critical importance. Neglecting these measures and their implications could cause a multitude of problems for the elderly in the near future. Currently, screening and health promotion programs for the elderly are implemented on a limited scale. Although comprehensive implementation of such plans and programs are much needed, it is necessary to categorize the elderly based on data collected on their special diseases, and to focus on this group in support programs, independent of other age groups.

16- Preparation and implementation of a comprehensive health program for the elderly is one of the country's utmost priorities that requires special attention from health policy-makers and researchers, in order to reduce the burden of diseases and health costs in the future. This plan is being piloted in 17 cities covering 55,000 individuals and must have complete coverage by 2015.

17- One of the other performance challenges for institutions and organizations which are active in the field of elderly care is the lack of infrastructure for payment of old age insurance costs (basic and supplementary), which in turn causes problems for establishment and development of various types of services and elderly care; such as home care, assisted living, adult day care centers, and nursing homes. This part of activities regarding elderly health and quality of life lacks a strategic program in the draft of *National Strategic Plan for the Elderly*. Furthermore, what is foreseen and prepared by the State Welfare Organization in this framework in terms of who receives benefits of basic insurance coverage is limited to the elderly living with disabilities and in need. Such limitations in the coverage of the supplementary insurance translate into a restricted opportunity for the elderly to benefit from support. Yet, due to the staggering increase in the costs of health care services, complete and comprehensive insurance coverage for all the elderly is a desperately felt need.

18- Many of approved formal and informal support programs for the elderly have not yet been implemented. Implemented programs such as financial supports, pensions and cash and non-cash assistance, considering the amount and method of payment, are not sufficient to overcome the socioeconomic vulnerabilities of the current economic situation. Furthermore, elderly support laws in Iran are more of a national directive, whereas, considering the population, socioeconomic diversity and manifold needs of the elderly, supervision of coordinated institutions that act based on elderly and ageing studies is necessary. For instance,

the performance of different municipalities and the extent to which they invest in various areas of the country is not in accordance and compliance with national and country laws.

19- Review and analysis of the performance of organizations active in the areas pertaining to the elderly and ageing indicates that various formal institutions are mainly, in some manner, active in the field of provision of formal financial support to the elderly. Imam Khomeini Relief Foundation, the State Welfare Organization and the Ministry of Cooperatives, Labor and Social Welfare are three of the formal organizations active in this field, which meet the needs of the elderly or provide support for them in line with in-effect laws. There are some organizations that formally provide health care and health related or recreational-cultural services. What is essential, apart from evaluating the performance of these organizations, is inter-agency coordination to make formal interventions in promoting the quality and life standards of the elderly more efficient. This requires inter-sectorial governance and supervision beyond single organizations, which in itself is a challenge in improving the organizational performance in this area. Therefore, incorporating an integrated cooperation or establishment of a coordinating organization/institution to implement programs in the field of ageing and the elderly in the laws is necessary.

20- A review of the performance and activities of the State Welfare Organization shows that one of the activities of this organization is payment of subsidies to nursing homes (*draft National Strategic Plan for the Elderly*). This assistance is provided to all recipients equally and regardless of the difference in their needs and regardless of the requirements of the help for their situation. This financial assistance is paid with no standard/criteria for method of payment and the amount in place. Furthermore, the aforementioned services are paid without calculating and incorporating the latest inflation rates and changes in the amount of costs through time.

21- Findings of studies indicate that in terms of kinship supports, the elderly are mainly dependent on their children. Among the elderly as a whole there were more females without a spouse (widowed or divorced) than there were males. In addition, females were also found to be more dependent on their children than males. More than 90 percent of males live with their spouses and benefit the help and support of their spouses as well as their children.

22- Results of studies show that spouses and children play an important role for elderly males, and children play an important role for elderly females with or without spouses in provision of instrumental support and care. The study of the current situation of the elderly indicates that due to the large number of children, care support from children is possible and in many cases irreplaceable. Therefore, while emphasizing the need for further studies and research on a national level it is suggested that this important segment of social and family life of the elderly is appropriately and proportionately incorporated into the national plan and/or in the revision phase. In the aforementioned document, there is no plan and road map explicitly related to this part of the affairs of the elderly.

23- Available information on the costs of households which are headed by the elderly, are limited and insufficient due to lack of access to raw data of the Income and Expenditure Survey. The existing information indicates that with the growth in the elderly population the cost burden of the households and eventually that of the society will increase. In fact, the poor elderly are

one of the most vulnerable groups among the elderly population, and require more attention in national plans and programs.

24- In order to embark upon any kind of planning in the field of ageing and the affairs of the elderly it is necessary to carry out studies in all dimensions of their family life, social life, health and quality of life. Unfortunately, the only collected data on the situation of the elderly that are limited to health related variables are available for two years, 1998 and 2002. As these studies were not comprehensive and contain outdated data/information, and since the Ministry of Health and Medical Education conducted these studies they lack comprehensive data on other non-health related and non-medical aspects. Moreover, the data collected in the later waves of these studies that were carried out in 2012-13, such as data collected in the population and health data collection program, have not been made accessible and available to researchers. Also researchers have very limited access to data on family expenditures as the Statistical Center of Iran does not provide access to these data. Currently the most important challenge and limitation in carrying out ageing studies, the need for which is sorely felt in planning for ageing and in development, completion and updating of programs, is this lack of access to the basic socioeconomic and health information. The implementation of research and studies on ageing in order to identify and understand target groups and their needs, as well as provision of necessary protocols in this area has been identified in the draft National Strategis Plan as one of the services by the State Welfare Organization. It is clear that given the information shortage on ageing and the elderly and even the data which is produced by the registration organizations such as insurance funds are not provided to researchers and it is near impossible to carry out adequate studies on these subjects and to achieve the goals of the program.

Major recommendations and policy requirements

The fast growing population of the elderly is a warning for social planners and policy makers, and generally attracts a lot of attention towards the importance of having socioeconomic plans and policies. Moreover the growing population of the elderly is not to be assumed as a social threat since most of them will be living their old ages healthy and independent with no particular disabilities. However, it is necessary to develop comprehensive, coherent and targeted plans based on scientific findings and thorough knowledge to be implemented with precision and effectiveness to ensure a qualitative and quantitative improvement in the life of the elderly. Based on the findings and within the framework of this research the major recommendations are as follows:

1- The population of Iran has experienced a major socio-demographic transition in a relatively short amount of time, therefore the fast pace of ageing has robed politicians of the opportunity to come up with required plans. Therefore, it is necessary that the politicians expedite the process of planning and programming before the population grows old. The first basic step is to develop a single and integrated strategic document in accordance with the new conditions in which the detailed division of labor for various organizations is included.

2- As this report and many other studies on ageing has already clarified, it is vital to develop an official support system for the vulnerable elderly and provide it with more resources. The vulnerable elderly group includes of those old aged elderlies who need long-term care, old aged women, elderlies who live on their own, the poor elderly particularly those with no spouse or no child, the elderly with special diseases which need expensive treatments

particularly those with no proper insurance coverage. Special attention to the needs of these groups must be considered a vital policy in welfare plans for the elderly.

3- Some significant regional differences both in number and composition of the socioeconomic and demographic structure of the elderly are noticed. Therefore decentralized and region specified policies and social plans will also needed.

4- The studies on the elderly show that not only we need to develop a social support system for the old-aged, but also we need to provide special care and support for the members of the relating unofficial social networks and particularly family networks we emphasize on the family and children). It seems that when government financially supports a poor elderly in a family his/her children are further motivated to give more emotional support and care.

5- Further studies must benefit from comprehensive information along with details on social and individual life of the elderly to result in proper plans and social policies. Two serious challenges are ahead of us. First, there are not enough studies and research on the subject and those few which bear actual statistical results, for instance The Survey on Health Status of Elderlies in which was piloted and then carried out for some years, are scattered and inconsistent. In order to carry out consistent and comprehensive research on the elderly and monitor the situation, we need reliable data which is not being generated by any organ at the moment, not at least in a comprehensive form. Second the few studies usually measure a certain domain of variables in most cases limited to health information. While the social characteristics of the elderlies' life are as important as their physical health, in such studies usually the social aspect is ignored or there is not much effort to gather the related data.

6- The research findings show that half of the studies on the elderly have addressed the three issues of mental health, economic consequences and life quality which means a great deal of important issues in social and individual life of an elderly is being ignored. Focused support for studies on the elderly subjects which have not yet been attended to be needed.

7- We need to make use of scientific research findings and valuable experiences of those countries who have come up with noble ideas to improve health and life quality of the elderly and develop and institute training programs, information sessions, self-care programs, empowerment of the elderly, health monitoring and screening programs and clinics and geriatric hospitals.

Chapter One

Demographic Determinants

1-1 Introduction

Population ageing has, in the recent years, become an important policy discourse generally among specialists not in the field of demography who consider it as the negative consequence of rapid fertility decline in Iran. However, based on the evidence and documents that will be discussed in this report, the first phase of population ageing in the country resulted from higher life expectancies in recent decades. Increases in life expectancy, which goes back to the first years of the current Iranian Calendar century, have led to a gradual increasing in the survivorship ratio to older ages. In turn, this has resulted in an accelerating increase in the ageing population in the past two decades. The ageing population is, in fact, a replacement of older cohorts with small population by the larger younger cohorts. These younger cohorts, born during a period of high fertility, had a greater chance of survival compared with previous generations. The bunching of births during this period of high fertility and the subsequent period decline in total fertility rate had significant demographic impacts for Iran's population. Consequently, the population of the elderly has increased in the recent years. Therefore, population ageing as far as the number of the elderly is concerned, and is basically a result of high fertility and not low fertility in the past. Lower fertility only changes the population distribution ratio in age composition in favor of older cohorts.

Apart from the fact that population ageing is a result of mortality and demographic transitions, the positive effects of development, which pave the way for such transitions to occur, cannot be ignored. In the future, when the higher proportion of older people reveals an older population age structure, the elderly will have a much higher literacy rate and will probably benefit from formal support and social security compared with the elderly today. However, the current decline in fertility will limit the number children who might also reside far away from their parents due to migration. In fact, from the demographer's perspective, decreases in fertility rates threaten the quality of life for the elderly and will affect their welfare by diminishing their kinship networks.

Despite the fact that development is expected to have positive effects on the life of the elderly, societies in transition, like Iran, must be prepared for the problems arising from population ageing. The increase of life expectancy will inevitably extend ageing years and thus exacerbate these issues. Due to the positive and direct relationship between the number and complexity of problems arising from ageing and age, prolonged ageing and population ageing will make the society face issues such as disability and lower levels of physical health, increase in prevalence of chronic diseases, and therefore, increase the need for health care and treatment services. This, in turn, will increase the socioeconomic burden of ageing. Determinants that demonstrate such situations, such as the increase of mother/daughter potential support and of elderly dependency ratio, are a clear manifestation of the increased socioeconomic burden of the elderly.

Some of the issues and emerging changes deriving from ageing in Iran, which will be discussed in this report, are feminization, geographical variation and social inequalities among the elderly population. Although population ageing is theoretically and particularly at the national level studies based on assumptions of closed populations, migration is a key factor that brings about changes in population age structure. As such, different levels of ageing will be experienced across the different provinces of Iran due to variation in migration patterns. The resulting differences in population structure require

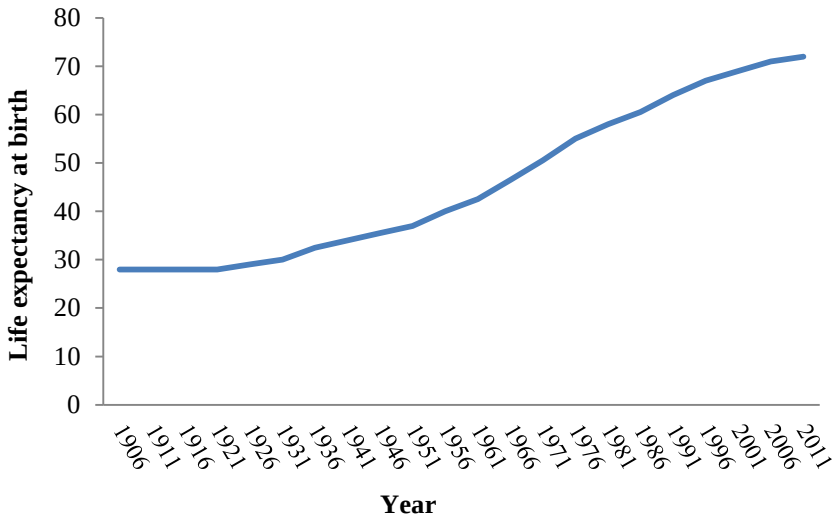
distinct protection and support programs for different geographical areas and regions. Moreover, it is necessary to focus on relevant laws and regulations pertaining to intervention programs for promoting the living conditions and welfare of the elderly – as the current laws are limited and insufficiently implemented and enforced. In other words, the current social security and formal protection system is inadequate for promoting conditions and living standards of the elderly. As this report demonstrates, the current situation of the elderly is more worrying and alarming than the potential situation of the elderly in the generations to come. Furthermore, considering the high population growth rate of this particular age group in recent years, further efforts are required to meet the needs and demands of this group.

Population ageing is the disturbance of proportional age balance of the population so that the share of the younger population from the total population size decreases while the share of the older population increases. In spite of this, the growth in the population of the elderly is a separate and different issue than the increase in the proportion of the elderly population. The population of the elderly might be increasing rapidly, while the size of other age groups might be a constant. Therefore, individual ageing leads to population ageing through two separate paths. The first occurs when life expectancy is lengthened and as a result more people with a higher survival chance reach older ages. The second path occurs when a decline in fertility rates, which immediately lead to a decrease in the size of the under-15 population and gradually an increase in the population of older age groups. It is clear that the population balance will not be disturbed without a decline in fertility; on the other hand the increase in the size of the population of the elderly is not necessarily a consequence of temporary decline in fertility. Such population subjects that determine the size and growth rate of the population of the elderly are discussed in this chapter. The data used in this chapter have been extracted from various sources. Apart from data from the 1966 to 2011 population and housing censuses, different estimations have been used to project the effect of decline in mortality and fertility on ageing in this chapter.

1-2 Increase in Life Expectancy and Decrease in Mortality

When fertility starts to decline in the end of the second phase of the demographic transition, life expectancy has already started to be lengthened and the survivorship ratio has increased and the size of the aged population increases. This demographic phenomenon is called individual ageing (Lee, 1994). Figure 1 demonstrates changes in life expectancy for both sexes from the beginning of the demographic transition to 2006 in Iran. Changes in this index indicate that life expectancy of less than 30 years at the beginning of the twentieth century has increased to about 71 years in 2011. In other words, with the life expectancy increasing, mortality levels have significantly decreased, which clearly suggests an increase in chance of surviving for the whole population, age groups and different generations who were born during the twentieth century. In order to determine the extent to which the increase in life expectancy or decrease in mortality rates has increased the survival chance of which age group requires calculation and analysis the person-years lived for each level of mortality. Generational changes in survival chance can be analyzed by utilizing this variable which exists in life tables.

Figure 1: Trend of Life Expectancy at Birth, Iran, 1906-2011



Person-Years lived by each generation of males and females, who were in age X at the time being the year 2006, are represented in Figure 2 and Figure 3 respectively. The first important point in this case is that the first phase of generational changes in lived years for both males and females has occurred during childhood and during early years of mortality transition, and therefore increased the chances of surviving for these age groups. Consequently, this raise and increase have happened for the middle-aged cohort and the 3rd phase, namely ageing, in the decades leading up to the 21st century. The same pattern can be seen for the Iranian females in Figure 3. These two charts express the different effect of mortality reduction on the survival chances of different generations, which indicate the first demographic shift toward population ageing. However, ultimately, an increase in the chance of survival would increase the population size of generations and age groups approaching older ages during the age transition. The population of older age groups grows as a result of this effect.

The effect of the increase in the survival chance can be demonstrated by a coefficient that is known as the "Momentum of Mortality Change". This theory is based on the "stable population theory" which was for the first time introduced by Guilot in 2005. The coefficient provided by the momentum of mortality change shows that to what extent the generational changes resulting from mortality reduction, independent from the effects of fertility changes, increases the population number. If this coefficient is calculated for different age groups, it can be shown that the volume of the increase in population of each age group, here the elderly population, is caused by changes in mortality.

Figure 2: Cohort Person-Years lived in males, Iran, 1906-2011

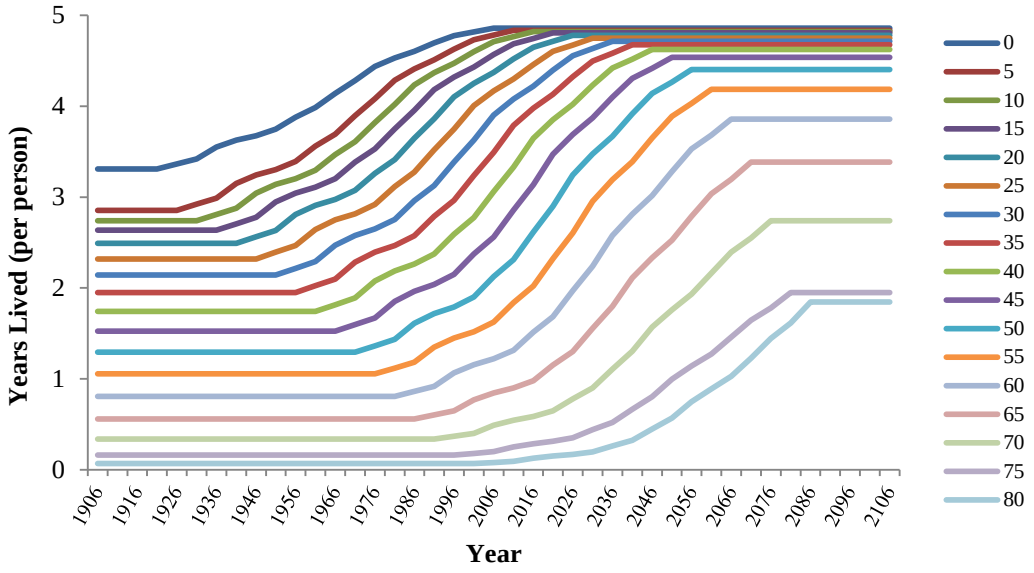
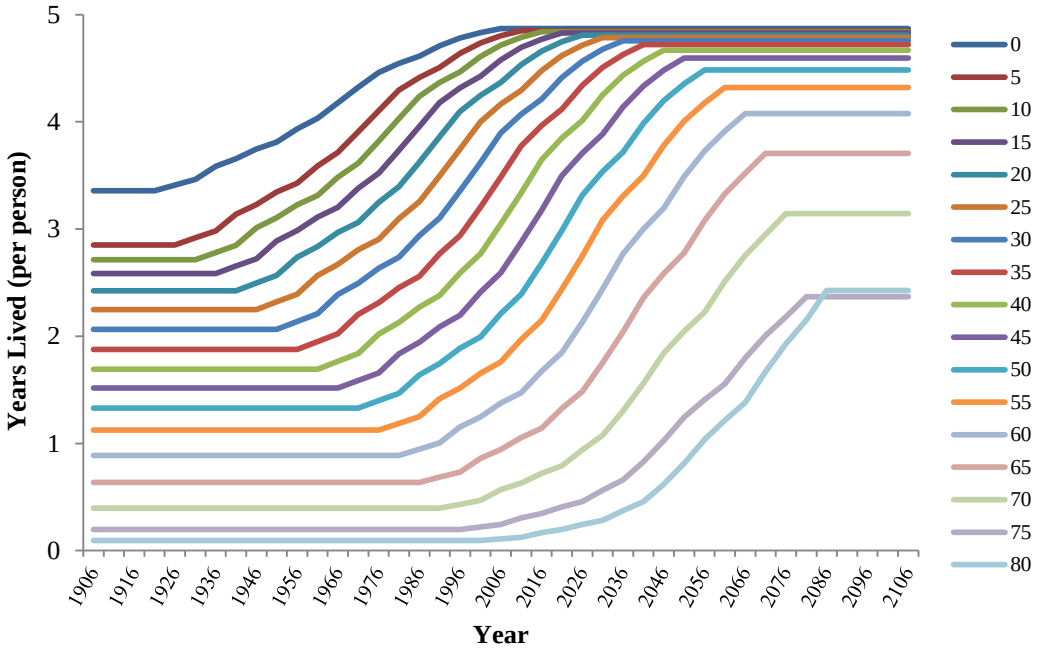


Figure 3: Cohort Person-Years lived in females, Iran, 1906-2011



The momentum of mortality for different age groups and during the changes in mortality for Iranian males and females can be seen in figures 4 and 5, respectively. As indicated, the steepest slope of the amount of momentum pertains to ageing and old ages. In addition, the greatest effect of mortality changes that leads to individual ageing, for both males and females, is observed in decades of 1970s to 2030s.In other words, the largest increase in the elderly population resulting from mortality reduction and an increase in survival chance has occurred in these years and if observed more

precisely and closely this enlargement is evident especially in 1980s, 2000s and 2030s. It is obvious that the first phase of population ageing in Iran is formed in those years via an increasing chance of surviving and individual ageing. The result of this effect is evident in Table 1.

Figure 4: Multiplier of male population as an effect of mortality decline, Iran, 1906-2106

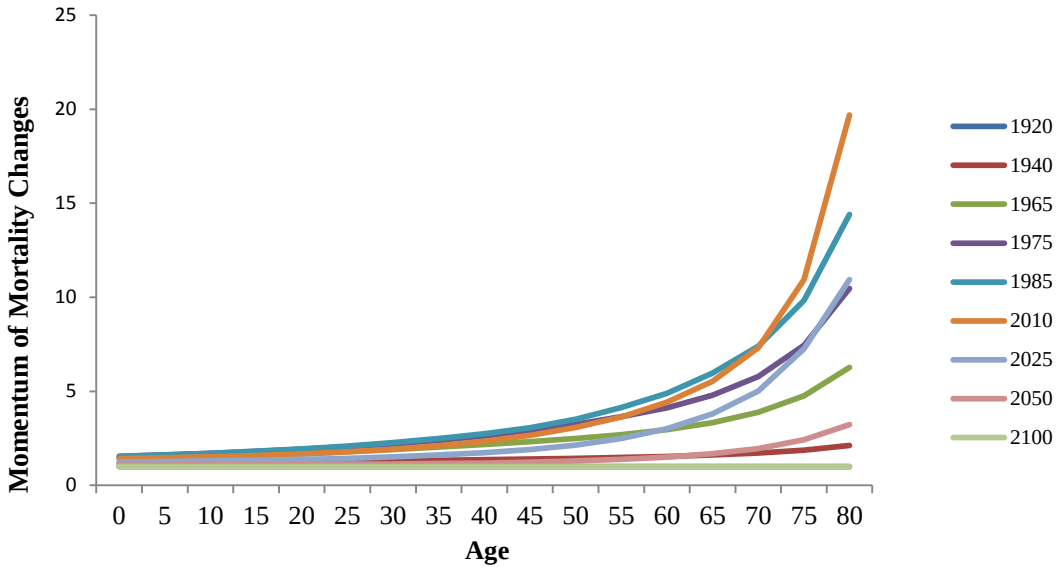
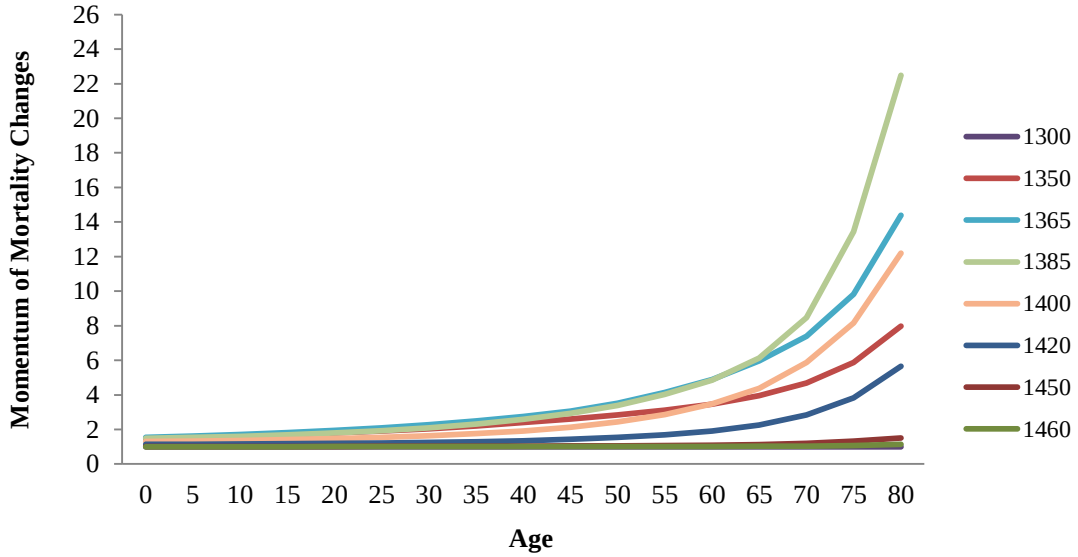


Figure 5: Multiplier of female population as an effect of mortality decline, Iran, 1906-2106



1-3 Changes in the Elderly Population

As demonstrated in Table 1, in 2011the population of 60 years old and above was more than 6.1 million; almost 4.2 million of them living in urban areas and 1.9 million in rural areas. Likewise, in 2011, near 4.3 million of the total population was aged 65+ and nearly 2.9 and 1.4 million of them were resident in urban and rural areas respectively.

Table 1: Population Aged 60+ and 65+ by urban and rural areas, Iran, 1966-2011

Year	Total Population			Population Aged 60+			Population Aged 65+		
	Total	Urban Area	Rural Area	Total	Urban Area	Rural Area	Total	Urban Area	Rural Area
1966	25,078,923	9,794,246.00	15,284,677	1,638,042	598,834	1,039,208	968,105	344,188	623,917
1976	33,708,744	15,854,680.00	17,854,064	1,771,614	791,126	979,488	1,186,470	528,912	657,558
1986	49,445,010	26,844,561.00	22,349,351	2,686,350	1,388,361	1,283,754	1,501,718	793,451	700,931
1996	60,055,488	36,817,789.00	23,026,293	3,978,127	2,254,211	1,710,662	2,595,181	1,470,700	1,116,737
2006	70,391,075	48,259,974.00	22,131,101	5,114,110	3,279,937	1,834,173	3,652,045	2,300,128	1,351,917
2011	75,149,669	53,646,661.00	21,446,783	6,159,676	4,231,909	1,923,681	4,296,769	2,897,420	1,396,667

Since no information on population by age for the early years of the twentieth century is available, establishing Iranian elderly population trends since the onset of the demographic transition up to now is impossible. Therefore, changes in elderly population are presented based on the data collected in the censuses carried out from 1956 onwards, which can be observed in Table 2.

Table 2: Growth Rate of Population Aged 60+ and 65+ by urban and rural areas, Iran, 1966-1986 and 1986-2011

Region	Period	Total	Urban Areas	Rural Areas
Total Population	1966-1986	3.5	5.2	1.9
	1986-2011	1.7	2.8	-0.2
Population Aged 60+	1966-1986	2.2	4.3	0.6
	1986-2011	4.3	5.3	2.8
Population Aged 65+	1966-1986	2.5	4.3	1.1
	1986-2011	3.4	4.6	1.6

As demonstrated in Table 2, in the period due to fertility decline, population growth in total has decreased from more than 3 percent during 1966-89 to less than 1.7 percent during 1986-2011.This rate has increased of 2.2 percent to 5.8 percent for population aged 60 years old and over, and growth rate of the population 65 years old and above has increased from 2.5 percent to 6.3 percent. Figures 6, 7 and 8 clearly illustrate the differences between elderly population growth and the total population and the difference between the two periods of 1966-86 and 1986-2011, as well as differences between rural and urban areas. All these changes indicate that in the recent decades a significant part of the population increase has occurred in the adult age group not in children and youth. It is crystal clear

that this increase is influenced by reduction in mortality levels; that is an increase in survival chance and the momentum of mortality change. Current generations of the elderly were born in years when every woman gave birth to more than 6 children and based on what was mentioned before, a large proportion of those children have survived to old age. The changes in the number and ratio of elderly population of (80+) demonstrate the importance of this issue properly. As shown in Table 3, in the two years of 1966 and 1986 where the age structure of the population in Iran was young, age distribution of the elderly population of 60+ is also a young population from a population-related point of view. So that in this period nearly two thirds of the total aged population was at the onset of ageing. A specification of all young population is that any segment of the population that it observed, such as the working age population, population of women in reproductive age or the population of children, the law of young population is that, as age goes up the population decreases. On the contrary, in an aged population every population subgroup such as the above mentioned groups increases in numbers as age goes up. This means that in such populations, the population of the people at older ages (middle elderly and oldest old) in the aged subgroup, is larger than the population of those at the onset of ageing (early elderly). Nevertheless, there is a key issue and that is in every population, such as Iran, which has an age structure going through a transition; up until the shifting of the effect of fertility decline (that is before the balance of the population of large age groups is disturbed), the share of the effect of the increase in the survival chance is greater than fertility. However, past fertility levels are the major determinant of the magnitude of same age groups in adulthood and old age. Based on the data of the 2011 population and housing census, the proportion of younger elderly of 60 to 69 years old has experienced a significant decrease and, as a result, the proportion of the elderly at middle and later stages of old age has more or less increased.

Table 3: Proportion of population aged 65+ and ageing index by urban and rural areas, Iran, 1906-2011

Age	Groups	Population (Number)			Ratio (percent) from total		
		1966	1986	2011	1966	1986	2011
60-69	Early Elderly	1,015,959	1,759,271	3,206,638	62.0	65.5	52.1
70-79	Middle Elderly	444,932	551,815	2,033,499	27.2	20.5	33.0
80+	Oldest Old	177,151	376,553	919,539	10.8	14.0	14.9
	Total	1,638,042	2,687,638	6,159,676	100.0	100.0	100.0

As compared above, during the last two decades the growth rate of the aged population has surpassed the total population growth rate; while in decades before the 1980s total population growth was larger than the growth of the elderly population. Figure7, demonstrates the similarity of this rate with the trend in urban areas of the country and Figure 8 shows the same for rural areas. What is shown by these two figures is not comparable to the data reflected in Figure 6, as the effect of migration on age structure and ageing can be considered insignificant in comparison with the effect on urban and rural areas together. As demonstrated in Figure 7, urban population growth in the 1966-86 period reached over 5 percent and despite the decline in population growth in the 1986-2011period, this rate has occurred at 2.8 percent in urban areas. In fact, the direction of the shift in the population and urbanization of the country has been the key reason that a great proportion of population growth has occurred in urban areas of the country. On the contrary, as can be seen in Figure 8, the growth of rural

population has been slower and has even been negative in the 1986-2011 periods. In spite of all this, the growth of aged population has experienced a more or less faster pace than the growth of the total population in both urban and rural areas. The issue here is that the effect of migration on age structure and increase in ageing in population of urban and rural areas are two opposite sides of the coin. This variable has slowed down the growth of the aged population in urban areas through attraction of a portion of the younger population. By contrast, the growth of number of elderly especially those 65 years of age and over, in relation to the growth rate of the total population, has been greater in rural areas.

Figure 6: Growth rate of Population aged 60+ and 65+, Iran, 1966-1986 and 1986-2011

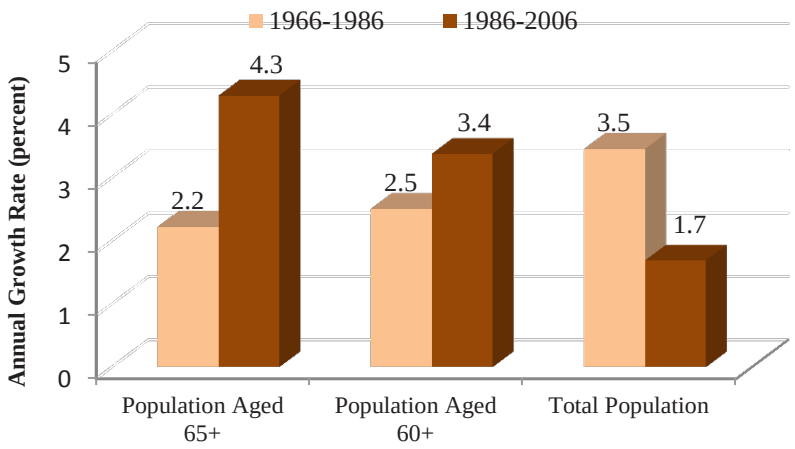


Figure 7: Growth rate of Population aged 60+ and 65+ in Urban Areas, Iran, 1966-1986 and 1986-2011

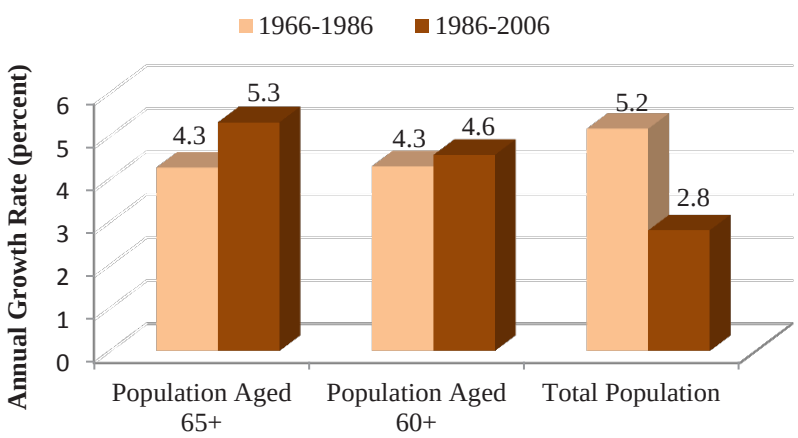
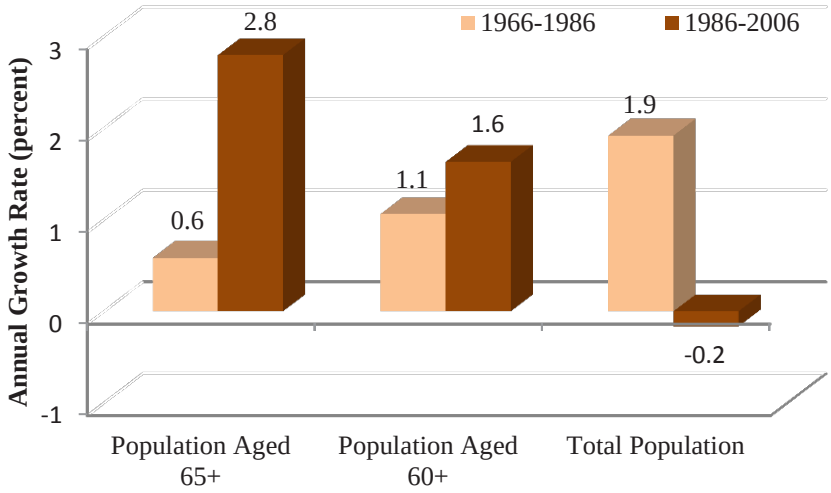


Figure 8: Growth rate of Population aged 60+ and 65+ in Rural Areas, Iran, 1966-86 and1986-2011

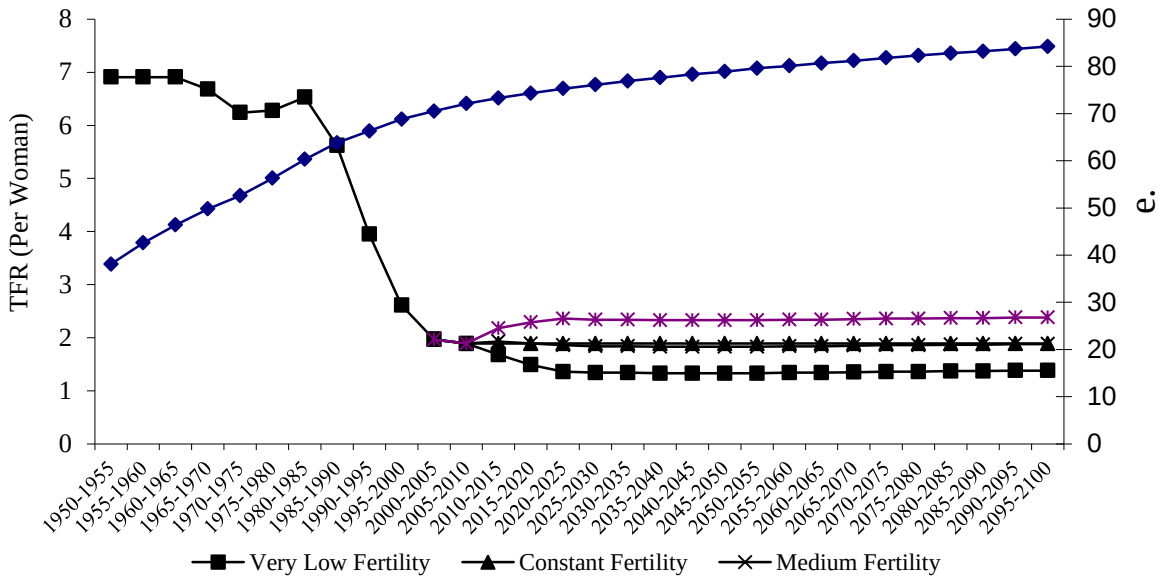


1-4 Changes in Fertility Levels and Population Ageing

Although there is no doubt that population ageing is an inevitable outcome of fertility decline, majority of planning and programming activities for elderly requires data on the number of the population and its changes, and not [necessarily] its ratio. Moreover, based on the demographic definition of this phenomenon, it is expected that the fertility decline will lead to a reduction in the intensity and speed of population ageing process. The number of the elderly population is affected by the generation size, which is a function of the level of fertility on one hand and the probability of survival from one age to another age on the other –especially from childhood to adulthood and old age. Although, as shown in Figure 9, fertility estimation for previous years indicate that total fertility rate has never been less than 6 children in Iran during the years leading to the 1980s, according to the demographers' estimations in some provinces of the country, such as Sistan & Baluchistan, Total Fertility Rate (TFR) even reached more than 8 children (Mirzaei, et al., 1996). While fertility of 6 or more children in regimes of high mortality leads to a young population, Iran's low mortality rates leads to a great potential for population ageing. In other words, when life expectancy increases, if a large proportion of births in the high fertility period can reach adulthood and eventually ageing, the shift towards old age and ageing will accelerate.

Studies conducted for this report indicate that if fertility remains high it only leads to a constant proportion of the elderly population and ageing index. The key point is that the elderly population in a regime of high fertility increases rapidly and becomes increasingly larger. As can be observed in Figure 9, fertility levels were high and nearly stable until the 1980s, life expectancy continued its increasing and the combination of these changes has created an accelerated demographic capacity for population ageing. The pace of population ageing in the coming decades and by mid-21st century would be affected by this same combination – not by fertility reduction.

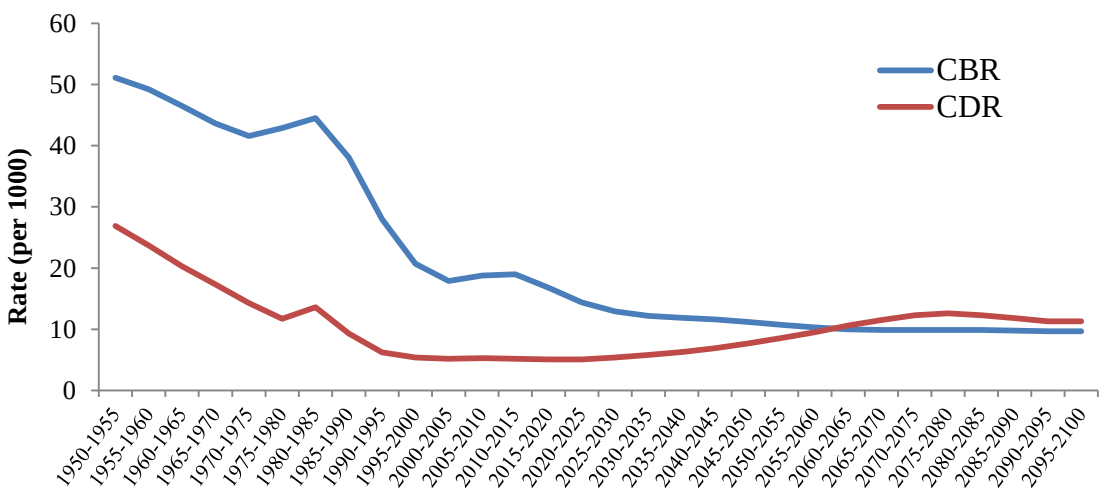
Figure 9: TFR and Expectancy of Life (e.), Iran, 1950-2100



Source: Population Projection scenarios by the UN

The effect of high fertility levels does not end only in a large population size of previous generations and an increase in the elderly population in the future. As we have demonstrated in Figure 10, another demographic phenomenon is occurring during Iran's demographic transition, which is referred to by demographers as population momentum. Population momentum is nothing but an accelerated impact of high fertility, which leads to the increase of population in older ages and creates new waves in the increase of the elderly. A stop and slowing declining in the crude birth rate in the first and second decades of the twenty-first century, shown in Figure 10, clearly demonstrates that fertility in the past would result in a rapid pace increase in the elderly population in the future.

Figure 10: Birth and Death Rates During Phases of Demographic transition and post-transition, Iran, 1950-2100



Source: "Medium Variant" Population Projection scenario by the UN, **World Population Prospects, Rev. 2012**

Chapter Two

Size and Pace of Population Ageing

2-1 Introduction

When the mortality rate decreases, as long as the fertility rate remains stable, a change in the population ratio of the elderly depends on an increase in the chance of these population groups surviving such as childhood, adolescence, youth, adulthood and old age. This explains the changes in the elderly population index through the first phase and the second period of the second phase of Iran's demographic transition. In this period, not only do the young and elderly population groups not increase, but it is also possible that in the preliminary phases, these two indexes decrease due to the growing population of children and adolescents. Moreover, other phenomena such as increasing birth rates and population dynamics must be taken into consideration. For instance, the relative increase in the fertility rate, along with an increasing chance of survival in children, resulted in decreasing the elderly population and the related ageing index in the 1980s, at the same time in which the median age of Iran's population reached less than 16 years old. The following chapter aims to discuss the above issues and will be using official population data sources, particularly population and housing censuse.

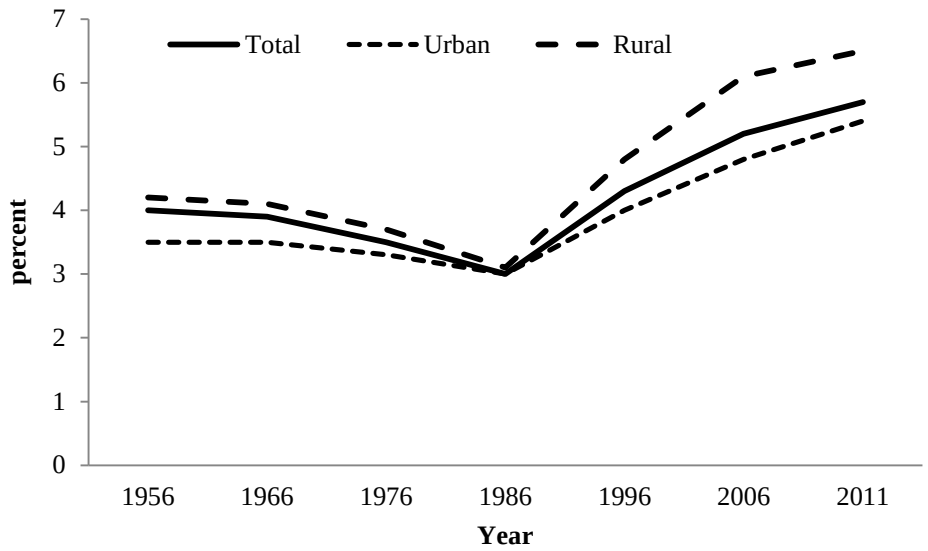
2-2 Size of Population Ageing

Although the largest growth in population segments is seen in the elderly age group, according to proportions there has been no significant change in the proportion of aged population; based on this criteria Iran's population is still considered a young population. As can be seen in Table 4, the share of 65 years and over during the 1996-2011 period was between 4 and less than 6 percent, which implies an increasing trend and age transition but was still not enough for the population ageing. However, from the beginning of twenty-first century, with the increasing distance between urban and rural areas this ratio isnearingabout 8 percent in rural areas. This indicates that the context is more appropriate for population ageing in rural areas. It should be remembered that definition and standard criteria for analysis of population ageing is adopted from closed and stable populations. Although migration is an important factor in changing the population age structure, it is not an appropriate criterion for judging population ageing. However a combination of the three factors of fertility, mortality and migration in rural areas makes their demographic image older than urban areas (Figure 11).

Table 4: Proportion of population aged 65+ and ageing index by urban and rural areas, Iran, 1956-2011

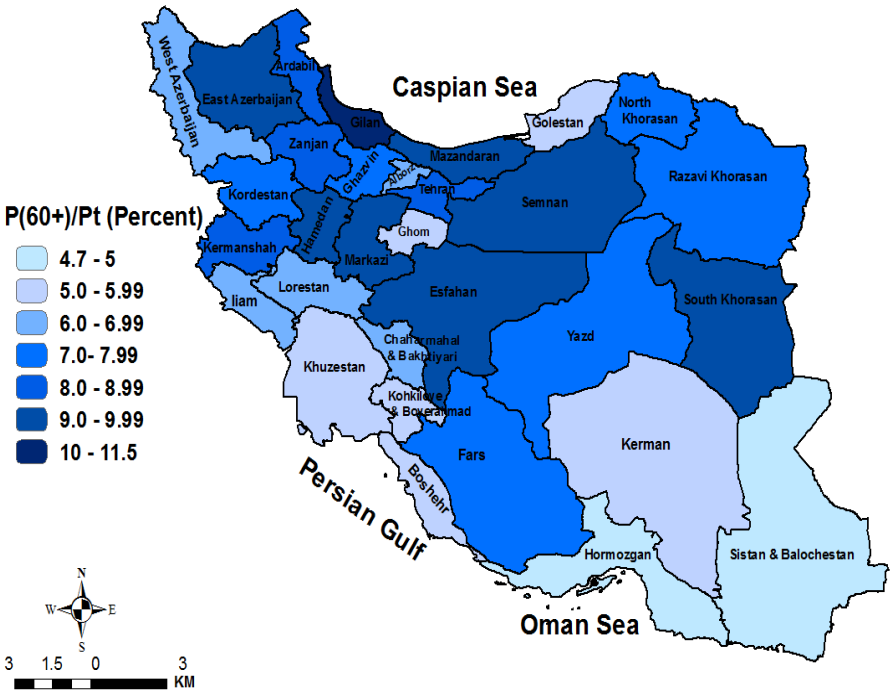
Year	Proportion of aged population (65 (and over			Ageing Index		
	Total	Urban	Rural	Total	Urban	Rural
1956	4.0	3.5	4.2	9.4	8.7	9.7
1966	3.9	3.5	4.1	8.4	8.0	8.6
1976	3.5	3.3	3.7	7.9	8.1	7.7
1986	3.0	3.0	3.1	6.7	6.9	6.5
1996	4.3	4.0	4.8	10.9	10.6	11.4
2006	5.2	4.8	6.1	20.7	20.1	21.8
2011	5.7	5.6	7.7	24.5	25.1	29.6

Figure 11: Proportion of population aged 65+, Iran, 1956-2011



Following the acceptance of migration as an important demographic factor in age structural changes, those indicators used in population ageing analysis, in which migration plays a more important role, can be used to observe regional and provincial differences. The share of population aged 60+ and 65+ in different provinces of the country are shown in Maps 1 and 2, respectively. These two maps indicate significant provincial differences. Map 2 shows that in provinces where fertility is relatively higher, and therefore the share of children to the total population is more than the other provinces, in south, southeast and southwest including Sistan & Baluchistan, Hormozgan, Bushehr, Khouzestan, Kohkilouyeh & Boyer-Ahmad, Ilam and Lorestan the share of population of 65+ does not reach 5 percent. Meanwhile, this ratio in northern and the central provinces like Gilan, Mazandaran and Teheran is higher. In this case, however, South-Khorasan should be considered an exception due to the high effect of migration on the age structure.

Map 1: Proportion of population aged 60+ by province, Iran, 2011



Map 2: Proportion of population aged 65+ by province, Iran, 2011

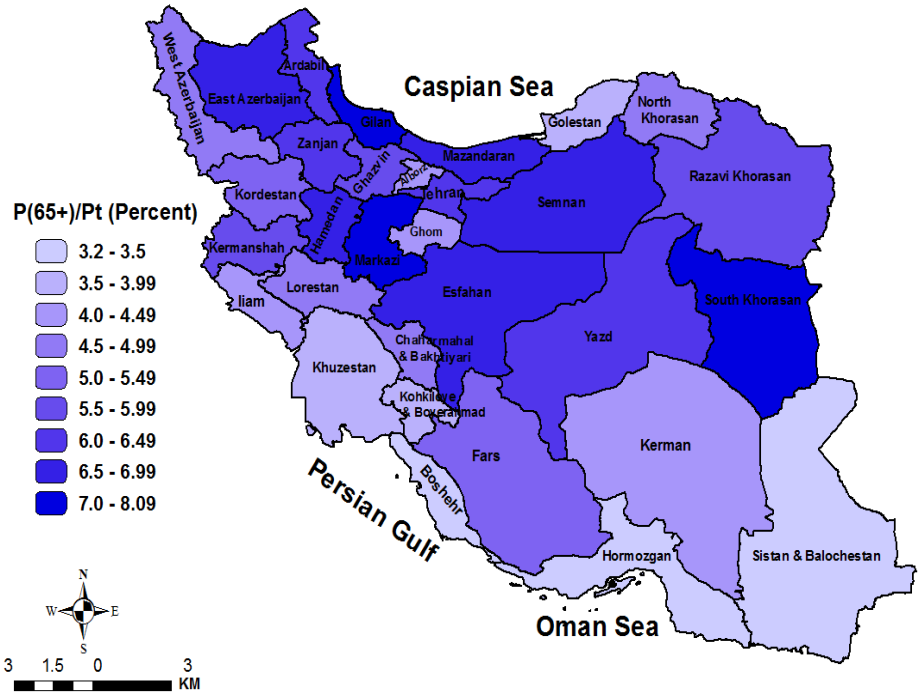
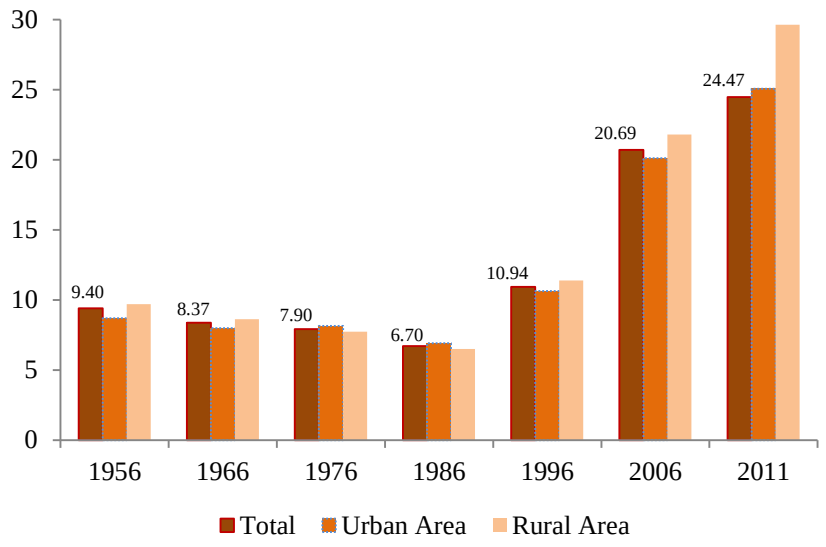


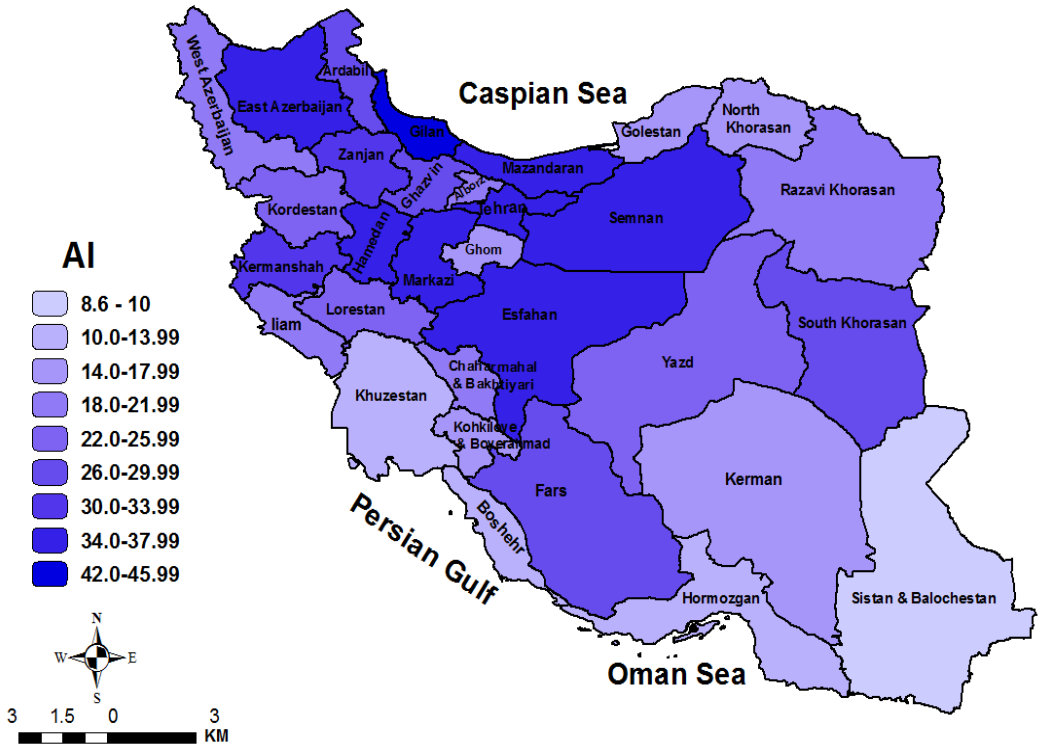
Figure 12 shows another profile of aging indices (AI). As indicated, AI in sessions 2006 and 2011 has passed the 15 elderly of 60+ to 100 children under 15 years old boundary, which showing that a young age structure will shift into an aged one. According to the United Nations projections, in a most probable scenario the ratio may reach more than 200 elderly to 100 children under 15 years old and in very low fertility scenario (less than 1 child) up to the mid-21st century, the index would increase to 500 elderly to 100 children of under the age of 15 years in Iran. Map 3 represents this index in a provincial geographic level based on which the bolded differences also appear in Map2. This means that in southeastern, southern and southwestern provinces and in Golestan and North Khorasan provinces due to a large proportion of children resulting from high fertility levels and in Qom province due to major migration of the youth in its population center (Qom city) the ageing index is at its lowest. This illustrates the differences in provinces as far as the situation of population ageing is concerned.

Figure 12: Number of Population Aged 65+ per one hundred children -15, Iran, 1956-2011



Data Source: National Censuses 1956-2011

Map 3: Number of Aged Population 65+ per one hundred children -15, by province, Iran, 2011

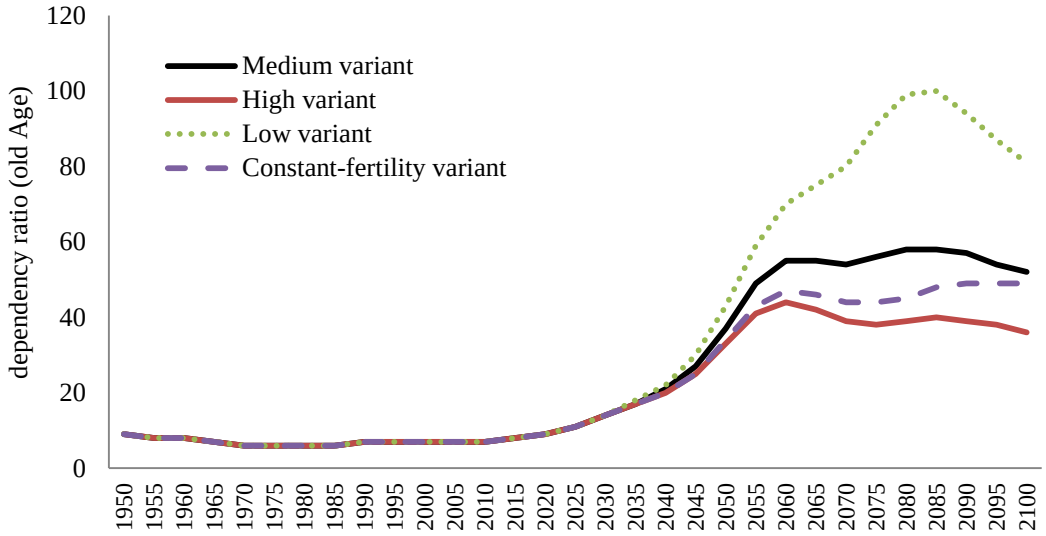


2-3 Aged Dependency Ratios

Figure 13 shows the changes in the aged dependency ratio. As indictated in this figure, a small increase in the elderly population of 65+ by 1986 and dramatic growth in working-age population during 1986-96, kept the dependency ratio at low levels and in some periods even decreased it. Following these changes, due to growth in the aged population and settling down of the increasing trend in the working-age population during 1996-2011, this ratio increased in 2006 and became fixed at this level in 201. According to the United Nations projection, the aged dependency ratio will remain stable until 202. However, after this period it is expected to rise in all four projection scenarios. Due to the rapid decrease in population 15-64 year olds, the lower the fertility level, the greater the amount of increase of this ratio. The fertility decline would require a 25- to 30-year time span to have an impact on dependency ratio and it will not have diverse variations in different scenarios. As it is clearly shown in Figure 13, variations in fertility levels in all four population projection scenarios by the United Nations, and the pace of increase in dependency ratio will begin in the 2040s. If demographic changes occur as anticipated by the United Nations' projections, the prediction would be that, in more realistic scenarios, this ratio would have an increase up to 60 elderly to every 100 persons of 15-64 years old until 2060s, and would then decrease to 40 to every 100

persons of 15-64 years old in the last decade of the 21st century. Interestingly, the decrease in this ratio would be greater in the "low fertility" scenario than in all other scenarios.

Figure 13: Number of Population Aged 65+ per one hundred Population Aged 15-64, Iran, 1950-2011



Data Source: Four population projection scenarios by the UN in World Population Prospects, Rev. 2012

The question here is that if the fertility levels were not reduced, what would be the change in the ratio of elderly dependency? In order to answer this question, besides the United Nations' four projection scenarios, assuming fertility stands still at its mid-1980s level, the country's population is predicted from 1986 by the combination method. Figure14 indicates that in case of stability in fertility levels the ratio would have remained the same as it was in1986, that is, 6 elderly per 100 persons of 15-64 years. The assumption of stable fertility at a 6-children-and-more per woman level represents a projection scenario for Iran's population in which the only thing that remains the same among ageing indicators would be the "share of 65 years and over population" and the "elderly dependency ratio". While the elderly population of 65 years and over in late 21st century –based on the UN "low variantscenario"– would reach 13 million persons, 18 million and 23 million, in "medium variant" and "high variant" scenarios, provided that fertility levels stayed at the mid-1980s levels, the number of elderly would increase to more than 61 million persons (Figure 14). Therefore, regarding the importance of fertility levels and the impact of its fluctuations on the growth and size of elderly population in the future, undoubtedly fertility reduction – which is the basis for all planning activities – would decrease the effects of the large number of the elderly population and its growth. Although with high fertility levels, the ratio of the population of 65+ elderly to the total population would be between 3 to 4 percent up to the end of the 21st century.

Figure 14: Number of Population Aged 65+ per one hundred Population Aged 15-64, Iran, 1950-2100

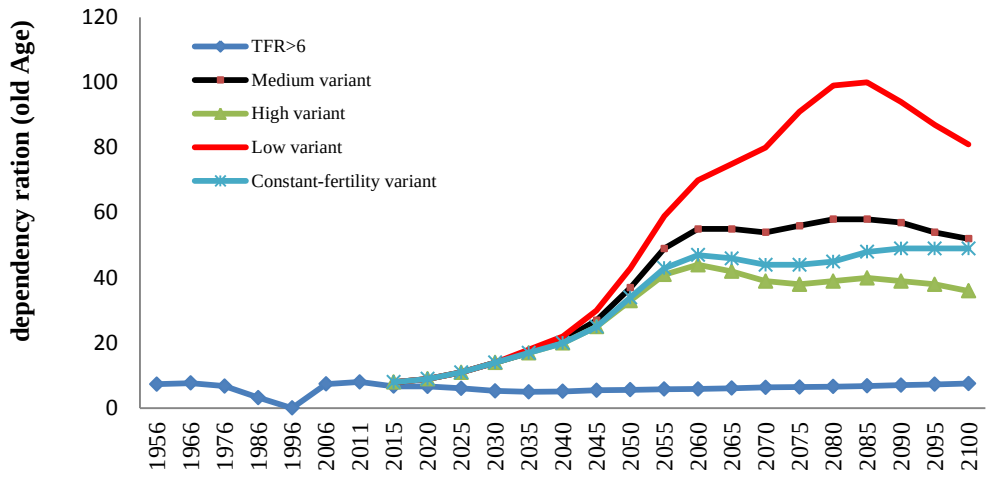
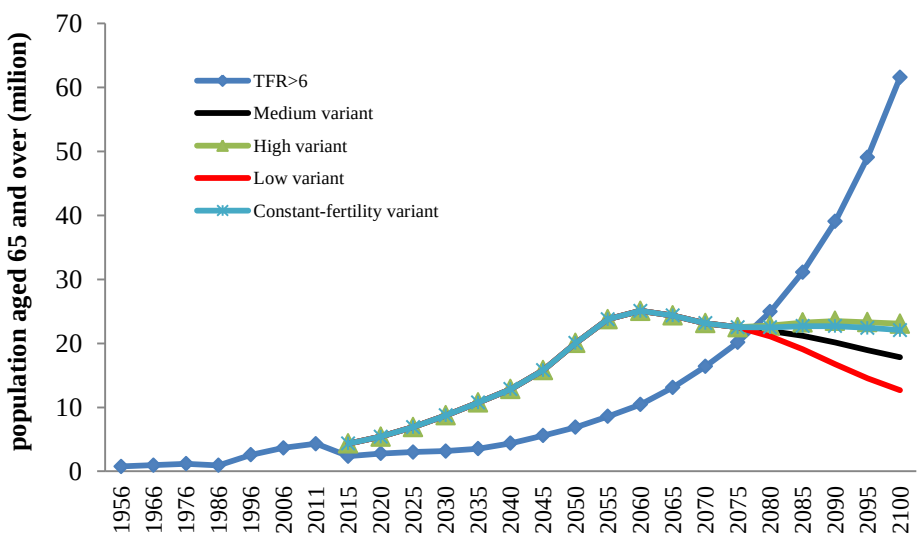


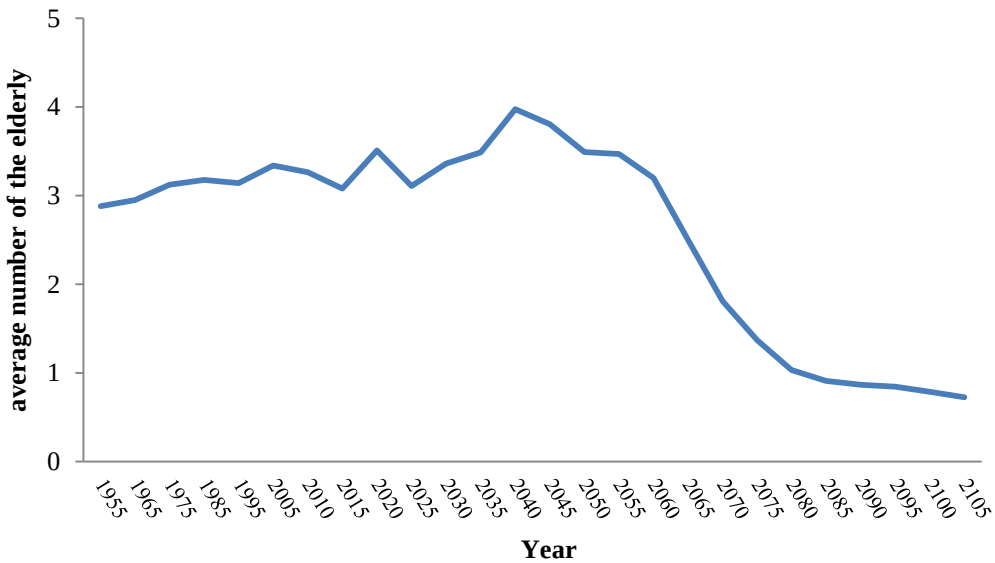
Figure 15: Population aged 65+ by UN scenarios of projections, Iran, 1956-21



2-4 Replacement Ratio

As mentioned in the previous section, the speed of population ageing is determined by the replacement of the elderly by remaining portions of generations that were born during high fertility periods and have benefited a higher survival chance in comparison with the generations prior to themselves. If based on the demographic definition (Pressat1985), we consider the average generation length equivalent to fertility age that is 25 to 30, the 65+ elderly are replaced by a population of adult who are at least 25 years younger than any age group of the elderly at any given time. Therefore, the elderly (from the early elderly at ages 65-69 to the oldest old being 80+) will be replaced by a group of adults that have a 25-year age difference with them (40-44 to 60-64 years old). In practice this relation is the opposite of "mother-daughter ratio" for both sexes, which is "elderly-adult child ratio". This ratio implies that several adults replace each 65+ elderly cohort during each generation. This ratio can be calculated based on the data from censuses carried out in Iran and by utilizing the results of the "medium variant" scenario of the UN population projections. These ratios have been calculated for the 1956 to 2011 period and projected up to 2100 and are demonstrated in Figure 15.

Figure 16: Coefficient of Replacement of the 65+ population based on "medium variant" UN projections, Iran, 1956-2100



Source: Census results for years 1956 to 2011 and projections from ***World Population Prospects, Rev. 2012***

Based on the amount and trend shown in Figure 15, the 65+ population had experienced a replacement coefficient of nearly 3 for the last 5 decades, and in the recent two decades experienced a replacement coefficient of over 3 for each elderly person. This means, it is estimated that for each elderly person, in time, up to 2 adults will be added to the aged population with a 35-year interval. This index would continue to rise after the 2010s and would reach nearly 4 by the mid-2040s. According to the United Nations' projections from the mid 2040s, the replacement coefficient will decrease with a slight slope for two decades and would reach 1 in the 2080s.While it would seem that, based on projections, the replacement coefficient in the 2080s would reach 1 – promising stability of the aged population, the accelerated decline in fertility levels in the last decades of the fourth solar calendar, would cause this ratio to experience a further decrease, reaching a figure of less than 1 by the end of 2100s. If replacement is stabilized at those levels in those years, the aged population would also have a negative growth and would decrease alongside other segments of the population.

Chapter Three

Socioeconomic Characteristics of the Elderly

3-1 Introduction

Apart from the change in the size of the elderly population, which has its roots in two ageing stages – individual and population– and in the Iranian demographic background interpreted in a high fertility and low mortality regime, the demographic and socioeconomic characteristics of the elderly and their social life, in general, demographic composition of the elderly is the second important issue in planning for this segment of the population and for policy-making in the country. In this chapter efforts are made to analyze these characteristics of the elderly, especially their demographic, social and economic composition. This analysis is generally based on general data collected through population and housing censuses. Methods and techniques for analysis are the common methods used in demographic analyses, including ratios and percentage distributions. Rates or amounts are only used in the analysis of the presence of the elderly in labor market. However, unemployment rate is in itself of a percentage nature in relative distributions.

3-2 Sex Composition

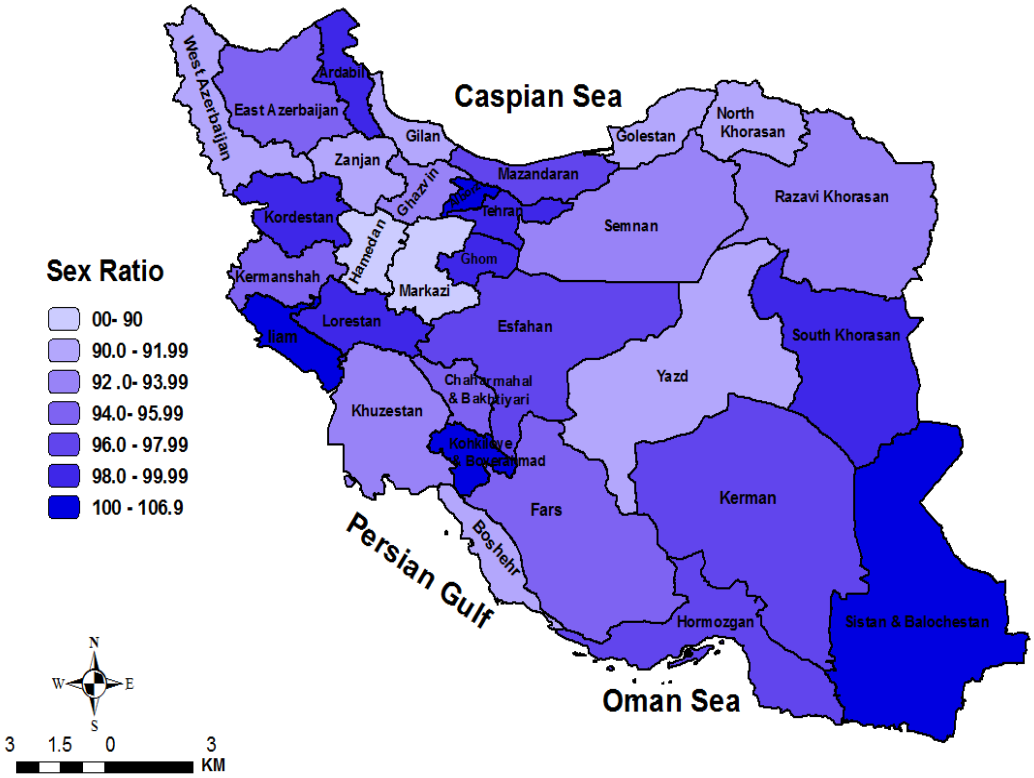
With consideration of significant differences between men and women elderly from various demographic, socioeconomic, and sex composition point of view, sex composition of this segment of population is and has always been of great significance in demographic theories, studies and research. Additionally, sex composition of the Iranian elderly is one of the unique characteristics of the country in comparison with societies where the demographic situation (low fertility and life expectancy of over 70 years) is similar. Despite the high life expectancy, which is adheres to the third phase of epidemiological transition, the female elderly constitute a lower than expected proportion of the total elderly population. As shown in Table 5, during the period of 1976 to 2006 (except the year 1986 and 2011) the sex ratio of 65+ elderly was more than 110 males to 100 females. However, based on the 2011 population and housing census, the male biased sex ratio in elderly has shifted, indicating that the number of elderly males and females are near equal (99.4). Analysis of the changes in the sex ratio using the hypothetical cohort data mentioned in Table 5, suggests that this has not been an overnight change, rather a generational one, which in most cases has decreased gradually from one point to another. For example, the sex ratio for 70-74 years in the elderly population stood at nearly 100 males to 100 females in 2011. The sex ratio for a five-year younger hypothetical cohort, in 2006, is determined at around 108 males to 100 females. And for a fifteen-year younger hypothetical cohort, this ratio stood at 110 males to 100 females in 1996. Therefore, in recent decades, the elderly male bias in Iran has shifted to an equal number of the elderly in both sexes. Like other countries of the world, it is predicted that in future the population ageing in Iran would experience a female bias. The main causes of this shift are factors such as decrease in maternity mortality, changes in fertility pattern (high to low) and a healthier life style of women compared with men in the new generations.

Table 5: Sex ratio of adults and the elderly, Iran, 1956-2011

Age	1956	1966	1976	1986	1996	2006	2011
50_54	_	_	_	_	101.1	_	_
55_59	_	_	_	_	110.4	_	_
60_64	_	_	_	_	119.7	98.4	_
65+	109.1	113.7	111.1	97.7	114.0	111.5	99.4
65_69	_	120.3	109.6	104.5	115.6	108.2	91.9
70_74	_	109.3	103.2	95.2	120.7	114.7	100.4
75_79	_	124.9	127.3	88.0	112.7	115.8	109.5
80+	_	104.4	113.3	98.3	94.0	107.9	100.0

In spite of changes that have occurred in the sex ratio and its tendency toward decrease of the male proportion or feminization of ageing, studies indicate that there is a considerable provincial difference and diversity in the sex composition of the elderly population. As can be clearly seen in Map 4, in less developed provinces like Sistan-and-Baluchistan, Ilam, Kohkilouyeh and Boyer Ahmad, and Kurdistan and Ardebil to some extent, the elderly sex ratio is higher than other provinces. In central provinces of the country including some of the northeastern to south and some of western provinces such as Markazi and Hamedan, sex ratio is in biased toward females. Migration plays an important and determining role in the provincial differences and sex ratio might even be affected by migration waves of the past decades.

Map 4: Sex ratio of the elderly population by province, Iran, 2011



3-3 Literacy Status

In terms of literacy and education, the Iranian elderly have two important characteristics. Firstly, the literacy rate is generally low among the elderly and secondly, gender differences are obviously remarkable. As demonstrated in Table 6, in 2011nearly 36 percent of elderly males and females were literate, which in comparison with other groups where literacy rates reach 95 percent is extremely low. This rate was determined to be even lower in previous censuses. As demonstrated in Table 6, literacy rate among the elderly throughout the country barely reached 13 percent in 1976 and among the elderly women the rate was a mere 4 percent. This means that over 95 percent of elderly women of 60+ in this year were not even capable of reading and writing. The change in this rate between 1976-2011indicates a 23 percent increase in the literacy rate of the elderly. This increase was produced by two factors. Firstly, as the elderly were replaced by younger generations, who benefited from a higher literacy rate, this rate increased. The second factor is that encouragement of the adults to learn reading and writing in the framework and after the Islamic Revolution (1979) through the Literacy Movement more or less increased the literacy rate among the generations of the time, such that the literacy rate of the elderly has increased steadily in a 35-year period from 1976 to 2011.

Table 6: Literacy rate (percent) of population aged 60+ by sex in urban and rural areas, Iran, 1976-2011

Sex	Area/Location	Census Year				
		1976	1986	1996	2006	2011
Both Sexes	Total	12.9	17.1	23	32.4	35.7
	Urban Areas	19.5	26.1	32.7	42.7	45.8
	Rural Areas	4.2	7.5	10.3	14.0	13.7
Males	Total	19.7	25.1	32.6	44.0	48.2
	Urban Areas	31.0	38.1	45.3	56.5	59.9
	Rural Areas	7.3	12.1	16.8	22.2	22.7
Females	Total	5.5	8.2	11.8	19.9	23.7
	Urban Areas	7.8	13.6	18.7	28.1	32.2
	Rural Areas	0.5	1.7	2.3	4.9	5.0

Source: Detailed Results of censuses carried out between 1976 to 2011

With regard to the relative improvements in the literacy rates of the 60+ elderly cohort in both urban and rural areas, two characteristics of the literacy status of the elderly increases the fragility of social situation. The first characteristic is the large difference between urban and rural areas. The second is the widened gender gap, which prevails to this day. As shown in Table 6, the highest literacy rate for urban male elderly reaches nearly 60 percent, while the lowest for rural female elderly is nearly 5 percent. This demonstrates an unequal urban-rural and sex composition in terms of literacy rate. Figure17 demonstrates that regardless of the gender inequality in literacy status of the elderly, the urban-rural gap is also remarkable and noteworthy. Literacy rate for both sexes in urban areas (nearly 46 percent) is more than 3 times greater than the literacy rate of elderly men and women in rural areas (less than 14 percent). The key point, in this regard, is that despite the overall increase in the literacy rate of this segment of the population not only is the distance and difference between urban and rural areas of the country not lessened, but also thedifferenceas actually widened and the inequality has become more widespread. This suggests that rural areas are far behind and have been slower than

urban areas as far as improving the literacy status of the elderly is concerned in the 35-year period of 1956-2011.

The other significant issue is that the increase in the literacy rates of the elderly in the last three decades has not resulted in a reduction in the gender inequality. Yet this inequality has further widened, particularly in rural areas. This is clearly demonstrated in Figures 18 and 19. The lower literacy rate increase for elderly women during this period combined with the higher increase for elderly men has caused the gap between the two sexes to become widened to extreme extents, particularly in rural areas. The increase in the inequality is explicitly demonstrated in the two aforementioned Figures.

Figure 17: Literacy rate of population aged 60+, both sexes by urban and rural areas, Iran, 1976-2011

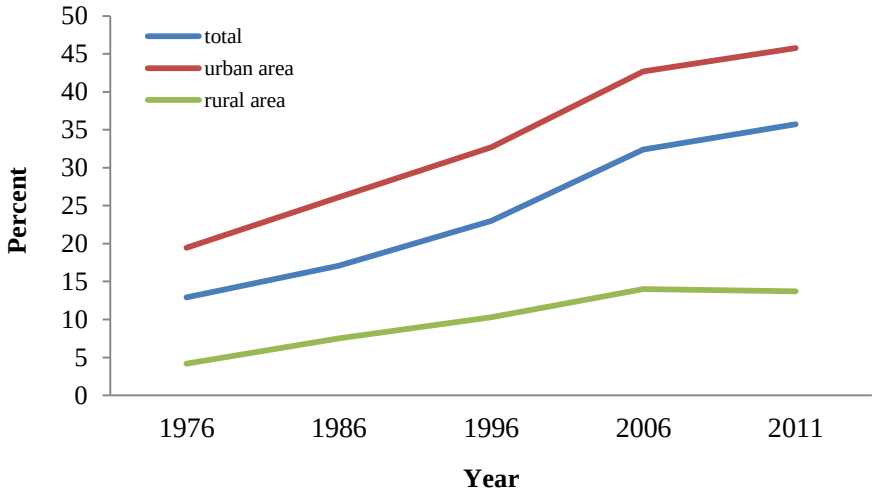


Figure 18: Literacy rate of population aged 60+, males by urban and rural areas, Iran, 1976-2011

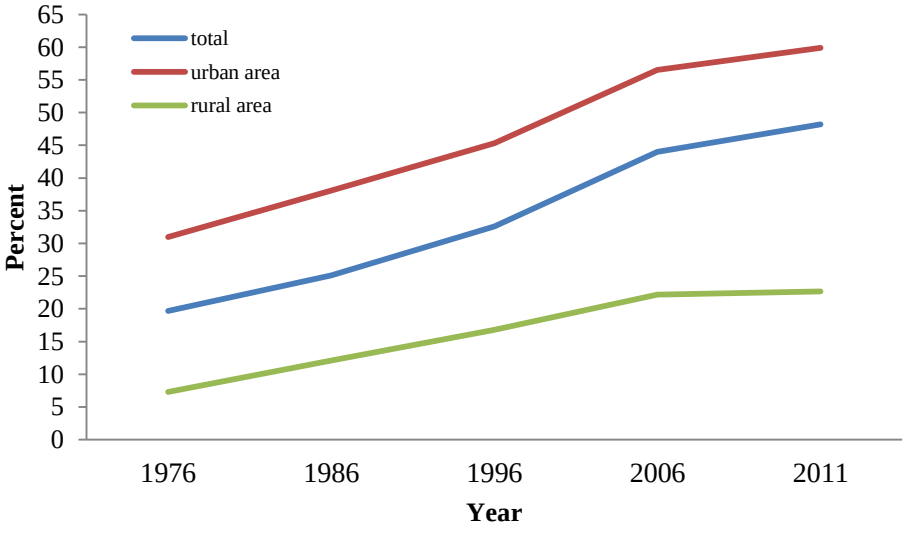
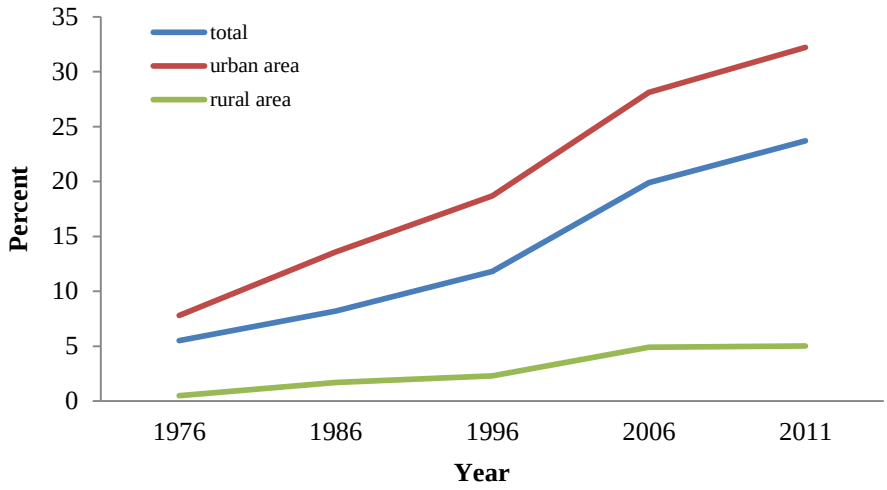
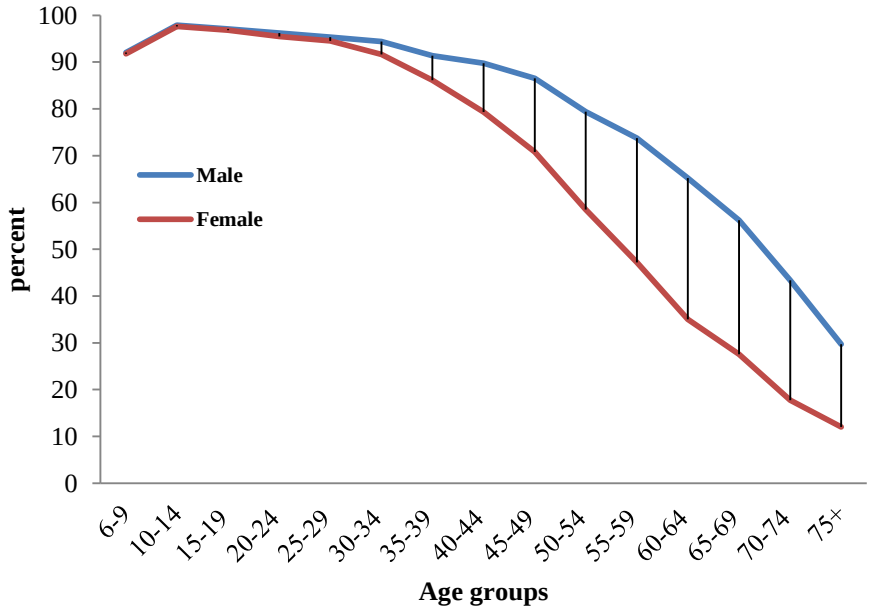


Figure 19: Literacy rate of population aged 60+, females by urban and rural areas, Iran, 1976-2011



Review of the age-sex-related details of the literacy status of the population and comparing the literacy ratio of all age groups, as observed in Figure 19, indicates a more promising future in terms of closing the gap between urban and rural areas and also closing the gap between the two sexes.

Figure 20: Literacy Rate by Age and Sex, Iran, 2011



As demonstrated in Figure20, as we move towards lower ages, the literacy ratio of the population in each age group increases and the gap between the two sexes also decreases. In total, nearly 35 percent of 60+ elderly in Iran are literate, and this rate stands at 24 percent and nearly 48 percent for females and males respectively. In other words, as previously mentioned the gender difference in literacy rate of 60+ elderly is nearly 24 percent. This means a lower literacy rate for the elderly compared to

younger population. In addition, the gender difference among the elderly in terms of literacy is greater than any younger age group. Furthermore, as indicated by Figure 20, the succeeding generations of the elderly would be generations with higher literacy rates and lower sex differences. This remarkable change is one of the positive outcomes of development, will draw a much more promising image for the future elderly population of the country. The important issue is that if there is a positive correlation between literacy status and quality of life for the elderly, established by study findings, thus, all policies, programs and efforts for the elderly should focus on the current generations of the elderly. Although it is also necessary to focus on the future of population ageing in the country as far as welfare programs are concerned, considering the positive effect of literacy and education on the quality of life, dealing with the issues and needs of the current elderly population seems more pressing than worrying about the future. A future that, in comparison to the current elderly population, shows a brighter and more promising situation for the elderly.

Literacy status of the elderly is not similar in all provinces and significant differences can be observed among the provinces of the country in terms of social inequality. Since literacy rate is one of the three components of the human development index, a high ratio is not expected in provinces with a less developed human development index and vice versa. As can be observed in Figure 20, provinces of the country in terms of literacy among elderly men can be divided into four groups. The first group comprises of provinces where a greater rate (over 50 percent) of elderly males of 60+ are literate and Tehran province is at the top of this list. Alborz, Semnan, Esfahan and Yazd are four other provinces which had the highest literacy rate among elderly males after Tehran province in 2011. In the second group – including Fars, Qom, Khorasan Razavi, Gilan, Mazandaran, East Azarbaijan, Qazvin, Markazi and Khuzestan–between 40 and 50 percent (the average range for total male population of the country) of 60+ elderly were literate in 2011. The third group, with a greater distance from the average elderly male population of the country, had elderly population where 30 to 40 percent of them were literate in 201. In this third group Bushehr province had the highest rate with nearly 40 percent of elderly males being literate and after that Golestan, Hamedan, South Khorasan, Chaharmahal & Bakhtiari, Zanjan, Ardabil, Kerman, West Azarbaijan, Kermanshah, Lorestan, North Khorasan and Hormozgan, Sistan & Baluchistan, Kohkilouyeh & Boyer-Ahmad, Kurdistan and Ilam comprise the fourth group with lowest literacy rate of elderly males respectively.

The list of provinces in the four mentioned groups clearly demonstrates that provinces with a low literacy rate among elderly males are also provinces that experience lower human development indexes. On the contrary, elderly males with highest literacy ratios in 2011 reside in provinces with a higher human development index (Mahmoudian and Kousheshi,2013).

As it is demonstrated in a descending order in Figure 21, provincial differences in the literacy status of elderly females, with very small differences in the ranking order of provinces, is similar to differences for elderly males. The difference is that the literacy ratio for elderly females is at lower levels than literacy ratio for elderly males. As expected these differences, similar to those of elderly males, have a strong correlation with human development index. Based on literacy rate for elderly females which are noticeably lower than literacy rate for elderly males, the provinces of the country are divided into five groups. According to 2011 population and housing census, the range of this rate in the first group is over 40 percent, in the second group is 23 to 30 percent, in the third group 15 to 20 percent, in the fourth group at 10 to 15 percent and in the fifth group, this literacy ratio stands at lower than 10 percent.

Figure 21: Literacy rate of 60+ elderly males by provinces, Iran, 2011

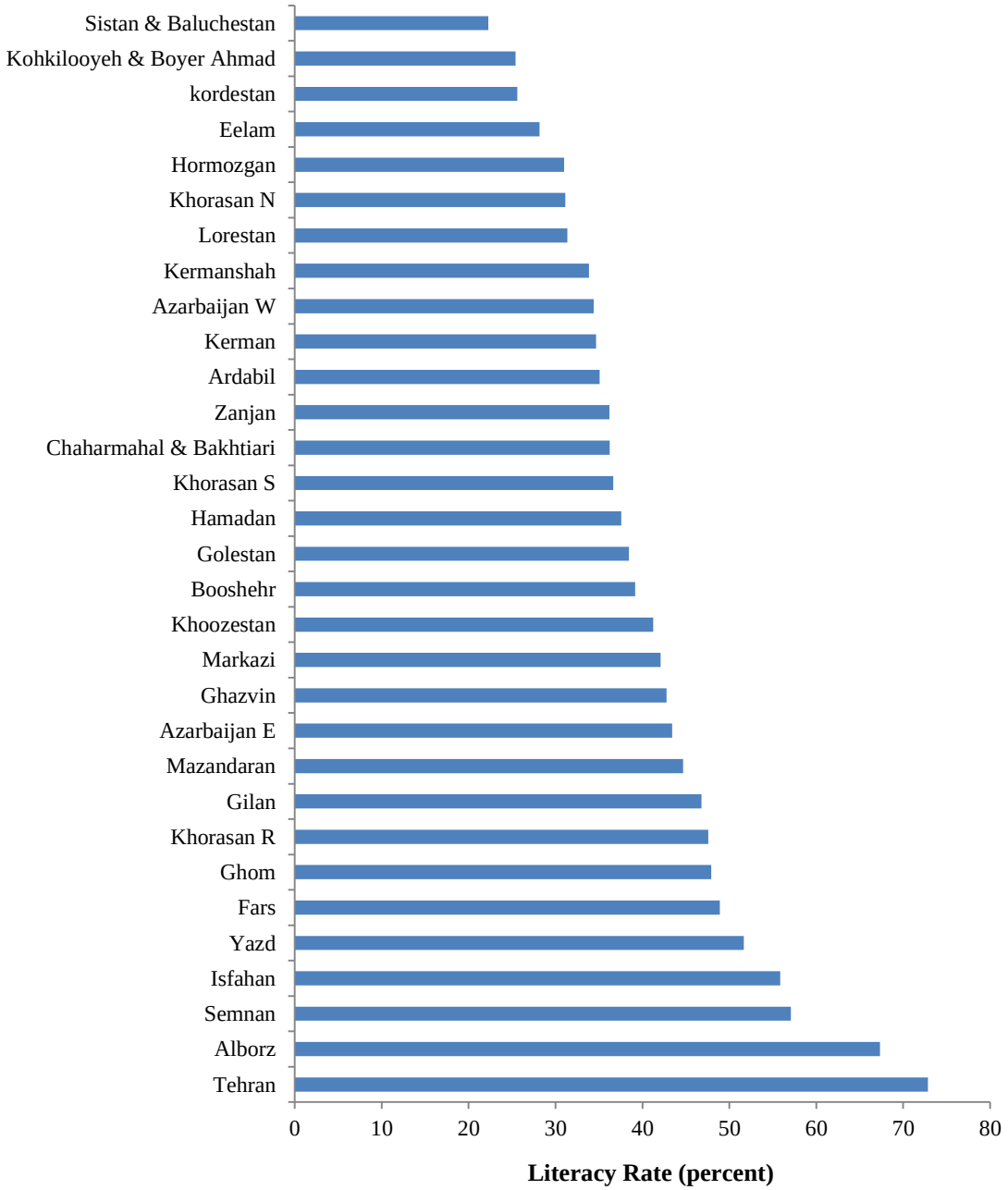
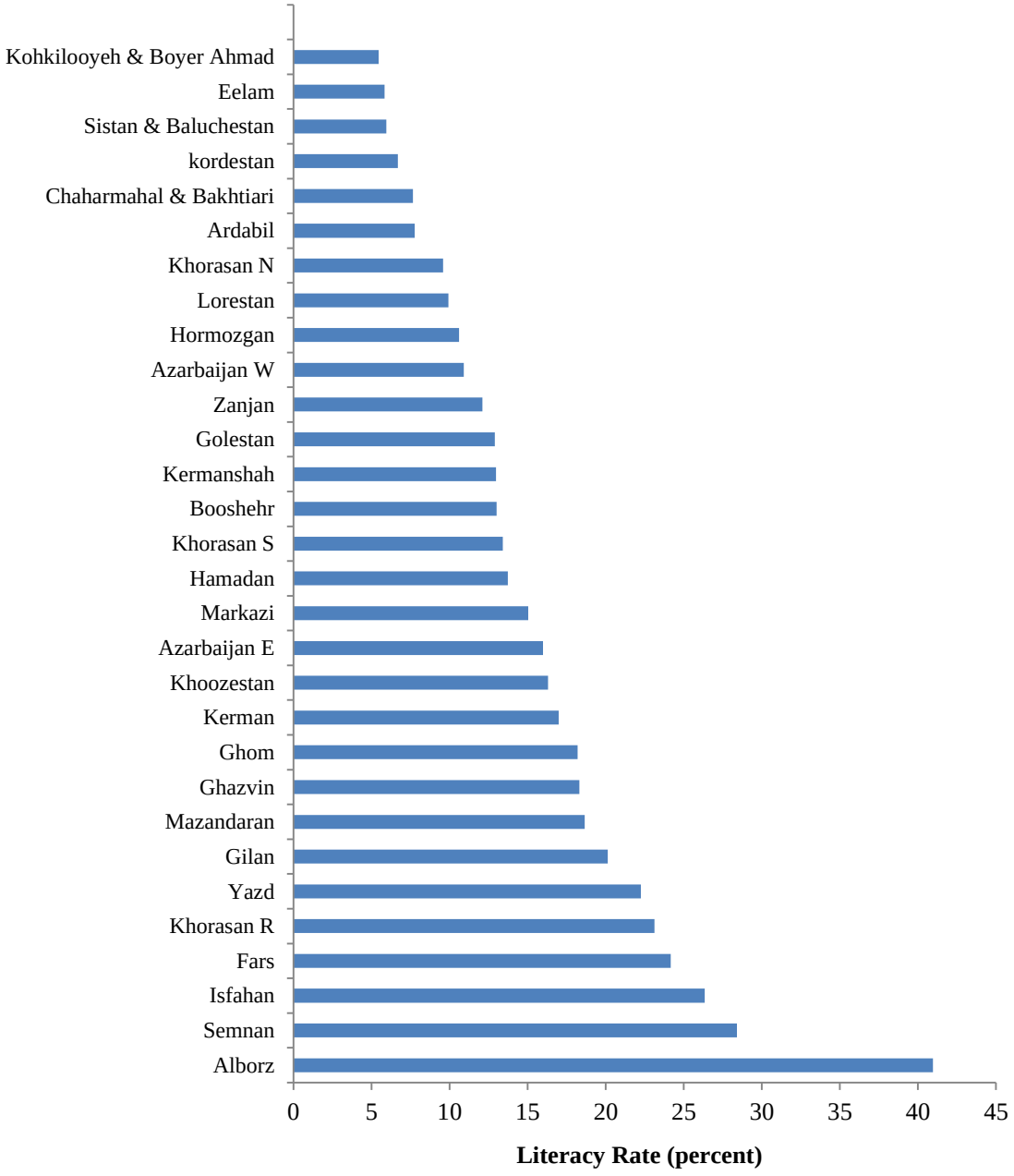


Figure 22 clearly demonstrates that the ratio of elderly females was over 40 percent only in two provinces, Tehran and Alborz, in 2011. Furthermore, there was a great difference between these two provinces and the provinces that rank immediately after them. In addition, the literacy ratio of elderly females in Tehran provinces is over 50 percent. In the second group Semnan, Isfahan, Fars, Razavi Khorasan, Yazd and Gilan are six provinces that have highest literacy ratio for elderly females respectively, in the 20 to 30 percent range. The third group includes (in order) Mazandaran, Qazvin, Qom, Kerman, Khouzestan, East Azarbaijan and Markazi where 15 to 20 percent of elderly females are literate. The list of the fourth group includes Hamedan, South Khorasan, Bushehr, Kermanshah, Golestan, West Azarbaijan and Hormozganhave the highest literacy ratio for elderly females respectively in a range from 15 to a minimum of 10 percent. With a literacy ratio of less than 10 percent – the lowest amount for this ratio –Kohkilouyeh & Boyer-Ahmad, Ilam, Sistan & Baluchistan,

Kurdistan, Chaharmahal and Bakhtiari, Ardabil, North Khorasan and Lorestan respectively constitute the fifth group.

Figure 22: Literacy rate of 60+ elderly females by provinces, Iran, 2011



3-4 Marital Status

Intergenerational and family relations of the elderly are generally affected by factors such as timing, prevalence rate of marriage and number of children, which are themselves functions of the fertility level. In traditional societies, women get married sooner than men, and a higher ratio of them are ever married by the age of 50. Nevertheless, considering the age difference between husband and wife on one hand and difference in the life expectancy of the sexes on the other, a larger proportion of women are unmarried in the their elderly years. This is not only due to the fact that women lose their spouses, but also due to the differences between the two sexes in terms of remarriage. Therefore, a portion of the differences, and at times, inequalities in the lives of the elderly, especially in societies where there is a visibly large difference between elderly males and females, are a consequence of the difference in the marital status of the elderly males and females. For instance, in a society like Iran, where the man is the traditional owner of the wealth and the assets, the existence of a spouse during old age plays an important role for women in terms of access to resources and as a result a better quality of life for the elderly.

With above mentioned social backgrounds taken into consideration, it is not unrealistic that, despite marrying at an earlier age and higher prevalence of marriage among women, a large proportion of women are in elderly years. As can be observed in Table 7, in all periods from 1976 to 2011, nearly 99 percent of elderly females have at least been ever married until reaching elderly ages. However, prevalence of marriage among elderly males has been at similar levels. In spite of all this, a large gap between elderly males and females of 60 years and over in ratio of unmarried is observed. For example, in 2011 the ratio of married elderly in both sexes reached a high 99 percent, while in the same year over 52 percent of elderly women were unmarried. Meanwhile, this ratio for unmarried men barely reached 10 percent. Therefore, women who get married at earlier ages and have more prevalent marriage are more vulnerable to losing their spouses. Yet, since women are less likely to remarry, there is a greater likelihood that they will have to live alone for the remainder of their lives after losing their spouse, compared with men

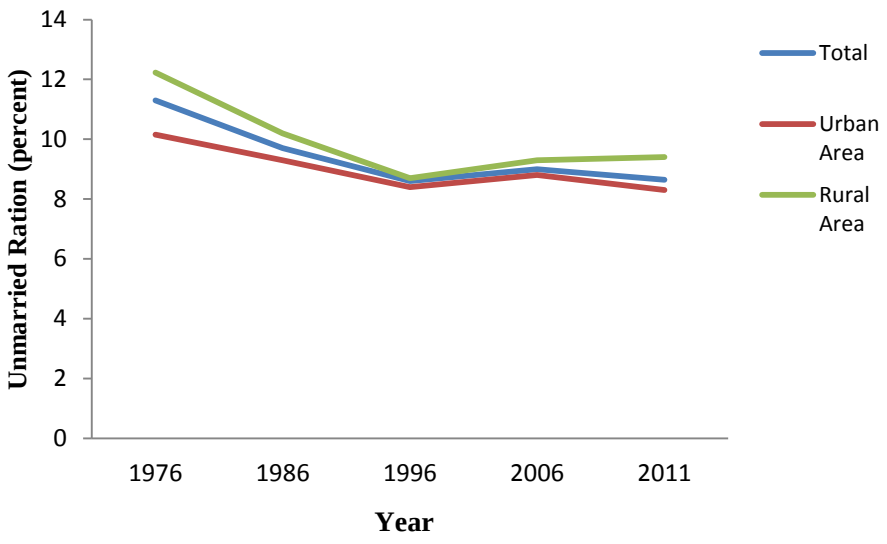
Table 7: Number of ever married and unmarried per one hundred elderly 60+ by sex in urban and rural areas, Iran, 1976-2011

Ratio (Percent)		1976		1986		1996		2006		2011	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Ever Married	Total	99.0	98.9	98.1	97.9	99.3	99	99.2	99.1	99.2	99.0
	Urban	98.6	98.1	97.7	97.6	99.2	98.9	99.2	99	99.1	98.9
	Rural	99.4	98.9	98.5	98.3	99.4	99.3	99.32	99.3	99.4	99.3
Unmarried	Total	11.3	60.9	9.7	52.6	8.6	47.7	9.0	49.6	8.6	49.1
	Urban	10.1	64.3	9.3	55.9	8.4	50.8	8.8	51.5	8.3	50.4
	Rural	12.2	57.7	10.2	48.7	8.7	43.5	9.3	46	9.4	46.3

There are differences between urban and rural areas in the ratio of unmarried elderly. In the current generations nearly 50 percent of urban elderly females and, in comparison, nearly 46 percent of rural elderly females are unmarried. By contrast, this ratio for urban elderly males is slightly lower than the rural elderly males; considering low probability of divorce among rural women, it can be stated that this trend can be attributed to higher mortality rates among rural females in relation to urban women.

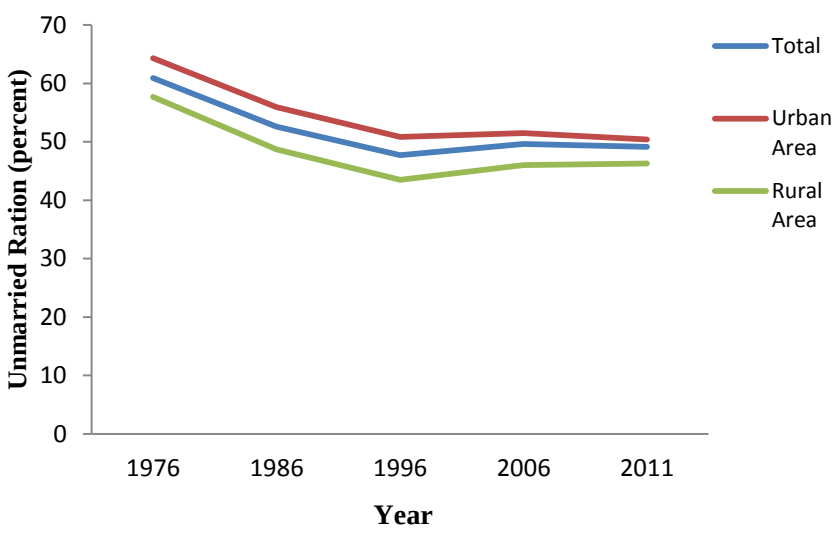
The trend in changes in the ratio of unmarried males, as demonstrated in Figure 23, indicates that in the period between 1976 census and the census carried out in 2011 the ratio of unmarried elderly males has decreased. This decreased rate has been higher in rural areas than urban areas. However, in 2011 the ratio of unmarried elderly males in rural areas is greater than that of urban areas.

Figure 23: Number of unmarried per one hundred elderly male 60+, Iran, 1976-2011



As demonstrated in Figure 24, the decrease in ratio of unmarried elderly females in urban and rural areas is similar. This decrease has resulted in a decrease in difference between females in these two categories in terms of living arrangements/quality of life.

Figure 24: Ratio of unmarried elderly females 60+, Iran, and 1976-2011



Sensitivity of the ratio of unmarried elderly to social variables and the difference in the effect of these variables on remarriage of elderly males and females has caused two different patterns to emerge in terms of gender differences in the marital status of Iranian elderly. In provinces with lower human development index, despite the higher mortality rates among females, a smaller proportion of males are left unmarried. Bycontrast, the proportion of unmarried elderly females is high in such provinces, since greater limitations emerge in terms of remarriage for females after divorce or widowhood. Figures 25 and 26 clearly demonstrate the difference between different provinces of the country in terms of ratio of unmarried males and females. In addition, the abovementioned issue can be clearly observed through comparison of the two figures.

Figure 25: Number of unmarried per one hundred elderly male 60+ by province, Iran, 2011

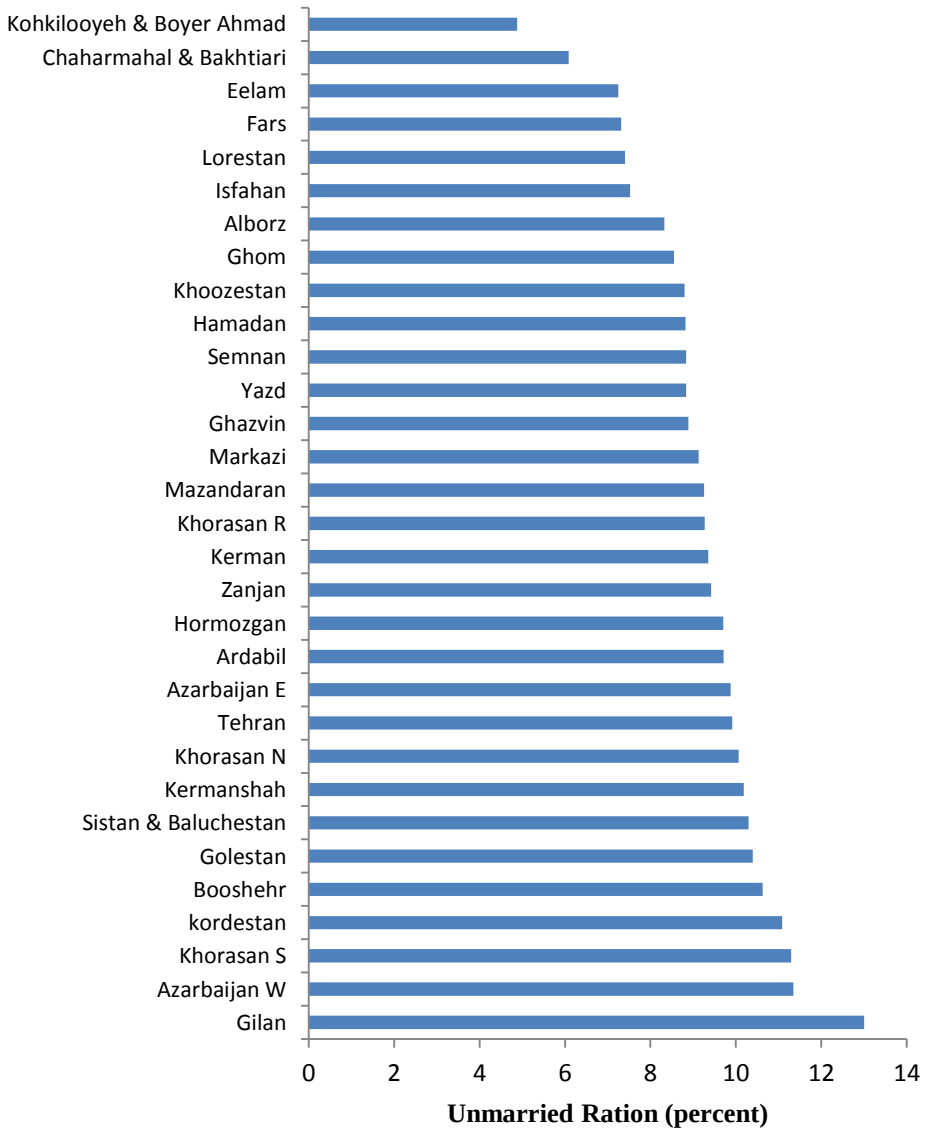
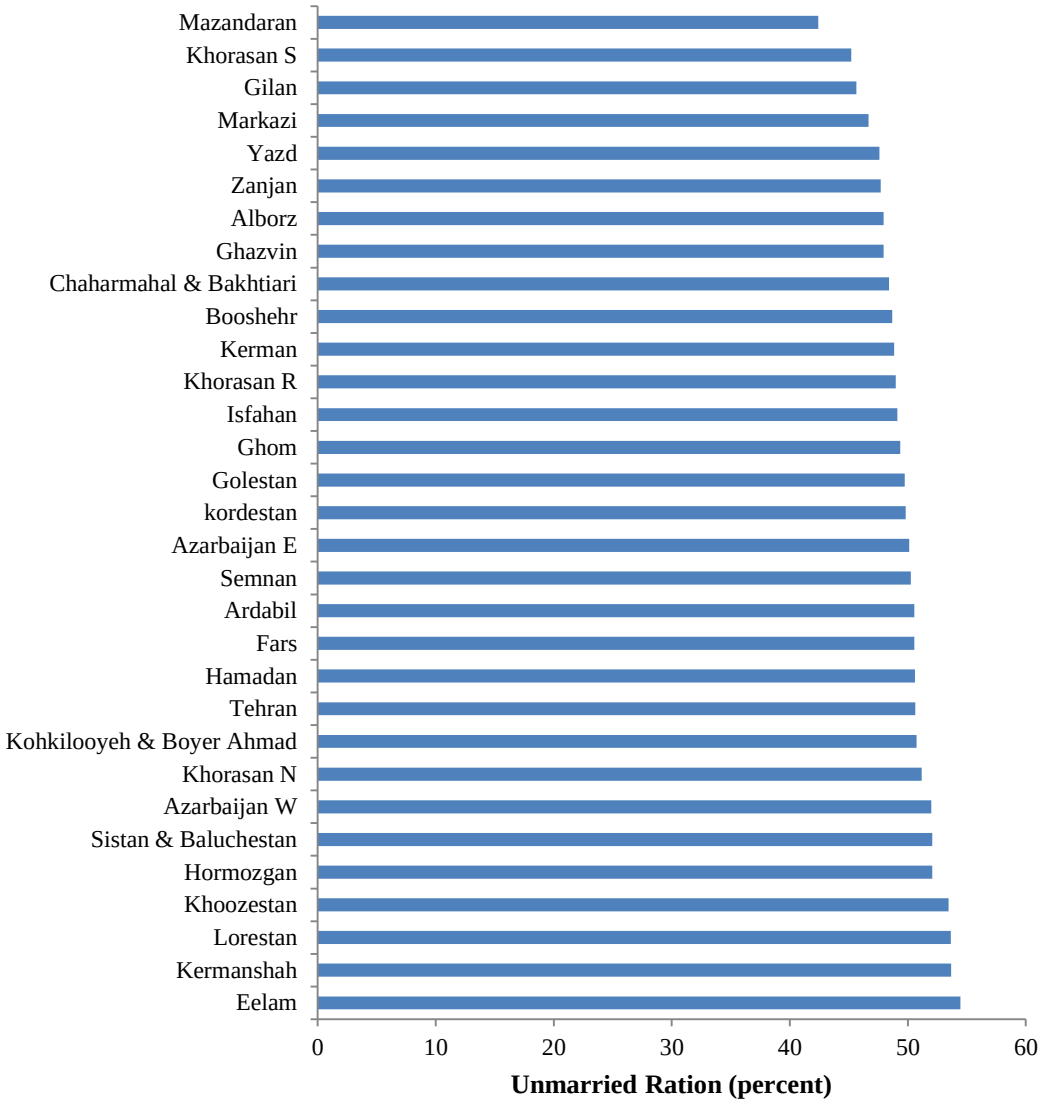


Figure 26: Number of unmarried per one hundred elderly female 60+ by province, Iran, 2011



3-5 Economic participation and Employment Status

In a labor market, which suffers high unemployment rates among youth, there are great deals of limitations for participation of the elderly in economic activities, especially when the labor force are unskilled or semi-skilled workers. Therefore, even in circumstances where the elderly are inclined to participate in economic activity, their activity and employment rate would not exceed that of the youth. Despite that the determinant factors of proportion and volume of the population in working age and old age (fertility, mortality and migration), and through this determining the size of the labor force, are of a demographic nature, the determinant factors of economic participation index are not simply demographic factors. Although, marriage and fertility play an important role, especially in the economic activity function of women, several socioeconomic and cultural factors are involved in determining the economic participation rates of males and females in a population. Economic participation rate (activity rate) is the other determinant factor of the size of the labor force. Any factor that affects this rate either directly or indirectly is an important factor in determining the participation rate of females and males.

In the "Determinants and Consequences of Population Trends", United Nations (1973) the determinant factors of labor force participation rate of men and women is exhaustively explained and discussed. However, a small section of these discussions are allocated to adults and the elderly, particularly in developing and undeveloped counties. The main problem is not participation of these groups. Economic situation, socio-cultural structure and position of two sexes (including expectations and gender roles) affect the participation rates of men and women in different ways. Moreover, the effects of some participation rate determinant factors vary between men and women. For instance, while migration of men might improve their chances of finding employment, it might even deprive women of any chance of employment. However, the effect of this factor on participation rate of women varies based on age, literacy status, education and vocational skills. In a majority of regions and countries, men constitute a major proportion (over 60 percent) of the labor force, while the economic activity rate for women (less than 40 percent) is lower.

In the process of socioeconomic development, especially the effect of pension systems on labor market and labor affairs, participation rate is expected to decrease in higher ages and for the elderly. Differences in participation rate trends by age in different countries and time periods indicate a difference between the labor starting age and retirement age. participation rate for men in the 25 to 54 age group, which is often over 90 percent, is common in all countries. These rates, in developed countries for under-20 and over-55 age groups are less than in undeveloped and developing countries. These differences indicate that in more developed countries, men enter the labor market later and exit sooner. Moreover, weekly working hours in industrial countries are shorter in the younger and higher age groups number, and ratio of part-time workers is mainly from the middle-aged group. Men living in rural areas generally enter the labor market sooner than men living in urban areas and stay in the labor market until higher ages. Comparison of undeveloped and developed countries in many regions demonstrates similar trends. In spite of this, due to migration of individuals at working age seeking employment, the general amount and even the real amount of activity rate in cities is higher than rural areas.

The declining trend in the activity rate of 60+ males is not limited to industrial societies. In non-industrial and agricultural countries, the prevalent trend for the 65+ age groups is a declining one. According to data from the second half of the 20th century for industrial and non-industrial countries, the decline in the aforementioned trend a function of changes in the employment ratio in the triple economic sections.

As shown in Table 8, nearly 22 percent of total 60+ elderly population of the country have been active in one of the jobs listed in the 2011 population and housing census. In 2011, the participation rate of Iranian urban elderly in the labor force, the ratio of which is essentially biased towards males (fewer females), reached less than 16 percent, which is low when compared to the participation rate for the rural elderly which stands at nearly 37 percent. The important issue here is that in the process of socioeconomic changes during the last 35 years, this rate's trend has been one of decline. However, this decline has actually been greater among urban elderly, while the participation rate for rural elderly has had a remarkable resistance towards these changes. The relatively stable trend in the economic participation of the rural elderly in the country clearly shows their late exit from the labor force, which, considering the trivial unemployment rates for this age group in rural areas indicates near full employment for the rural elderly in Iran. Widespread migration of the youth to urban areas, and therefore demand in the rural agriculture and animal husbandry section for elderly employment must be noted as a factor in this topic. Meanwhile, it must be kept in mind that the social security does

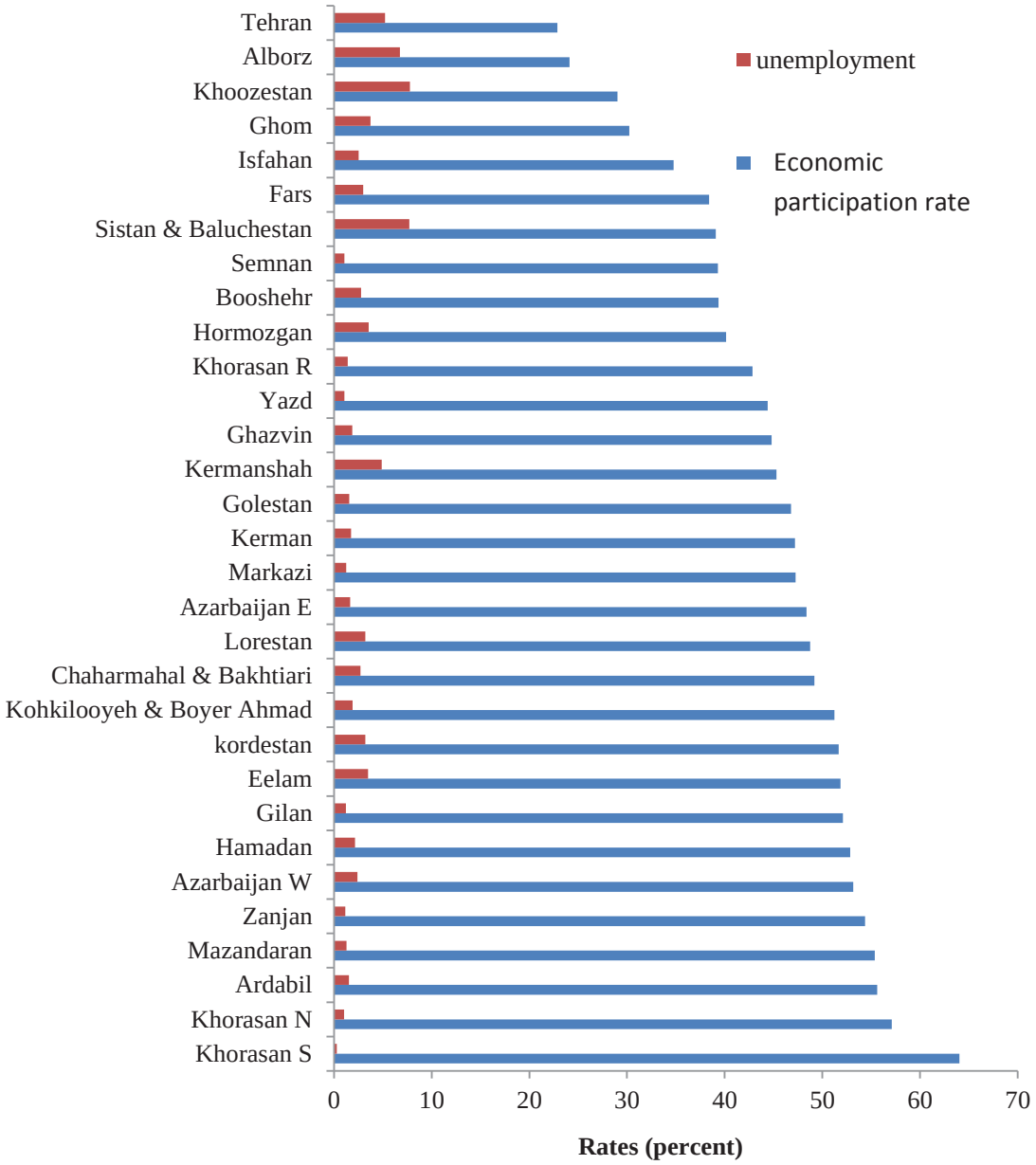
not still have a strong presence in rural areas of the country and this can be another hindrance for the labor force to get out of the labor market at these ages.

Table 8: Economic participation and unemployment rate for 60+ elderly in urban and rural areas, Iran, 1976-2011

Index	Area	Year				
		1976	1986	1996	2006	2011
Economic participation rate	Total	35.5	35.3	34.3	24.6	22.4
	Urban Areas	28.2	28.5	27.9	19.8	15.6
	Rural Areas	41.3	42.5	42.5	33.0	37.5
Unemployment rate	Total	-	13	8.4	3.2	2.5
	Urban Areas	-	20.3	13	4.0	3.9
	Rural Areas	-	7.8	4.5	2.5	1.2

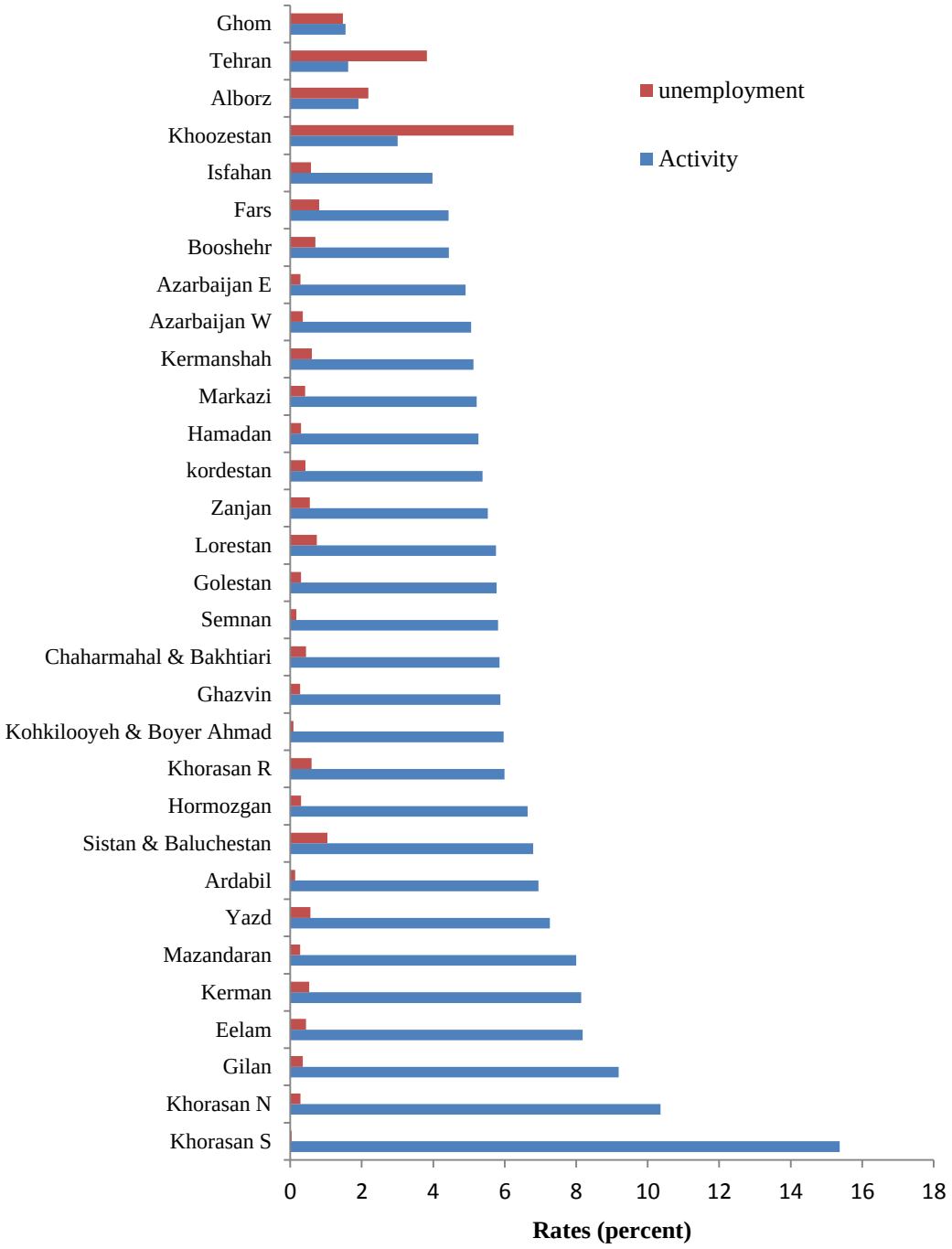
With the above framework, which is extracted from wrap-up of research findings in various countries in the “Determinants and Consequences of Population Trends”, taken into consideration, it is expected that economic participation rate of elderly males and even females would increase with decrease in development rate of areas. Figures 27 and 28 indicate that the difference between provinces of country in economic participation rate of elderly men and women follows this projection. Based on the differences demonstrated in Figure 27, the highest participation rates for elderly males are observed in provinces that either experienced lower development levels, such as North and South Khorasan, or in provinces where still a large proportion of the population live in rural areas, such as Gilan and Mazandaran. At the end of this spectrum, the lowest rates of participation for elderly males can be seen in provinces that manifest lower levels of this index due to their longer history of development and modernization and as a result benefit from social security and pension systems.

Figure 27: Economic participation and unemployment rate for 60+ elderly males by province, Iran, 2011

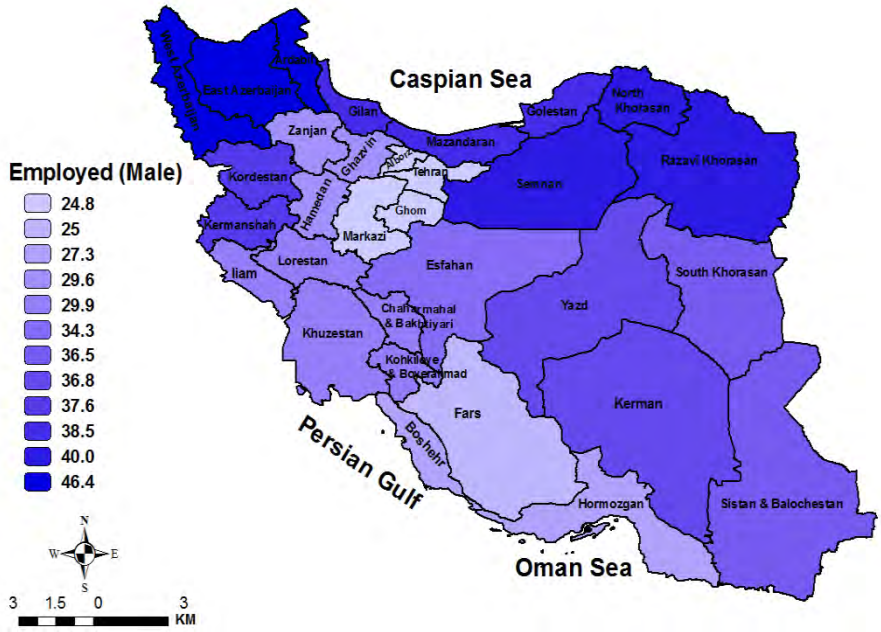


For women who have had a low participation rate in economic activity at the peak of their activity age, a low participation rate at old age is highly expected and essentially inevitable. Nevertheless, as indicated in Figure 28, the range of activity rate for elderly females in provinces varies widely; from 1.5 percent in Qom province to 15 percent in South Khorasan province. Contrary to social characteristics, such as literacy, or demographic characteristics, like life expectancy and/or fertility, participation rate for elderly females in less wealthy or less developed provinces is higher. Apart from these two low and high extremes, the activity rate for elderly females in all other provinces lies at a value between 5 to 10 percent. Except in Gilan and Mazandaran –where there is high demand for employment of women in the agriculture section– a majority of provinces where participation rate of elderly females is inclined towards the higher end of this index, such as North Khorasan, Ilam and Sistan-and-Baluchistan are among the less developed provinces.

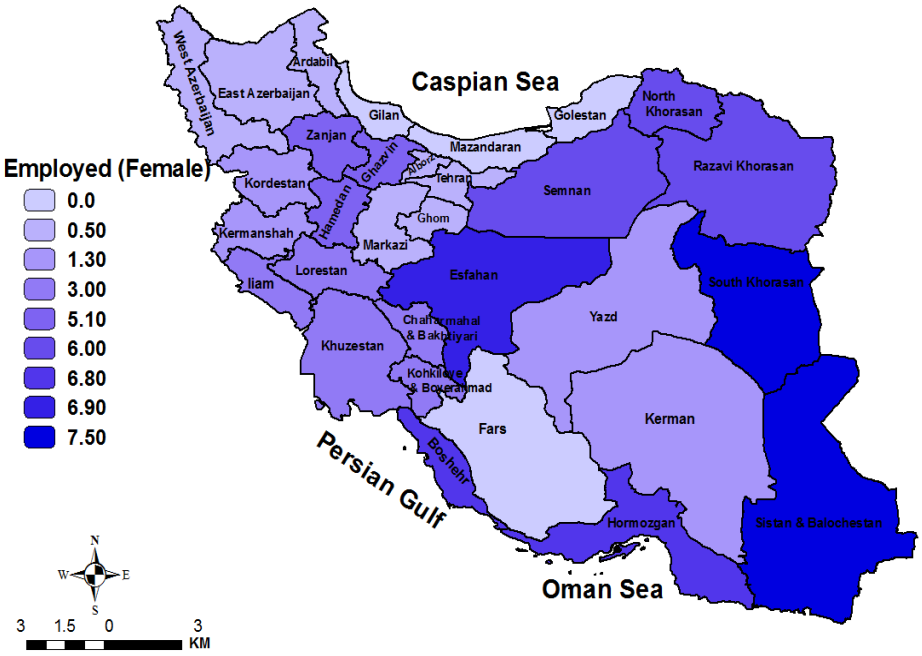
Figure 28: Economic particiaption and unemployment rate for 60+ elderly females by province, Iran, 2011



Map 5: Number of employed per one hundred elderly males 60+ by province, Iran, 2011



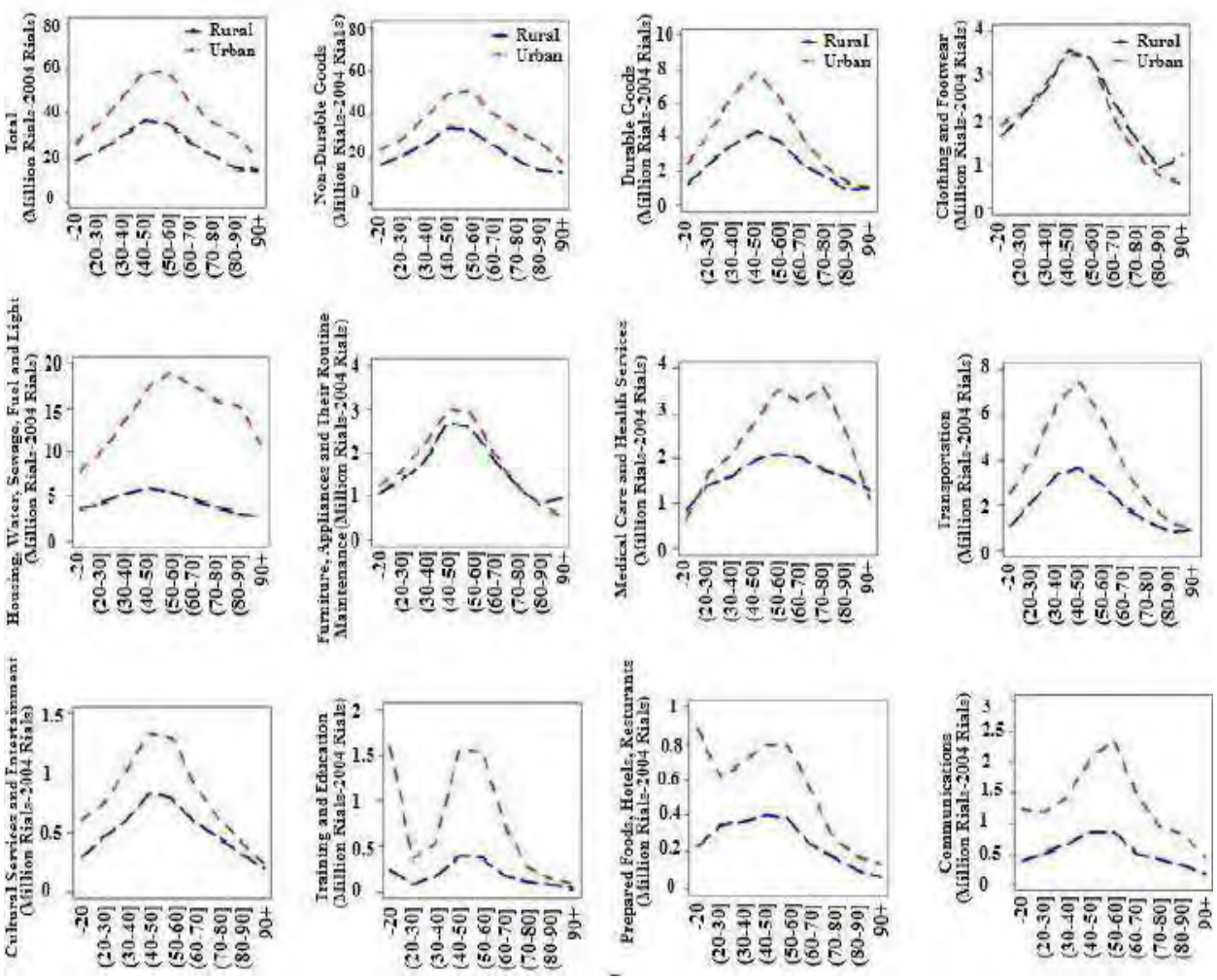
Map 6: Number of employed per one hundred elderly males 60+ by province, Iran, 2011



3-6 Costs of Elderly-headed Households

Data from the Income and Expenditure Survey for urban and rural households carried out by the Statistical Centre of Iran are considered as an important source for household economic data for various demographic and social studies and research. However, the data are, in fact, not at all suitable to be utilized in technical studies such as ageing studies. The collective data published in such reports do not provide the necessary basis for analysis of special age groups, and by using them we can only determine costs based on items consumed. Meanwhile, considering the significance of this topic, efforts were made to use these data. The only possible way to do this is through the graphs shown in Figure 29. As demonstrated in this figure, all consumed items and household costs decrease as the head of the households gets older. This does not mean that the cost of an elderly-headed household is less than other age groups. In fact, this decrease is strongly accompanied to the separation of dependent household members and the reduction in the household size. While, it seems that the per capita costs for members not only does not decrease, but also has a relative increase.

Figure 29: Costs of elderly-headed householdsholds



Chapter Four

Living Arrangements and Social Support

4-1 Introduction

What makes directing attention towards living arrangements of parents and children worthwhile is that common living arrangements contains advantages such as the foundation for exchange of services between parents and children. The other importance of this issue lies within the fact that the elderly often prefer to live with a family member and dislike living in institutions that provide services and function as homes for the elderly. Apart from this, the economic and administrative burden of living, nursing homes for the elderly is not feasible for governments and a majority of them are concerned over the increase in the ratio of the elderly who do not live within the family. This importance has caused the study of living arrangements and family support for the elderly to become one of the most important issues in ageing – a great deal of research and studies have been carried out on this issue in the recent years. The information analyzed in this chapter has been extracted from various sources. Description and analysis of the elderly living arrangements has been carried out with use of "time use" statistical data and other sources including "Living Arrangements" published by the United Nations in 2005. As statistics and data are not collected on networks and social protection for the elderly in Iran, the main source and only reference for the data to describe and analyze the protection networks for the elderly, is data collected through the joint project between the United Nations Population Fund [UNFPA Iran Country Office] and the University of Tehran with financial support of UNFPA. In this study, 527 elderly from Tehran were selected via the cluster method from 22 municipality zones in Tehran; and household member and elderly questionnaires were filled out. In spite of the fact that the sample used in the study is limited to elderly persons from Tehran, the vast geographic range of their birth places and the fact that many of them were among the first generation of people who migrated to Tehran, suggest that these data are not drastically different to the situation of the elderly throughout the country. Thus, it does not illustrate a false image of the situation of the Iranian elderly. At least, estimation of some characteristics like living arrangements demonstrates that this general similarity can be considered to be true.

4-2 Conceptual Framework

Certainly, this issue depends on the number and relations between members of social networks and elderly members. A social network is a social structure which consists of nodes which are usually people or institutions. In other words, a social network is a set of relations that links social actors. This phrase was first coined by Barnes (1954) to describe a set of existing social relations. Therefore, a social network is made up of a group whose interrelated ties forms a structure of relations and the individual is seen in interaction with them. We aim that through presentation of this section we can introduce the findings about social types of the family life of the elderly and how support networks function, especially support provided by family members of the elderly.

The "living arrangements" concept, which is frequently discussed in models and theories, refers to the elderly life in terms of residence. Although "living arrangement" is usually considered as synonymous with the concept of household, it must be noted that the conceptual range of these two terms does not totally overlap. While, sharing a residence and sharing the burden of attaining food is used in the general definition of a household, the living arrangements definition places emphasis only on "co-

residence". Furthermore, we use the child "proximity" concept to note to the physical distance of children who do not reside in the same place with the elderly.

The "living alone"concept has a special significance in study of living arrangements. Living alone in social ageing studies is usually accompanied by two other concepts. In spite of the fact that there might be a relation between them, they are different concepts. The first one is the "loneliness" concept which basically refers to the negative emotions resulting from loss of relationships that might be observed in individuals at all ages and even in those who live with their relatives. The "social isolation" is the second concept. In other words, loneliness is an unpleasant experience that occurs when the social network of the individuals is significantly incomplete. The second concept, "social isolation "tends to be more common among elderly persons who live alone. Yet, not all persons who live on their own necessarily face this problem. Social isolation contrary to loneliness must be defined by the use of characteristics of a situation and usually refers to lack of social ties and relations with other people.

The functional aspect of social networks, which is affected by all general and individual characteristics of social networks, is the major result of the engagement of the individual in relations of the social network. What is more important is that social support networks include all the advantages that social networks tend to possess. For instance, the structure of the social support networks also have characteristics of size, composition, physical and location proximity of nodes or the types of ties that exist in them, which are similar to ties and relations mentioned for social networks in general. Nonetheless, as expected, in definition of social networks, there is greater emphasis on the functional dimension of these networks. Meanwhile, social networks of individuals might be wider than their social support networks. This is because with the emphasis on the functional dimension of the social network, the social support network might be a smaller segment of the individual's social network. For example, an individual might never go to certain members or groups present in his or her social network, or all members of this network might not expect support from others.

Social support networks are categorized through different methods based on their type, elements (resources) or functions. These categorizations are based on the goals of the studies. The first major categorization that can be mentioned for social support networks is their division into formal social support and informal social support. These categories are based on the resource and elements of the network and refer to the role of the member involved in the network; an individual or an institution. "The informal support system is distinguished from the formal or organizational support through its individual and non-institutional nature; and the fact that members of this network are selected by the elderly person from relatives, friends and neighbors." (Cantor, 1979: 447) Clay and Haarhave divided the informal social support systems into two categories of vertical systems (intergenerational relations) and horizontal systems (intra-generational relations) (Clay and Haar, 1993).

Functional aspects of support are also categorized through various methods. This aspect includes types of support that are provided by different social networks. Some researchers have classified functional aspects of support as instrumental, such as practical or tangible support; assistance in personal care; daily household chores and financial support. In addition, emotional support –which refers to offering of closeness/empathy, trust and reliance–is another instrumental functional aspect of support (Chen and Silverstein, 2000; Allen et al. 2000; Peters et al. 1987; Tomaka, Thompson, Palacios, 2006; Auslander and Litwin, 1991; Li et al. 2004). In other research, informational support

and social companionship have been added to types of social support (Kogovsek, 2001; Krause, 1999; Lu and Hsieh, 1997; Agnessonset al. 2006).

4-3 Demographic changes, Living Arrangements and Social Support

Based on the approach that has gained dominance over demography in undeveloped countries, especially in Asia, and has been a theoretical trend in ageing studies in progressive countries, it is assumed that modernization process of the society is working to the disadvantage of the elderly. For instance, Knodel (1999) discusses the negative effects of economic development on fertility and the limitation that this effect imposes on the dimensions of the family support network. Chen and Silverstein (2000) have demonstrated that economic development and growth in China have, through demographic changes –i.e. The limitation of the family size, particularly in urban areas where the single child policy is more seriously enforced, as well as widespread migration and through changes in family structure and intergenerational relations, restricted the access of the elderly to their children and their support. They have emphasized that industrialization and modernization have diminished the importance of traditional values in China and have enfeebled norms of faithfulness to family.

In spite of the fact that researchers have a different view of the effect of socioeconomic development on living arrangements and relative support, such difference and diversity is not seen on the effect of demographic changes on family and household structure. There has not been a single case where a society has reached higher levels of economic growth and development, yet, its main demographic behaviors (mortality, marriage, fertility and migration) remained constant and unchanged. Living arrangements in the form of "common residence with children or relatives" is, in fact, a reflection of past demographic events such as marital behavior and fertility. The findings of studies in this area can be summed up in the notion that having more children increases the probability of common residence of the elderly with them. The child availability is a feature of the most important social support network–relative network–, which is affected by the history of fertility and childbearing behavior of the elderly (Mutchler and Burr, 1991; Crimmins and Ingegneri, 1990; Wolf 1994; Arber and Ginn, 1995; Harper 2006).

The determining role of demographic factors in changes in living arrangements, from living alone to co-residence, does not end in the effect of mortality, marriage and fertility. Migration is the third major demographic force which plays such a role in this area. Migration of children has definitely had a negative effect on living arrangements and living together. Even in societies wherein–due to the childbearing patterns– child availability prepares proper grounds for a higher probability of elderly-children, co-residence, their migration can decrease accessibility to children and the chance of living together. Findings of the few studies that have been carried out on migration of the elderly and their children in the framework of social support networks indicate that migration has a negative effect on parent-children accessibility in societies where traditional forms of extended family used to prepare grounds for provision of support to the elderly (Sheng and Settles, 2006).

Based on what was mentioned, social support is, by nature, reliant on the type of relation existing in the elderly social network. These two are the rival theories on patterns/trends of informal social support for the elderly. These models guided social support theories, research and studies carried out on social support networks for two to three decades.

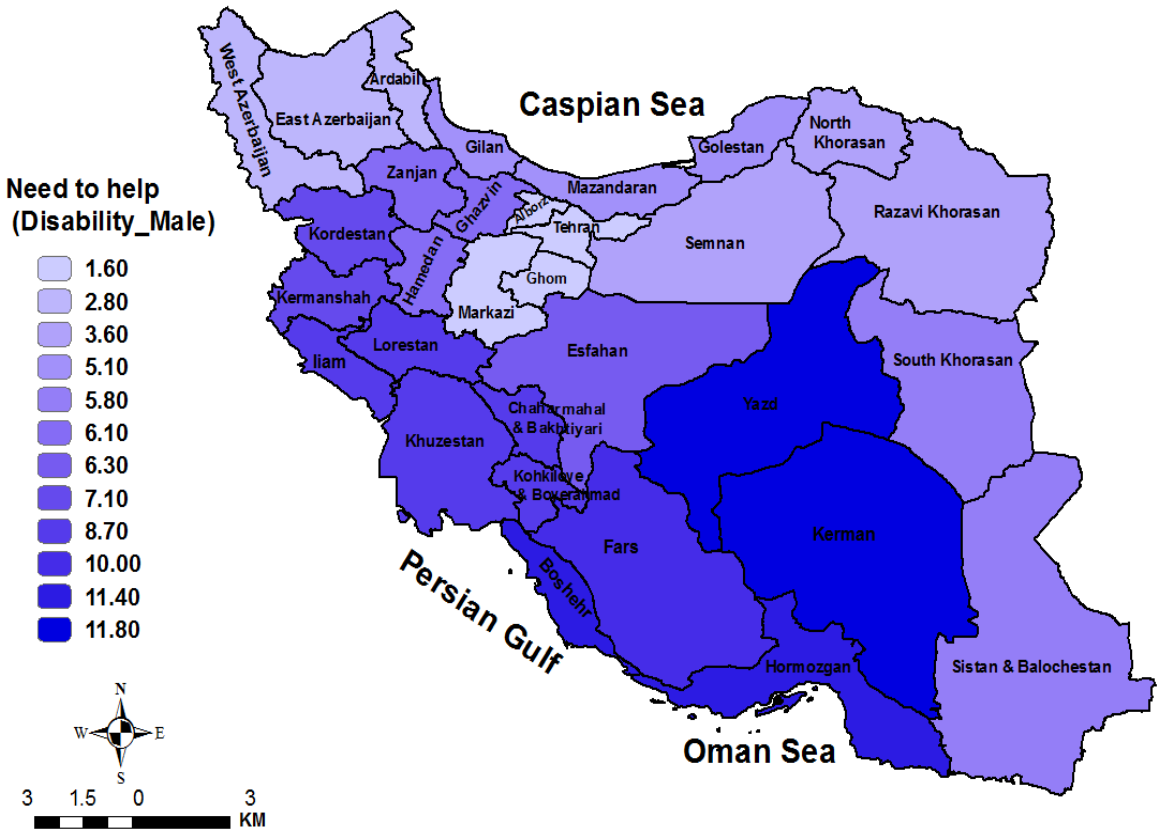
4-4 Need for Care

Higher ages, particularly from middle ages onward, are expectedly accompanied by decrease in available resources, frailty and disability in terms of activities of daily living for some portion of the aged population. Needs might vary and be more complicated in comparison with lower ages. Reduction in the available resources or limitation in income resources for meeting the financial needs is the first change which should be monitored as a criterion for the aged population. This means that although an individual or individuals might not experience a reduction in financial resources at these ages, it is evident as demographic criteria in comparison with other younger cohorts. The vulnerability of the elderly from this point of view is measurable and evident when other needs and disabilities are also taken into account. The combination of financial dependency, physical, mental and social disabilities, and at times mental disorders –particularly various degrees of depression and loneliness (social and emotional) –can place the elderly person at the highest degrees of vulnerability possible. It is because of this vulnerability that social and family/relative support become ever more significant.

So far, disability and need of help in activities of daily living at old age is certainly a closely related of age and sex. Therefore, since the category of 'old age' encompasses a large range of ages, a large proportion of the aged population is not, in fact, in need of support. For instance, this ratio was estimated to be around 20 percent for 60+ elderly residing in Tehran through the use of ADL[1] scale (Kousheshi, 2008). Despite the difference in measurement, nearly the same ratio was arrived at based on the "time use" data collection in 2009 for all elderly at this age group throughout the country. Meanwhile, in "time use" data, various ranges of this ratio were observed for different provinces of the country. Map 7 demonstrates that in central regions, north of Kerman and Yazd; and west regions, Kurdistan, Kermanshah, Lorestan and Ilam; southwestern regions, including Khouzestan, Chaharmahal and Bakhtiari, Kohkilouyeh & Boyerahmad; and in the southern region Fars, Hormozgan and Bushehr provinces, the ratio of elderly males who require support reaches just over 10 percent. Meanwhile, in Tehran region, which covers three provinces –Tehran, Alborz and Markazi, the lowest ratio (less than 3 percent) of 60+ elderly males need support.

[1] Activities of Daily Living (ADL)

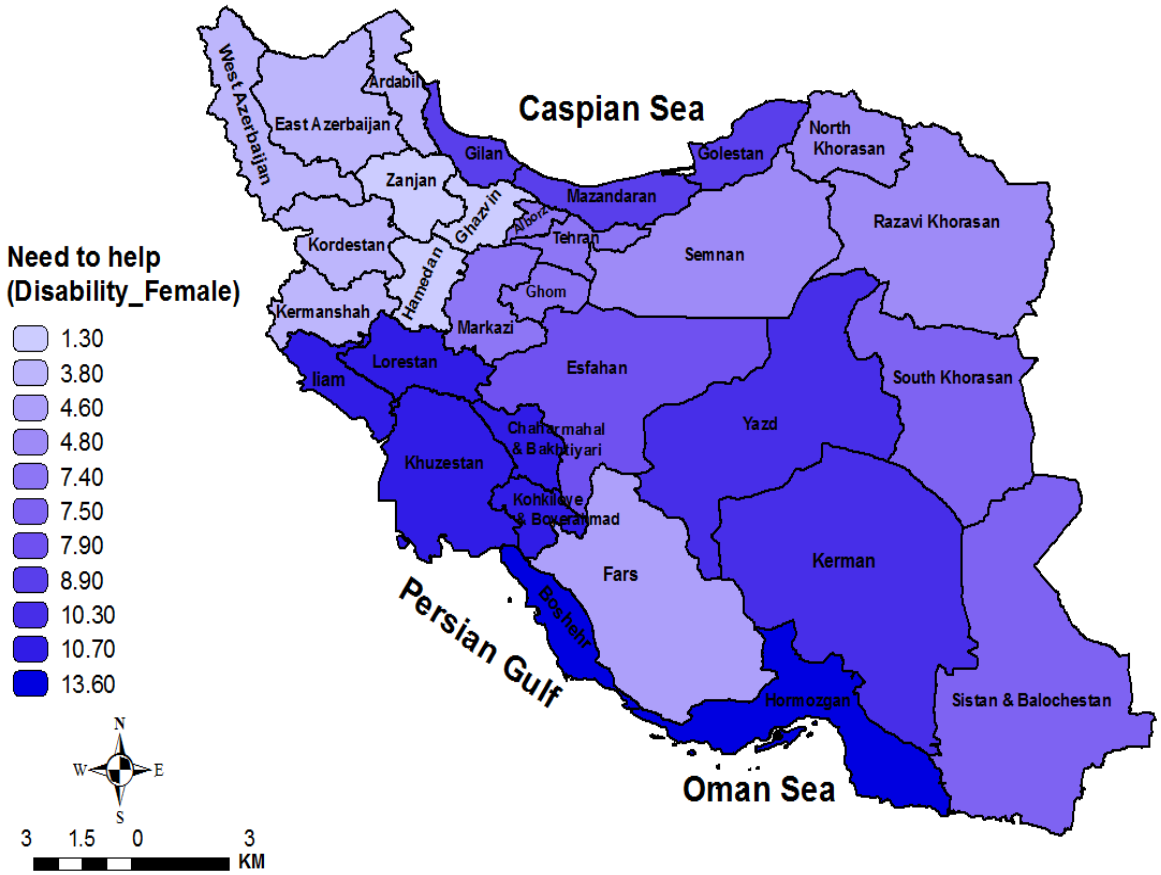
Map 7: Number of the elderly who need for care per one hundred elderly male 60+ by province, Iran, 2009



In the northwestern provinces of the country, Azerbaijan region, it is estimated that 3 to 5 percent of elderly males require support. In the northeastern region – North Khorasan, Razavi Khorasan and Semnan – nearly 5 to 6 percent and in the eastern and southeastern regions of the country in Sistan & Baluchistan and South Khorasan provinces nearly 5 to 6 percent of elderly males require support.

The need for support among elderly females is shown in Map 8. The range of ratio difference between elderly females is higher in comparison with elderly males. However, as indicated in the map, geographic distribution of this ratio for females reveals differences compared to Map 7. The ratio of partially dependent elderly females in Tehran region is higher than that of elderly males in the same region. Simultaneously, in Fars province, Zanjan, Hamedan and Qazvin region and in Kermanshah and Kurdistan provinces, situation of females is observed to be better than males and this ratio for elderly females in these provinces is lower than the same index for elderly males. By contrast, the ratio of dependent elderly females in Gilan, Mazandaran and Golestan is higher in comparison to the same ratio for males in these provinces, and reaches 8 percent of elderly females.

Map 8: Number of the elderly who need for care per one hundred elderly female 60+ by province, Iran, 2009



4-5 Living Arrangements

As was mentioned in the beginning of this chapter, living arrangements is a concept attributed to the various forms of co-residence of the elderly. If we divide this into two categories; co-resident and non-co-resident (or living alone), such that the ratio of these two issues complement each other, the ratio of the elderly living alone includes a proportion of the elderly who are not co-resident. In other words, living alone means the lack of presence of any other member living in the same residence with the elderly. The important point here is that, considering the difference in social and family life of the elderly males and females, sexual segregation is necessary for studying this characteristic. With this explanation, this ratio is calculated based on data and various sources and is incorporated in Table 9. Based on the ratio demonstrated in this table, the results of the latest national survey in 2009 indicate that nearly 13 elderly persons in every 100 live alone. This number is less than 6 for elderly males and 21 for elderly females.

Table 9: Number of the elderly who live alone per one hundred elderly 60+, Iran, 1976-2009

Year	Percentage of elderly who live alone				Source
	Sex Difference	Male	Female	Both Sexes	
1976	8.5	4.0	12.5	8.1	UN 2005
1986	11.4	3.7	15.1	9.0	UN 2005
2002	12.5	2.5	15.0	9.1	MOHME 2002*
2009	15.2	5.8	21.0	13.0	TimeUse 2007

** Excluding elderly living in Tehran Province*

Table 9 and Figure 30 clearly demonstrate that the ratio of the elderly who live alone has had in increasing trend; in 1976, the ratio was about 8 elderly persons in every 100 but in the years leading up to 2009, the ratio had reached around 15 elderly persons in every 100. A comparison of the situation of men and women shows that the increase in the ratio of the elderly who live alone is mainly due to the increase in the ratio of elderly females. There are three points in this area that are of significance. Firstly, in all years the ratio of elderly females who lived alone has been higher than the ratio of elderly males who live alone. This difference has its roots in difference in marital behavior and remarriage after divorce or death of spouse. The second point is that the ratio of elderly females who live alone has had a more steep increase between 1976 and 2009. Even if the statistics by the Ministry of Health and Medical Education are excluded, the increase in this ratio from nearly 12 percent in 1976 to 21 percent in 2009 for elderly females as opposed to the elderly males whose living alone ratio, which has reached nearly 6 percent in 2009 from nearly 4 percent in 1976, indicates a significant difference. This means that despite the decrease in the ratio of women who lost their spouse from 1976 to 2011, a greater proportion of them currently live alone. This is an indication that social factors, as well as demographic factors can affect the living arrangements of elderly females. The most important social factor is the tendency for children to be physically distant and have an independent life from their elderly parents, even after the death of their fathers. Pertaining to the two aforementioned points, the third point is that –as expected– these changes have augmented the differences between sexes in terms of living arrangements. Table 9 shows that this difference has increased from 8 percent in 1976 to 15 percent in 2009. Therefore, it can be stated that the important characteristics of the living arrangements for Iranian elderly are increasing in the living alone ratio and feminization of this form of living arrangements. If this trend continues, it will likely bring about a more difficult situation for women. With the forthcoming demographic-social changes, this phenomenon is expected to be more widespread in the future.

Figure 30: Elderly who live alone per one hundred elderly 60+ by sex, Iran, 1976-2009

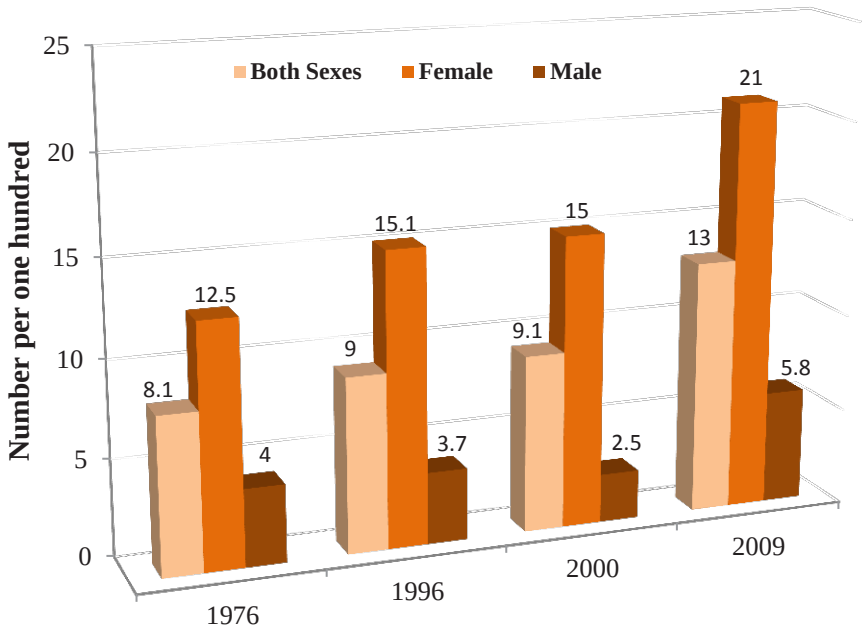
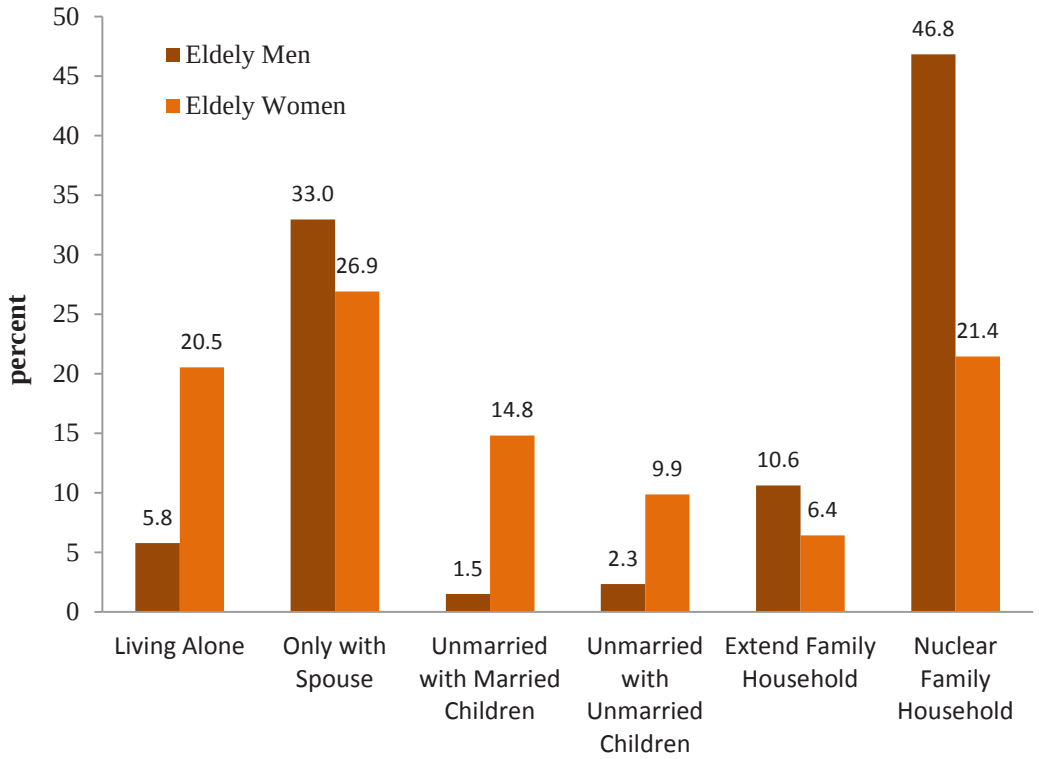


Figure 31 shows all forms of living arrangements by sex among the male and female elderly. Apart from the 'living alone' concept, which is more frequently observed among female elderly, in any form of co-residence living arrangements where no spouse is present, the rate of elderly females is higher (based on Figure 29). On the contrary, in any form of co-residence where a spouse is present, the rate of elderly females is lower than elderly males. Even in the most common form of co-residence living arrangements –nuclear family households–there is a large difference between elderly males and elderly females. As shown in Figure 31, nearly 48 percent of elderly males and 21 percent of elderly females live with their spouse and unmarried children. In other forms of co-residence there is this also a noticeable difference between elderly males and elderly females depending on whether the spouse is present in the household or not.

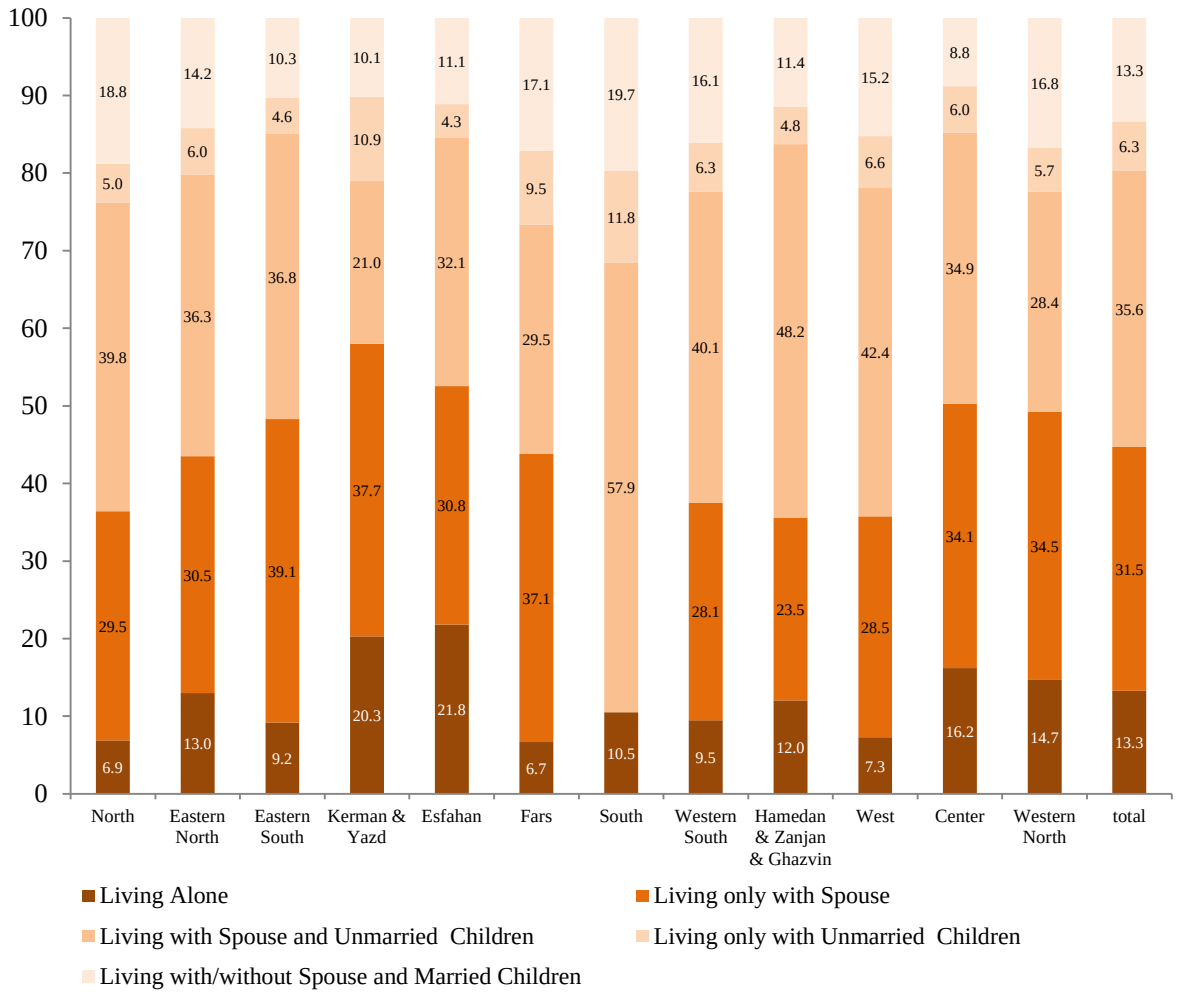
Figure 32 exhibits data on co-residence and non-co-residence among the elderly in provinces of the country. Since the sample was very small in the 2009 "time use" data collection, segregation of elderly males and females was not possible. However, the difference in provinces in terms of living arrangements among the elderly of both sexes can be seen in this Figure. Based on this data, provinces in which living alone is the more significant living arrangement are located in the geographical center of the country including Isfahan, Kerman and Yazd provinces. While in the western and northern regions of the country and Fars province, the ratio of the elderly who live alone is lower than that of other provinces.

Figure 31: Percentage of living arrangement of population aged 60+, Iran, 2009



By studying Figure 32, different forms of co-residence among the elderly can be compared. As this Figure shows, the most common form of co-residence is in provinces such as Hamedan, Qazvin, Zanjan, western provinces, including Kermanshah and Kurdistan and southern provinces, including Khouzestan, Chaharmahal & Bakhtiari and Kohkilouyeh & Boyer-Ahmad, wherein a 40 to 50 percent of the elderly is living with a spouse and unmarried children. Based on "time use" data in 2009, approximately 40 percent of the elderly live only with a spouse in the southeastern provinces of Kerman and Yazd. In the northwestern provinces and in Tehran, Qom, Markazi and Alborz, nearly 34 percent of the elderly live in the same form of co-residence.

Figure 32: Percentage of Living arrangement of population aged 60+ by provincial regions, 2009



4-6 Children and Intergenerational Relations

While there is a strong correlation between the fertility level of the elderly (when they were in reproductive ages) and their child availability and also between child availability and the number of children who have a supportive tie with their elderly parents (Pearson Correlation Coefficients 0.839 and 0.526 respectively) –as a comparison of these two values indicates– all children do not have a supportive function for their elderly parents. Even child proximity, despite being one of the important variables in the family network, does not increase the probability of the presence of children who have a supportive relationship with elderly parents.

Approximately 4.7 children survived out of an average of 5.6 live births for each elderly in the sample for this study; 2.4 of these were male and 2.3 were female children. Therefore, as discussed in the previous section, presence of children of both sexes in the child's composition for a majority of the elderly was a result of their high fertility level. Out of the average survived children, nearly 4 (3.9) for the total 60+ elderly population have separated from the household and live independently with their own family– nearly half of them are males and half are female children. Based on the data in this study (Table 10) from the 3.9 average children separated from the elderly household, the number of supportive children is an average of 2.5 children (1.2 sons and 1.4 daughters). As previously

mentioned, the result is that almost half of the average survived children of the elderly meet the criteria to be considered supportive children. This finding clearly demonstrates that higher fertility rates among the elderly plays a significant role in terms of benefiting from the support provided by children.

Table 10: Average number of total children, children separated from the household and children with supportive function for the elderly by sex and age group, Tehran, 2007

Variable	Total Children				Male Children			Female Children		
	Number of Live Births	Surviving	Not Living with Elderly	Functional	Surviving	Not Living with Elderly	Functional	Surviving	Not Living with Elderly	Functional
Sex:										
Male	5.1	4.5	3.4	2.3	2.2	1.5	1.0	2.3	1.8	1.3
Female	6.0	4.9	4.3	2.7	2.6	2.2	1.3	2.4	2.1	1.4
Age:										
60-64	5.2	4.5	3.3	2.3	2.4	1.6	1.1	2.2	1.7	1.2
65-74	5.4	4.7	3.9	2.6	2.4	1.9	1.2	2.3	2.0	1.4
75+	6.3	5.0	4.3	2.6	2.4	2.0	1.1	2.6	2.3	1.5
Total	5.6	4.7	3.9	2.5	2.4	1.9	1.2	2.3	2.0	1.4

4-7 Social and Family Support

Some characteristics of social support networks (informal) were discussed in the previous section of the report. Our findings regarding the elderly residing in Tehran showed that internal ties/relations of social support networks, in the form of living arrangements of the elderly or in the form of received support/care, is specific to the sex of the elderly and their children. A study of determinant factors for living arrangements in the first section of this chapter also indicated that under modernization and urbanization circumstances, the elderly and their children have a significant inclination towards independent living. In fact, the social relations of the elderly are based on the parent-children independence principle. The other important characteristic pertains to the presence or absence of the spouse in the social relations network. This factor plays an enormously determining role in the size and sources for reception of social support.

Source of family and non-family informal social support identified in this research constitute10 sources, and there are 4 issues for which this support is provided. The final analysis of family network is carried out on spouses, children, daughters-in-law and sons-in-law, brothers and sisters and extended family. For non-family network this analysis is carried out on friends, neighbors and colleagues. The main goal in this section is to determine the elderly social support pattern based on source and type of support received from family and non-family networks. Because of the reasons mentioned in the section for description of the marital situation of the elderly, unmarried males constitute a small proportion of the elderly sample; as a result this group was omitted from the elderly social support pattern analysis.

Married males: Emotional support shows a distributed and multi-source pattern/trend and puts emphasis on widespread nature of emotional need and multi-source nature of this characteristic.But the spouse is a determining member in the social support for elderly males, even in emotional support

Figure 33: Percentage of emotional support by source, married elderly males 60+, Tehran, 2007

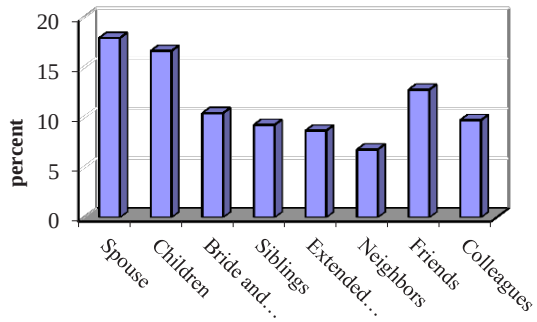


Figure 34: Percentage of nursing support by source, married elderly males 60+, Tehran, 2007

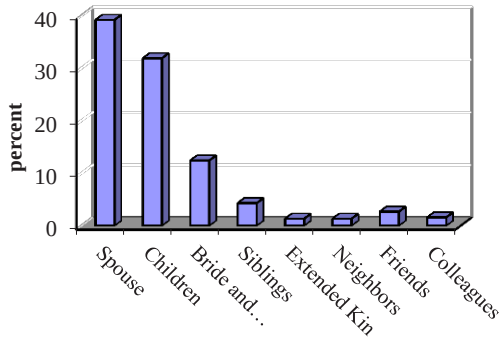


Figure 35: Percentage of transportation support by source, married elderly males 60+, Tehran, 2007

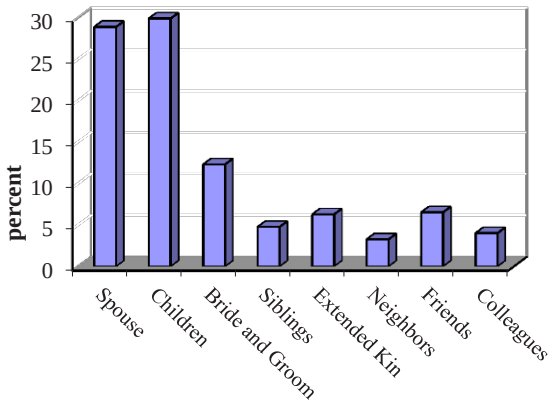
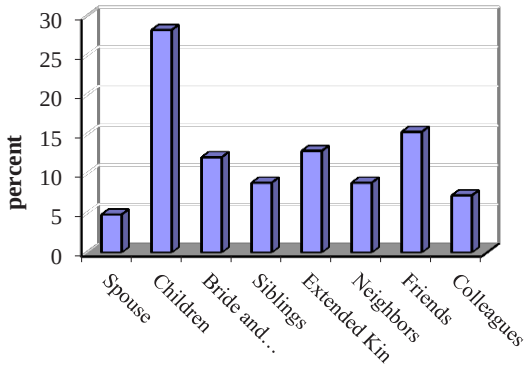


Figure 36: Percentage of financial support by source, married elderly males 60+, Tehran, 2007



As indicated in Figures 33, 34, 35 and 36; social support for elderly males fall in the emotional and instrumental category and replacement in family and non-family network elements is entirely based on hierarchy. The only noteworthy change in this pattern is that children supersede the elderly males' spouse (by a very small margin) in the transport support category (Figure 35). Meanwhile, in the financial support category, the spouse falls in the last slot of the social support hierarchy. It is clear that the spouses of the current generation of elderly males are generally not capable of providing financial support when needed due to issues associated with their sex.

Married females: With the shift in sex, the social support pattern changes altogether. However, beyond the change observed in the social support, pattern between elderly males and females lies a

very important issue. The high fertility beahviour has a great blessing upon the current generations. For elderly with an average of 5 living children, it is expected that the children are the main source of all types of social support for elderly females. This pattern is demonstrated in Figures 37 to 39. The patterns shown in the mentioned figures clearly indicate the extent to which the children play a role in emotional support of elderly females (mothers), which –apart from all other types of support– has a distributed pattern.

Figure 37: Percentage of emotional support by source, married elderly females 60+, Tehran, 2007

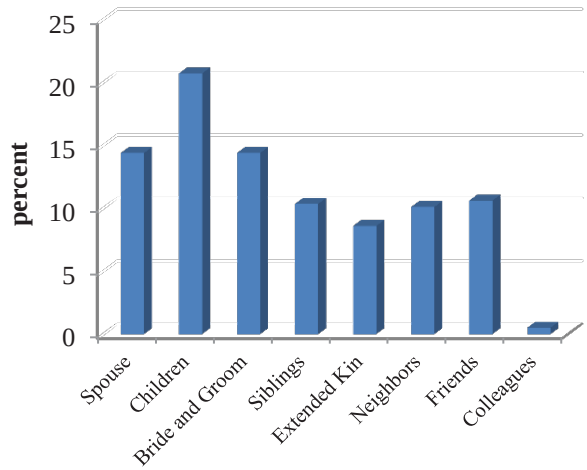


Figure 38: Percentage of nursing support by source, married elderly females 60+, Tehran, 2007

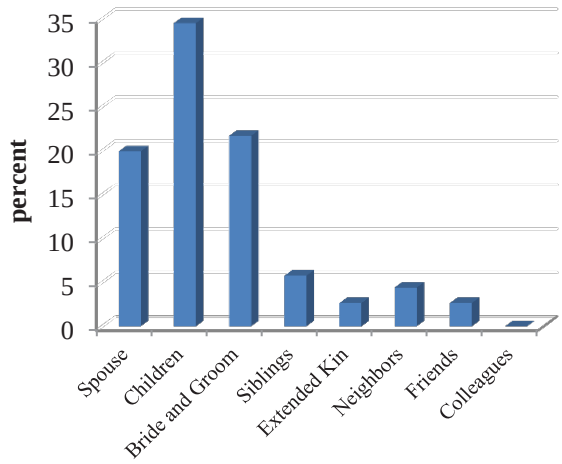


Figure 39: Percentage of transportation support by source, married elderly females 60+, Tehran, 2007

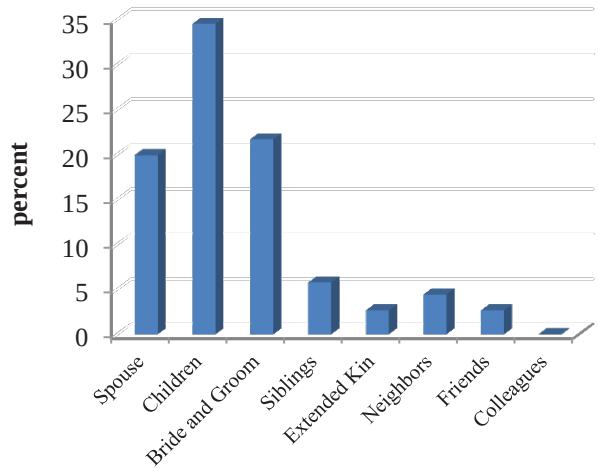
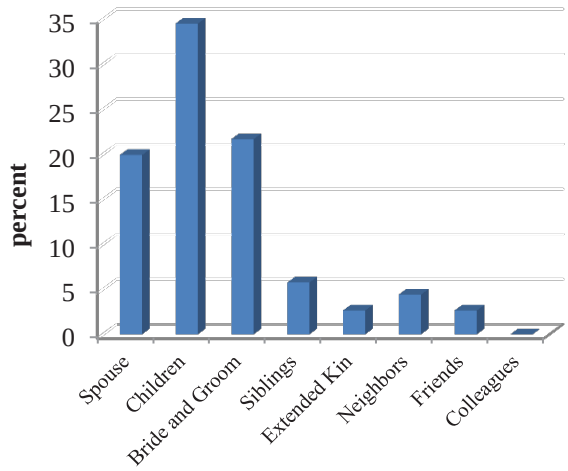


Figure 40: Percentage of financial support by source, married elderly females 60+, Tehran, 2007



In the emotional support pattern (Figure 37) the spouse is the third support source and after daughter-in-law and son-in-law. His role in provision of support to the elderly females is only more than that of friends. In addition, for nursing support during illness/ailment, spouses of elderly females hold the same rank (Figure39).However, in transport support and for financial problems the support provided

by spouses surpasses the support provided by daughter-in-law and son-in-law, achieving second rank (Figure 39and 40).

Unmarried females: As concluded in the study of the social support pattern for married elderly females, even presence of the spouse does not hinder the provision of comprehensive support by children. For this group of the elderly, children are the undisputed source of social support and it is clear that absence of a spouse does not bring about a tangible or significant change in their social support pattern. Our findings show the same situation for unmarried elderly females. These findings are demonstrated in Figures 41 to 44. The pattern for emotional support is still of a distributed nature with children being the preferred priority –only colleagues have a very small share due to the fact that the majority of elderly females have never experienced colleague relations (Figure 41). In this pattern friends and neighbors have a stronger role than extended relatives, which follows the nature and social characteristic of this group. However, as demonstrated in Figures 42 and 43, in terms of nursing and transport support, children and their spouses (i.e. daughters-in-law and sons-in-law) are the sole sources of support. Only in the area of transport support, are children replaceable with their spouses. The role played by primary non-relative groups is not tangible. In the financial support domain, there are other social partners from the family and non-family network for daughter-in-law and son-in-law. As shown in Figure 44, unmarried elderly females are basically dependent on their children for their financial needs. On the contrary, in terms of instrumental and even emotional support, the daughters-in-law and sons-in-law are not considered an outstandingly significant element compared with other members of the social network.

Based on the results of the comparison of elderly social support patterns in the above Figures, we believe that even when the Hierarchical Compensatory Model of the social support sources is the dominant pattern (married elderly males). The fact that spouses, who are dominant in emotional and nursing support yet seen less so in financial support for elderly males, and even in the transport support are replaced by children; as well as the fact that friends and former colleagues for elderly males are the changing member of the social support network, shifting from the third source to the last depending on the support needed; indicates that rules that apply to elderly social support in Iran and Tehran are different to the findings of researchers in other countries.

Figure 41: Percentage of emotional support by source, unmarried elderly females 60+, Tehran, 2007

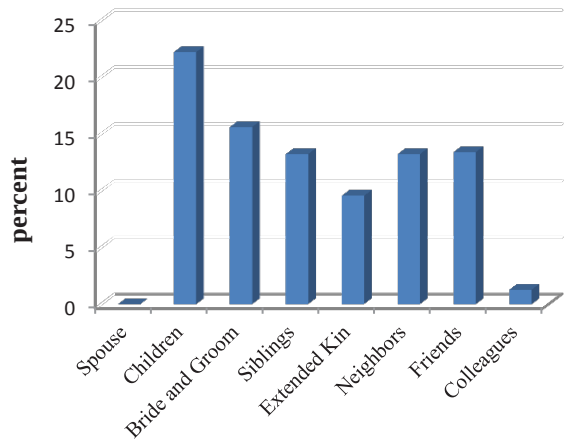


Figure 42: Percentage of nursing support by source, unmarried elderly females 60+, Tehran, 2007

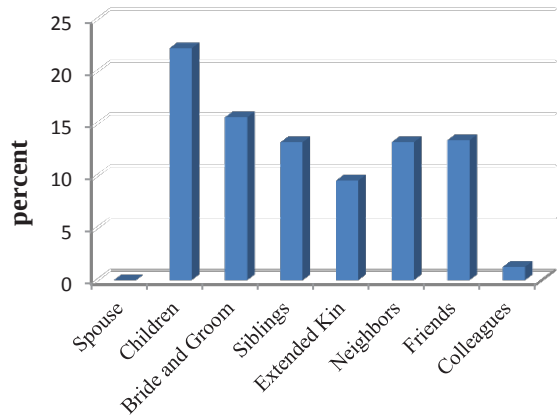


Figure 43: Percentage of transportation support by source, unmarried elderly females 60+, Tehran, 2007

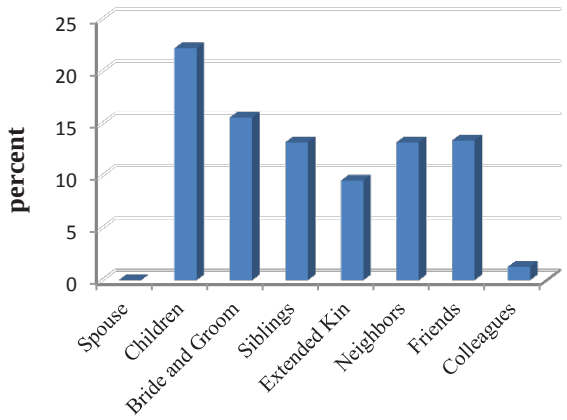
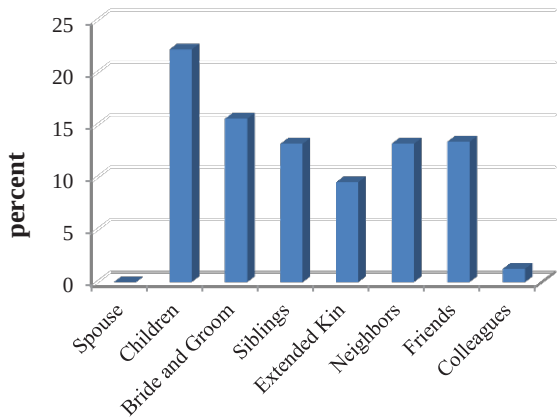


Figure 44: Percentage of financial support by source, unmarried elderly females 60+, Tehran, 2007



Chapter Five

Health Issues, Mortality and Disability

5-1 Introduction

Aging is a special period in everyone's life. People get weaker and more vulnerable to illnesses during this period; chronic diseases are more common and, consequently, they require additional care (Ukraintseva and Yashin, 2003; Heath and Schofield, 1999). Therefore, in the present era, ageing and accordingly the growing number of elderly people in the society; the prevalence of chronic diseases and the high costs related to their treatment; the growth in social security expenses (Kinsella and Phillips, 2005); combined with the rising costs of health care (Population Reference Bureau, 2010) have imposed a greater burden on many of the world states.

Since the chronic diseases and disabilities of the old age period are not treatable, and respond the rapeutic and pharmaceutical treatments (Cockerham, 2000). Even if any treatments were available for these chronic diseases, they are associated with very high costs. Thus, the best solution is to prevent or treat diseases related to ageing in their early stages. Indeed, the "prevention programs" can be the fundamental solution for all states to reduce the health costs in the old age period.

In today's world, epidemiological transitions and prevalence of old age illnesses along with age structure transitions and increase in the proportion of elderly in the population has resulted in an increased prevalence of diseases and disabilities in the population. This has made studying and conducting more researches on the elderly and their health status ever more necessary in order to identify ways of preventing disability.

Iran has also gone through a demographic transition followed by an age structure transition. The proportion of the elderly has grown and the rate is greater than the overall population growth (Mirfallah, Nasiri, 2004). In addition, the elderly support proportion in the country is declining. According to the population reference bureau's report (PRB), it is predicted that this rate will decrease from 15 in 2010 to 3 in 2050 (Population Reference Bureau, 2010).

Accompanying the increase in the size of the elderly population, the country is expected to face more individuals with disabilities and a greater prevalence of chronic diseases. As studies indicate, the occurrence of the epidemiological transition in Iran has led to an increase in the amount of chronic and non-communicable diseases. Moreover, the percentage of mortality/deaths due to these diseases is on the rise (Ghiyasi et al., 2000 Naghavi, 2006).

These conditions can impose high economic costs on the country. Therefore, studies of the elderly population, their health status and recognizing strategies to prevent prevalence of disease and disability, and implementation of prevention programs are of the utmost necessity. Since prevention or timely treatment of diseases is the best solution against disabilities and old age period diseases, costs must be compensated for.

The purpose of this section of the report is to review health indicators in the old age period associated with the patterns of morbidity and causes of death in this period. In order to conduct this review, secondary analysis of existing data (as follows) was carried out:

- Report of the Global Burden of Disease, 2010
- Report of the Iranian Mortality Profile , 2010
- Report of National Utilization of Health Services Survey in Iran, 2002

Bases on these reports, in order to review the elderly health status, the following indicators, which are mostly "outcome indicators", were used:

- Summary measures of population health
- Patterns of causes of death among the elderly
- Health service utilization for the elderly

In recent years, new indicators have been used for measuring/assessing the public health status, which are a combination of death and disability indicators, and are summarized in the form of a single index. These are known as summary measures which are defined as:

"Measures that combine information on mortality and non-fatal health outcomes to represent the health of a particular population as a single number"

One of the most important measures of this category is DALY "disability-adjusted life years" which is the sum of YLL (Years of Life Lost due to premature death) and YLD (Years Lived with Disability). YLL is equal to years of life lost due to early deaths and YLD is the year lived with disability due to diseases or injuries.

5-2 Causes of Death

Causes of death patterns for both males and females of the country in 2010 based on age groups are shown in Figures 45 and 46. As the results indicate the most frequent cause of death in the old age period (60 years and over) for both sexes is "disease of the circulatory system" –approximately 50% the causes of death are related to this disease. Following this, diseases caused by cancer and chronic respiratory diseases account for the second most prevalent cause of death. Typically, the patient endures these diseases/conditions for extended periods of time and, as a result, requires prolonged treatment and care, which is often very costly.

Figure 45: Distribution of causes of death among females, by age group, after correction of null codes in death registration in 29 provinces, Iran, 2010

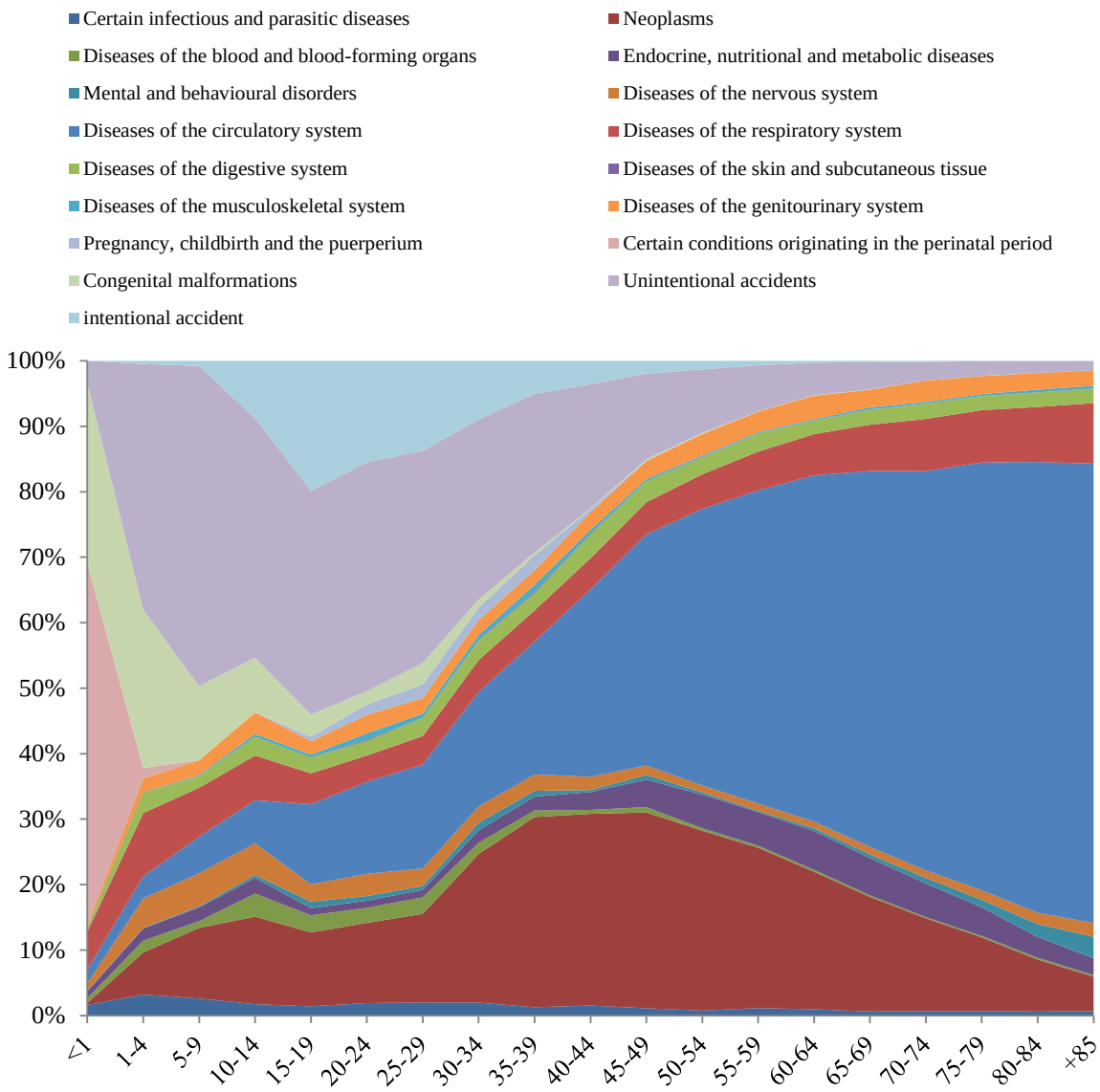


Figure 46: Distribution of causes of death among males, by age group, after correction of null codes in death registration in 29 provinces, Iran, 2010

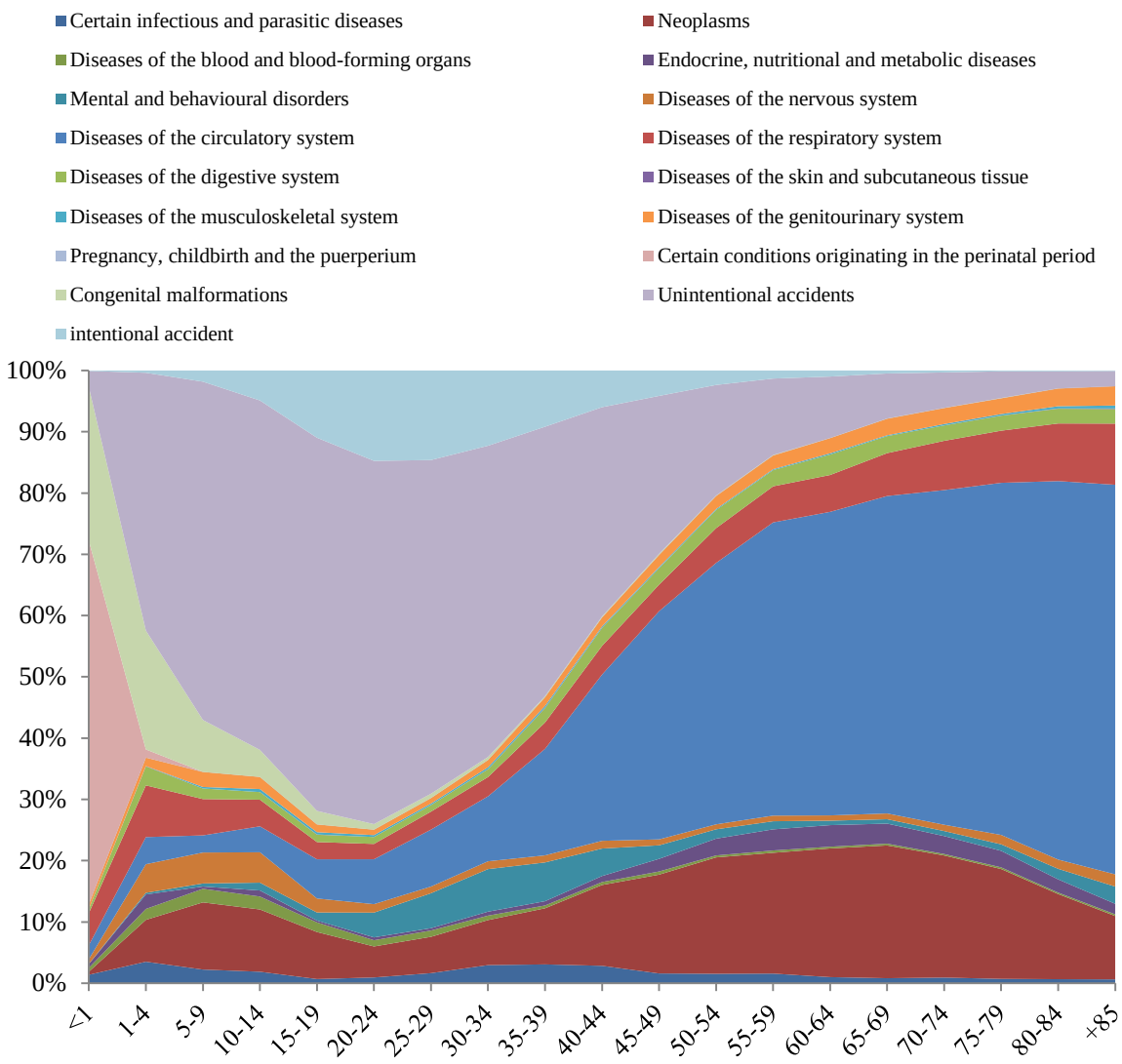
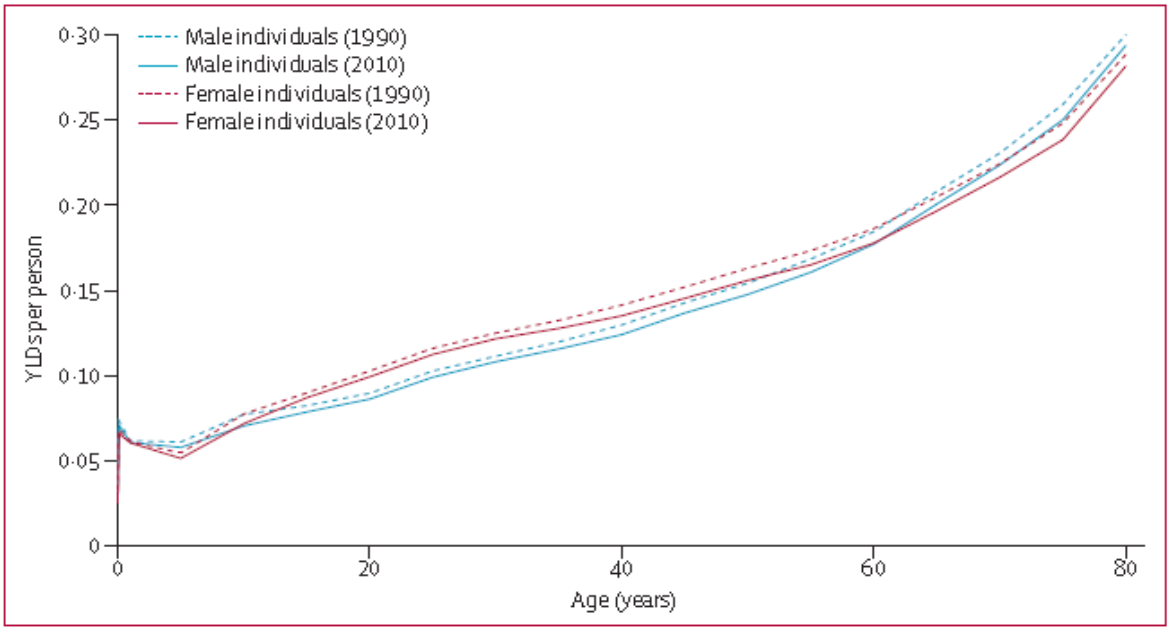


Figure 47 demonstrates the disability-adjusted life years (DALYs) by age and sex in 1990 and 2010. There is an observable trend that as age increases, the Years Lived with Disability (YLD) is increased. This increase accelerates even further in the 60 years and over age range.

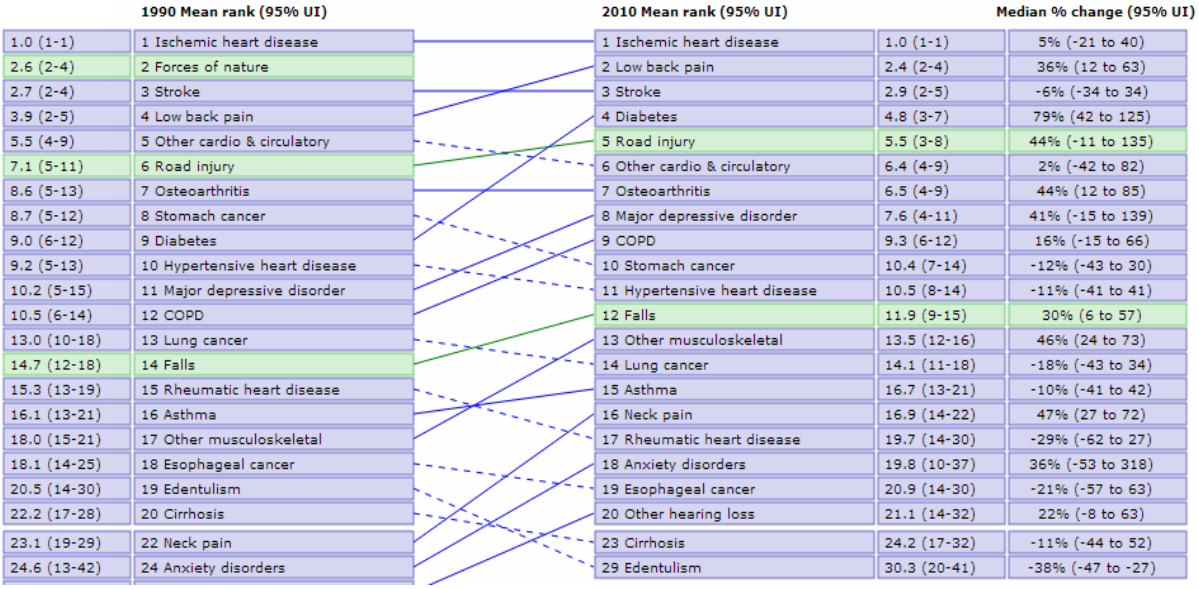
Figure 47: Global years lived with disability (YLDs) per person, 1990 and 2010, for all ages, by sex



Source: Institute for Health Metrics and Evaluation

Figure 48 shows the comparison of changes in the 20 causes of Disability Adjusted Life Years (DALYS) for the Iranian 60 to 65 years old- 1990 and 2010, based on the Global Burden of Disease study. As this Figure demonstrates, ischemic heart disease (heart attacks) is the main cause of years of life lost due to early death and disability in the age group. Back pain (which has a high disability burden) has reached second rank, followed by strokes. What is noticeable is the large increase in the diabetes with a 79 percent growth during the last 20 years, which is a sign of changes in nutrition pattern and life style in this age group.

Figure 48: DALY index for the 60 to 64 age group based on the Global Burden of Disease study, Iran, 1990 and 2010

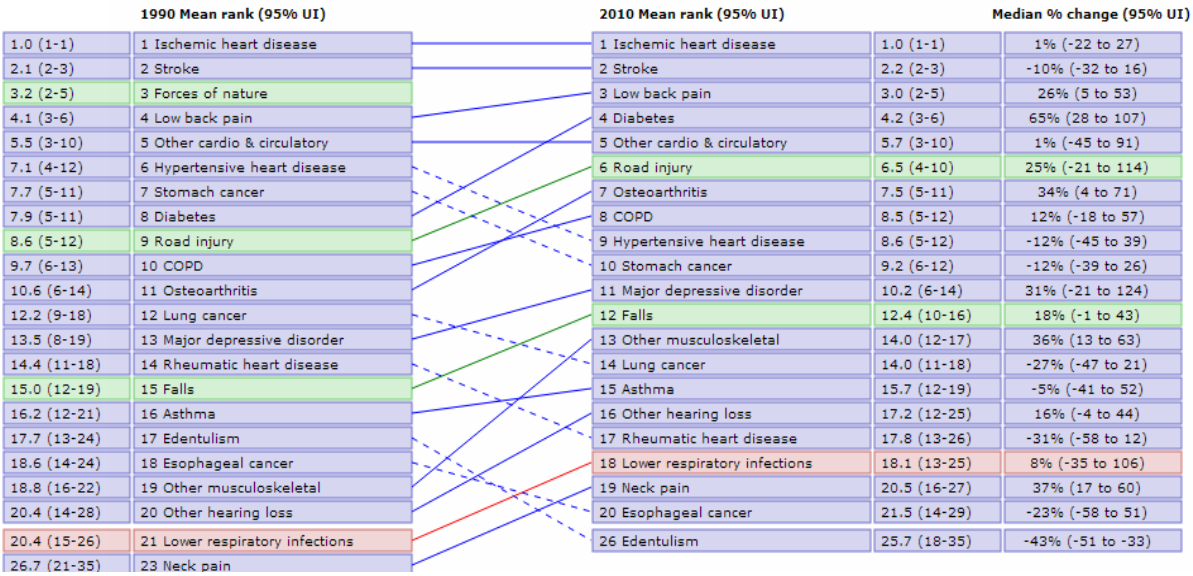


1990 Mean rank (95% UI)		2010 Mean rank (95% UI)		Median % change (95% UI)
1.0 (1-1)	1 Ischemic heart disease	1 Ischemic heart disease	1.0 (1-1)	5% (-21 to 40)
2.6 (2-4)	2 Forces of nature	2 Low back pain	2.4 (2-4)	36% (12 to 63)
2.7 (2-4)	3 Stroke	3 Stroke	2.9 (2-5)	-6% (-34 to 34)
3.9 (2-5)	4 Low back pain	4 Diabetes	4.8 (3-7)	79% (42 to 125)
5.5 (4-9)	5 Other cardio & circulatory	5 Road injury	5.5 (3-8)	44% (-11 to 135)
7.1 (5-11)	6 Road injury	6 Other cardio & circulatory	6.4 (4-9)	2% (-42 to 82)
8.6 (5-13)	7 Osteoarthritis	7 Osteoarthritis	6.5 (4-9)	44% (12 to 85)
8.7 (5-12)	8 Stomach cancer	8 Major depressive disorder	7.6 (4-11)	41% (-15 to 139)
9.0 (6-12)	9 Diabetes	9 COPD	9.3 (6-12)	16% (-15 to 66)
9.2 (5-13)	10 Hypertensive heart disease	10 Stomach cancer	10.4 (7-14)	-12% (-43 to 30)
10.2 (5-15)	11 Major depressive disorder	11 Hypertensive heart disease	10.5 (8-14)	-11% (-41 to 41)
10.5 (6-14)	12 COPD	12 Falls	11.9 (9-15)	30% (6 to 57)
13.0 (10-18)	13 Lung cancer	13 Other musculoskeletal	13.5 (12-16)	46% (24 to 73)
14.7 (12-18)	14 Falls	14 Lung cancer	14.1 (11-18)	-18% (-43 to 34)
15.3 (13-19)	15 Rheumatic heart disease	15 Asthma	16.7 (13-21)	-10% (-41 to 42)
16.1 (13-21)	16 Asthma	16 Neck pain	16.9 (14-22)	47% (27 to 72)
18.0 (15-21)	17 Other musculoskeletal	17 Rheumatic heart disease	19.7 (14-30)	-29% (-62 to 27)
18.1 (14-25)	18 Esophageal cancer	18 Anxiety disorders	19.8 (10-37)	36% (-53 to 318)
20.5 (14-30)	19 Edentulism	19 Esophageal cancer	20.9 (14-30)	-21% (-57 to 63)
22.2 (17-28)	20 Cirrhosis	20 Other hearing loss	21.1 (14-32)	22% (-8 to 63)
23.1 (19-29)	22 Neck pain	23 Cirrhosis	24.2 (17-32)	-11% (-44 to 52)
24.6 (13-42)	24 Anxiety disorders	29 Edentulism	30.3 (20-41)	-38% (-47 to -27)

Source: Institute for Health Metrics and Evaluation

Figure 49 shows the comparison of changes in the 20 causes of Disability Adjusted Life Years (DALYS) years of life lost) for the Iranian 65 to 69 years old between 1990 and 2010, based on the Global Burden of Disease study. As indicated, ischemic heart disease (heart attacks) is the main cause of years of life lost due to early death and disability in the age group. This is followed by strokes and low back pain (with a 26 percent increase). Diabetes (65 percent), road injury (25 percent), osteoarthritis (34 percent) and major psychological disorder (34 percent) have experienced an increasing trend in the last 20 years for this age group, which is –similar to the 60 to 65 age cohort– a sign of changes in nutrition pattern and life style in this age group.

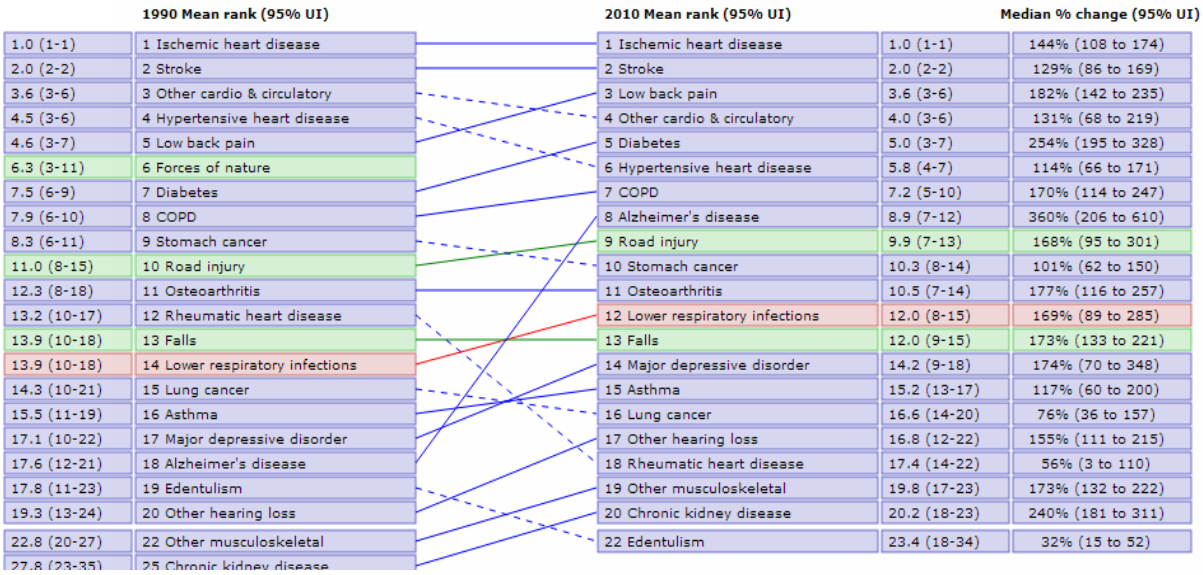
Figure 49: DALY index for the 65 to 69 age group based on the Global Burden of Disease study, Iran, 1990 and 2010



Source: Institute for Health Metrics and Evaluation

Figure 50 shows the comparison of changes in the causes of Disability Adjusted Life Years (DALYS) for the Iranian 70 years and above between 1990 and 2010 based on the Global Burden of Disease study. Ischemic heart disease (heart attacks) is the main cause of years of life lost due to early death and disability in the age group, followed by strokes and low back pain (with a 182 percent increase). Diabetes (254 percent), Alzheimer's (360 percent), chronic kidney diseases (240 percent), chronic respiratory disease (170 percent), road injury (168 percent), osteoarthritis (34 percent) and major psychological disorder (174 percent) have had a significant increasing trend in the last 20 years for this age group, which is a sign of changes in nutrition pattern and life style in this age group.

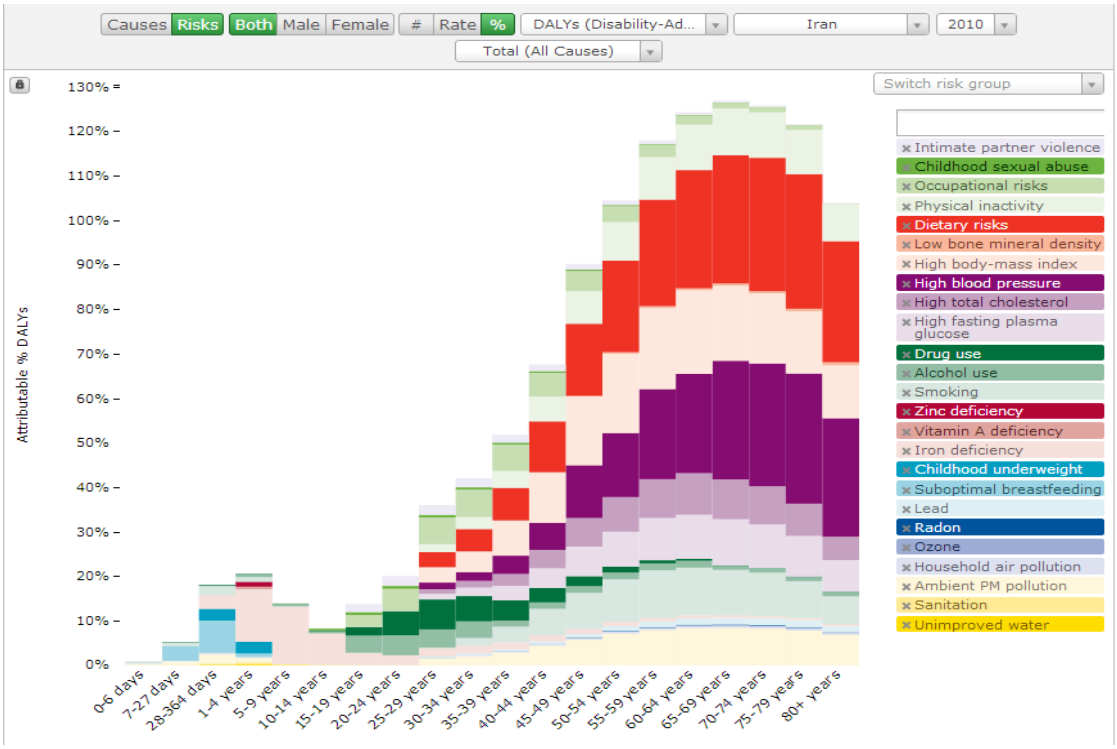
Figure 50: DALY index for the 70 and over age group based on the Global Burden of Disease study, Iran, 1990 and 2010



Source: Institute for Health Metrics and Evaluation

Figure 51 shows the most risk factors in 2010 based on the Global Burden of Disease study. Nutrition risks (30 percent), high blood pressure (27 to 30 percent), obesity (12 to 17 percent) as well as inactivity (8 to 11 percent) are the most risk factors. In this regard, there is a need for intervention of relevant organizations in order to change the life style of elderly people such as diet, exercise, self care and control blood pressure and cholesterol.

Figure 51: Percentage of most important risk factors associated with DALYs by age group, based on the global burden of disease, Iran, 2010



Source: Institute for Health Metrics and Evaluation

5-3 Health Services Utilization

In this section, health service utilization among the elderly is explained in the form of three indicators: waiting list for hospitalization; the percentage of people needing outpatient services; and need for hospitalization among elderly.

The average waiting list for hospitalization per day, by age group in Iran in 2002, is displayed in Figure 52. The data indicate that, 50 to 65 years elderly persons and those 65 and over have the largest share among the age groups in waiting list for hospitalization. This is an indication of the prevalence of diseases associated with ageing in the country. Table 11 presents the feeling of need for hospitalization and emergency services. As the results indicate,the 65 years and over elderly constitute the highest percent age for the need for hospitalization and emergency services. These results indicate the prevalence of disability among the elderly.

The percentage of people who needed outpatient services in 2002 is shown in Figure 53. Although the highest percentage is related to the 1 to 4 years age group, with the increasing age (after age 15) the percentage of people in need of outpatient services intensifies and reaches its maximum value among the elderly 65 years and over.

Figure 52: Average waiting list period for hospitalization per day, by age group, HSUS, Iran 2002

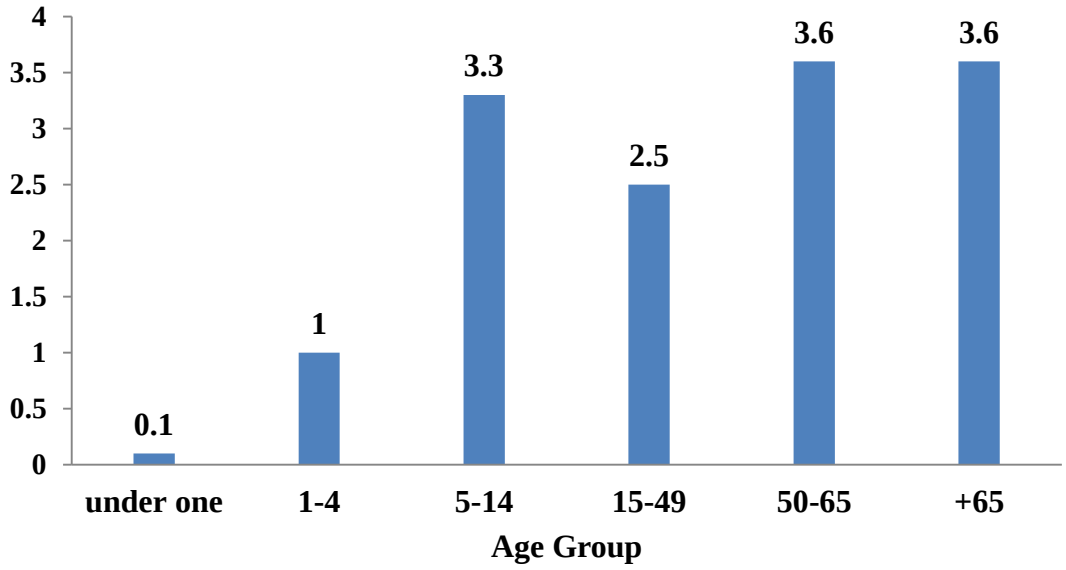


Figure53: Percentage of people who needed outpatient services during the past 2 weeks, by age group, Iran, 2002

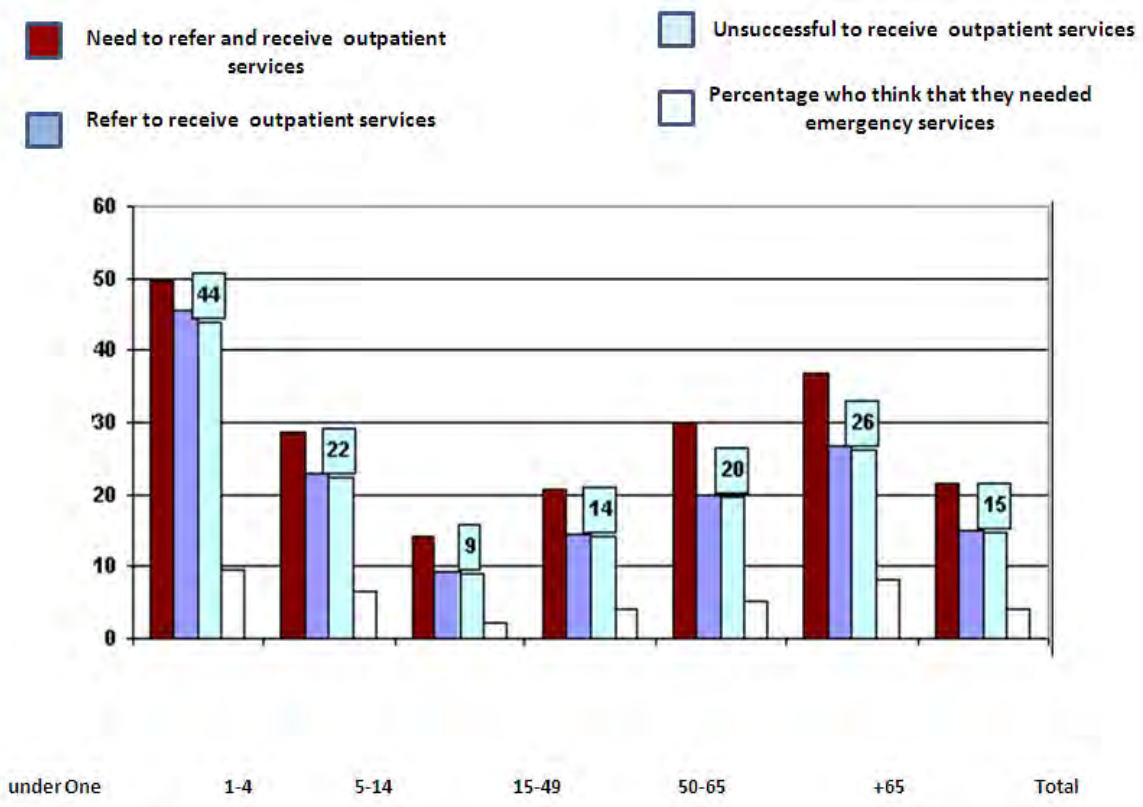


Table 11: Need for hospitalization, HSUS, Iran, 2002

	Percentage of feeling of need for hospitalization	Percentage of feeling of need for emergency services
Under One	13.8	13.4
1-4	6.8	5.6
5-14	2.5	1.9
15-49	5.8	4.4
50-65	10	6.9
65+	16.9	12.1
Total	6.6	5.5

With the mortality due to disease trends in old age in Iran taken into consideration, non-communicable and chronic diseases have had in increasing trend and the main burden of mortality and disability in this demographic group is due to increase. The treatment cost of these types of disease is very high in the old age period. If the elderly are unable to cope with their treatment costs,it creates a great deal of problems for the individual and his/her family. Therefore, in order to reduce the burden of these diseases, implementation of prevention programs such as improving life styles –i.e.improving healthy nutrition; physical activity and prevention of excessive weight gain; and controlling blood pressure related diseases, such as blood lipids and diabetes–could prove to be very effective. For this reason, it is imperative that health system authorities take necessary measures to design interventions to improve health among the elderly in cooperation with other organizations.

Chapter Six

Stakeholder analysis, including analysis of national programs

6-1 Introduction

Although declining fertility in Iran during the past three decades is an adequate sign that the country's population is well on the path to ageing, as previously discussed in the demographic context of population ageing in Iran, programming for ageing and studies are not necessarily related to the time that the population is ageing. Based on the data from the 2011 census, about 8 percent of the Iranian population is aged 60 years and over. Even if the proportion of elderly does not amount to a size that would categorize the total population as 'aged', the population of the elderly at this age, which is nearly 6 million, cannot be neglected. This proportion of the population has varying and different needs, and the vulnerabilities of this group makes focusing attention on them doubly important in planning at a national level. Furthermore, considering the complexities and differences in the social life of the elderly, special and specific planning for these groups of the population is necessary. Arrangements and related grounds for implementation of such programs are in place in the country. Different ministries and organizations in Iran are responsible for programming for the elderly population, such as State Welfare Organization, municipalities, Ministry of Health and Medical Education, Imam Khomeini Relief Foundation, Medical Sciences Universities and research centers, Insurance &Retirement Organizations, Non-Governmental/charity organizations (such as Kahrizak Charity Institute) etc.

6-2 Ministry of Cooperatives Labor, and Social Welfare

This ministry is the main institution responsible for the social security system, and is mandated and in charge of provision of insurance and supportive services to all segments of society and elderly people. In the "Comprehensive Welfare and Social System Act" of this ministry, the following is explained in terms of their goals, domain and obligation in the elderly health: In implementation of Article (29) of the Constitution of Islamic Republic of Iran, as well as clauses (2) and (4) of Article (21) of the Constitution, and in line with consolidation of the macro welfare policies aimed at promoting social justice and supporting all citizens of the country vis-à-vis social, economic and natural events and their consequences, the Comprehensive Social Security System based on the terms and conditions of this Act has been established. It will cover the following:

A- Retirement, disability and death
B- Unemployment
C- Old age
D- Helplessness, loss of caretaker and social vulnerabilities and etc.
E- Special insurance schemes for divorcees, elderly, and self-supporting women
F- Reduction of inequality and poverty

The majority of organizations and institutions active in service provision to the elderly work under this ministry or are associated with it in some manner. In this section the most important legal responsibilities of some relevant organization and institutions in dealing with the elderly are outlined:

- **The Supreme Council of Welfare and Social Security**

Supreme Council of Welfare and Social Security, chaired by the President and with the Minister of Labor, Cooperatives and Social Welfare as secretary, convenes to coordinate social policies in the field of employment, education, sports, housing, healthcare and treatment, and other issues pertaining to social security. The Council Secretariat is based in the Ministry of Cooperatives, Labar and Social Welfare and Social Security and decisions of the Supreme Council would be valid with the approval of the ministers who are members of the council and with confirmation from the President.

The composition of the Supreme Council of Welfare and Social Security is as follows:

A- President (President of the Council)
B- Minister of Labor, Cooperatives and Social Welfare (Council Secretary)
C- Head of the Management and Planning Organization
D- Minister of Interior
E- Minister of Health and Medical Education
F- Minister of Education
G- Minister of Housing and Urban Development
H- Minister of Labor and Social Affairs
I- Minister of Defense and Logistics
J- Minister of Economy and Finance Affairs
K- Three members of Parliament from the commissions of health, social and programming and budget and finance, selected by the Parliament to act as observers.

The duties of the Supreme Council of Welfare and Social Security are as follows:

A- Coordination of social policies.

B- Interaction with the economy council and other inter-sectoral councils to resolve social problems.

C- Review, revision and approval welfare and social security policies, and propose them to the Council of Ministers, according to the general policies of the state/government.

D- Evaluation, revision, and approval of the annual budget allocated to welfare and social security in the framework of public and budgetary policies and propose it to the Council of Ministers.

E- Proposal of general regulations for management of financial resources, deposits and investments by executive agencies, state and public organizations, institutions and financing funds active in different areas of the social security system with the approval of the Council of Ministers.

Note: Regulations regarding the format and management of meeting sessions, decisions and other matters related to the Supreme Council of Welfare and Social Security will be prepared by the Ministry of Cooperatives, Labor and Social Welfare and approved by the Council of Ministers.

- **National Council on the Elderly**

The Council of Ministers (cabinet) in their meeting dated "2004/1/26", approved an administrative regulations in accordance with a joint proposal, "No. 10736", dated "7/7/2002", by the Ministry of Health and Medical Education and Management and Planning Organization. According to part "5" of paragraph (a) of the article (192), the “Third Economic, Social and Cultural Development Program of the Islamic Republic of Iran” ratified the following:

Article 1: All persons older than 60 years and over are recognized as “elderly” and considered as such in this program.

Article 2: What is implied by organizing the affairs of the elderly, is actually improving their lifestyle and their satisfaction from life through provision of welfare, health, treatment and geriatric rehabilitation services which will be implemented through the following policies:

A- Providing the elderly with the chance to be present in the society
B- Emphasis on maintaining the position and status of the elderly in the family
C- Provision of bare necessities to the needy elderly in the country
D- Emphasis on safeguarding the respect, position and dignity of the elderly
E- Providing the opportunity to participate in associations and non-governmental organizations for people

Article 3: In order to improve the status of the elderly in terms of health and well-being, the "National Council for the Elderly", chaired by the Minister of Health and Medical Education and the head of State Welfare Organization as secretary to the council is formed with the following members:

The Minister of Culture and Islamic Guidance or one of his deputies, Minister of Housing and Urban Development or one of his deputies, Minister of Economy and Finance Affairs or one of his deputies, Minister of Education or one of his deputies, Minister of Interior or one of his deputies, Minister of Commerce or one of his deputies, Minister of Agricultural Jihad or one of his deputies, Head of Management and Planning Organization or one of his deputies, President of IRIB, Head of Physical Education Organization or one of his deputies, Head of Civil Servants Pension Organization, Head of Armed Forces Social Security Organization, Head of Social Security Organization, Head of the Imam Khomeini Relief Foundation, and three academic experts specialized in elderly health elected by the President of the Council (currently, the President of the National Council for the elderly is the Minister of Labor, Cooperatives and Social Welfare, and the Head of the State Welfare Organization currently acts as the secretary of the council). This Council, chaired by the governor-general, convenes meetings in the provinces, under the name of Committee for Organization of Elderly Affairs. Similar members and representatives from the provincial office of the State Welfare Organization act as secretary to these committees.

6-3 The State Welfare Organization

In addition to its other duties, the State Welfare Organizationis responsible for provision of care and support to the elderly in need, based on the act of establishment of State Welfare Organization (approved 3/24/1980). This organization provides its services in the form of the following items:

1- Homes for the elderly: through issuance of permits/licenses, provision of subsidies and supervision of this section.
2- Educational programs: in the form of seminars, workshops, preparation of materials (books, brochures and educational packages) in order to train managers, specialists and staff of centers and homes and educating the elderly and their family members.
3- Conducting researches on the elderly population to better identify the target population and their needs.
4- Provision of complementary insurance schemes for disabled and poor elderly covered by the State Welfare Organization and who have the basic medical insurance booklets.
5- Provision of social services to recipients under the coverage, including constant and occasional assistance to their families.

(Based on estimations by the State Welfare Organization about 150,000 disabled and poor elderly persons were under coverage of constant services of this organization.)

The State Welfare Organization has carried out some praiseworthy activities in line with its mandate and goals toward ageing issues. With respect to the topics discussed in this report, we will review those that have been implemented in the field of ageing.

1. Establishing the National Council for the Elderly, formed with the aim of coordinating implementation issues related to policy making, ratification and implementation of relevant programs to ensure health and welfare of elderly persons, chaired by the Minister of Health and Medical Education and Head of the State Welfare Organization as secretary, to improve the health and well-being of the elderly. The council convenes for meetings every six months with the attendance of the President. The National Council for the Elderly was established in 2004.
2. The National Council of Elderly is pursuing programmes such as age-friendly city, elderly care insurance, Farzaneghan institute, and administration of the informative and educational portal for elderly with following address: www.snce.ir
3. Payment of cash subsidies for the care of the elderly in rehabilitation and care centers and homes to persons running these centers in the non-governmental sector and to families and to other care takers.
4. Provision of aid devices (hearing aids, glasses, wheelchairs, walking frames, etc.).
5. Provision of financial facilities/loans to applicants to be applied in construction, purchase, rent deposit, equip and establish care centers for elderly; up to 90 percent of the required costs.
6. Covering and supporting of all elderly persons who live below the poverty line, in cooperation with the Imam Khomeini Relief Foundation.
7. The Medical Services Insurance Organization is bound to provide treatment insurance coverage for all elderly people who are covered by healthcare services insurance, through budget lines allocated to this organization in annual budget bills. However, this has not yet been realized by the State Welfare Organization and insurance organizations.

8. Provision of housing to elderly in need who do not own houses and other necessary arrangements for allocation of repair and renovation subsidies for elderly in need through assistance and collaborating of Ministry of Housing and Urban Development.
9. Provision and ensuring food security for the elderly, through assistance and collaborating of the Agricultural Jihad, Commerce, Health and Medical Education ministries and the Management and Planning Organization.
10. Creation of sport facilities for the elderly in collaboration with Ministry of Youth and Sports. Moreover, the State Welfare Organization has also been active in the field of research and training and besides implementing research projects on healthy ageing, has published books, manuals, posters and educational pamphlets on aging.
11. Important to note whether these agreed rules are currently put to practice; and whether the elderly are informed about these laws/regulations, which are designed for their well-being; and whether these measures would suffice in a society which is in transition into ageing, or not, questions on how successful the State of Welfare Organization has been in achieving these goals. (http://www.behzisti.ir/Pages/?id=16)

6-4 Imam Khomeini Relief Foundation

One of Imam Khomeini Relief Foundation's duties is to identify and assess various types of financial and spiritual deprivation among the people in need and meeting their needs for support, livelihood and cultural areas as well as improving their quality of life to the extent possible. Elderly persons (60 years and over) are one of the target populations supported by this organization through the "ShahidRajaei" Plan.

According to an Imam Khomeini Relief Foundation report in 2008, approximately 570,000 (18.7 percent) of those who covered by Relief Seeking Plan and also about 890,000 people (46.7 percent) covered by the "ShahidRajaei Plan" were elderly. In other words, the total number of elderly persons who were covered by this foundation was 1,460,000 persons, who constitute 32 percent of the total population under the coverage of this organization.

Comprehensive social security system

The comprehensive social security system includes three areas:

A- Insurance coverage: includes Social Insurance such as retirement pension, unemployment, accidents and injuries, disability and survivors and also medical insurance (healthcare and treatment) sector.

Note: Social insurance and medical care insurance are divided into two basic and supplementary levels, such as:

1- Structure and boundaries of basic insurance services is determined by the law.
2- Supplementary insurance is an additional insurance service to the basic insurance services where individual or collective contracts are entered between the insurer and the insured and the insurance premium is paid by the insured. There is no financial commitment for the government; yet, the government is obliged to provide legal and judicial support to this type of insurance.

B- Support and rehabilitation area: Providing supportive and rehabilitative services, allocation of subsidies and financial assistance to needy individuals and families who are not able to work for various reasons; or their income would not cover their minimum life expenses.

C- Aid area: Including help and search and rescue in disaster situations.

In order to reduce the possible adverse effects of policies and economic and development programs on the welfare and social security of people and to avoid inflicting shocks caused by any of the above mentioned policies, the trustee of comprehensive social security is involved in economic decisions, particularly in negotiations to determine the minimum wage. The trustee of comprehensive social security would also participate in the Economic Council, High Employment Council, Supreme Labor Council, Money and Credit Council, Medical Services Insurance Supreme, High Council of Health and High Family Council, with the right to vote.

Principles and policies of the comprehensive social security system are as follows:

A- Policy of Universality: Universality means providing all of the various services that are stipulated by the law.
B- Policy of adequacy: Where the minimum basic needs of the public will be met, and in the second phase, quantity and quality of services would be improved.
C- Comprehensiveness policy: Based on this policy the services of the social security must be provided and guaranteed for the whole nation.
D- Preventive policy: Prevention policy is applied to all three areas of insurance, support and relief and the needs for effective coordination with other organizations is emphasized in this policy, so that efforts to prevent the emergence and spread of deviance and social problems is the basis for action as a inter-sectoral coordination policy.
E- Empowerment policy: This means to reduce application of methods where the needs are met directly and, reciprocally, means to increase individual and collective abilities to meet their needs by themselves.
F- Entrepreneurship policy: This policy is a non-supportive mechanism where through creation of employment bases for the individuals, the meeting of their needs becomes possible and it also means that welfare/well-being services are provided if the recipient completes certain commitments.
G- The Active Support Recipient Seeking Policy: Realizing individuals' rights through utilization of comprehensive statistical and information systems with emphasis on human dignity and rejecting humiliating methods.
H- The government would guarantee all rights of members and covered individuals, in line with the legal obligations of organizations, institutions and insurance funds. The government is obliged to take measures to provide the required financial, credit and structural arrangements in this regard.
I- Provision of liability insurance funds for members and individuals covered, will be cone based on justice and proportional to extent of participation level (based on duration and amount of payments), and inputs and outputs will be adjusted based on insurance calculations.
J- Organizations, institutions and funds of the social security systems are of a commitment nature and the insured's right to the funds is restricted to reception of obligations stipulated by the law.

Note: Since the government's resources are limited in each of the three policy areas (adequacy universality and comprehensiveness), the government is obligated to incorporate these triple policy areas in the implementation process of the national development programs.

6-5 Insurance and Pension Funds

Insurance and pension funds are responsible for provision of health (medical services) and livelihood of the insured persons in their old age period. Based on retirement laws and regulations, every person who is eligible for retirement, will benefit from social security insurance, including retirement pension, medical health insurance and other assistance and welfare services, sufficient to get by.

Although some individuals might retire after 30 years of working or apply for early retirement before they reach the age of 60; the majority of people retire when they reach the legal age of retirement (60 years for men and 55 years for women). In other words, a significant portion of retirees are elderly persons whose spouses also benefit from pension and health insurance services.

Based on reports by pension funds, the number of retirees covered by Social Security Organization at the end of 2008 was nearly 845,000.And number of retirees covered by the Civil Servant Pension Fund who were over 60 years old was nearly 350,000 people. Moreover, the number of retirees' spouses who are often in the old age period (the accurate number is not available) should also be incorporated into these statistics.

Apart from these two insurance organizations, around 20 state pension funds affiliated with organizations and executive agencies of the country cover proportions of the population. However, there are no well-documented official statistics as to the number of the elderly who benefit these kind of insurance services.

6-6 Ministry of Health and Medical Education

This Ministry is the main responsible authority for the health of the society and it takes measures according to the responsibility it has to preserve health of the citizens. The Ministry has also taken measures on the elderly health. With establishment of the "Office for Elderly Health" in the "Health Deputy" of the Ministry, the issue of elderly health has been focused on. In addition to provision of a variety of health care and treatment services to the elderly, plans and special services for the elderly have been implemented by this Ministry. The most important of which are as follows:

- Implementing the program for promoting "healthy lifestyle during old age" and provision of standard training/education based on the needs of the elderly. This program began in 2003 based on the two national studies on the elderly in 1998 and 2002. Following those two studies, a technical team developed a four-volume collection books on healthy lifestyle in old age, based on basic needs of the elderly. After two training courses for universities staff experts were held, the collection was submitted to the universities to establish training groups to train the elderly accordingly. The objectives of this program were simply training of the elderly and up to 2006, about 30% of the elderly had received the training. In the first phase, as expected, the program faced challenges that were amended in later stages. Some of these challenges are as follows:

- It was unclear which volume of the four-volume collection was used to train the elderly.
- Lack of clear and descriptive indicators about the trained elderly.
- Lack of an approach toward this educational plan as an independent program.
- Lack of adequate training textbooks and sources, which should have been made available to the elderly.

Considering the issues, the "Office for Elderly Health" collected comments from the executive directors of the program at universities and arrived at the conclusion that for training activities to be successful and acceptable to the elderly; they should be based on their needs and problems and be followed until changes in behaviors were observed. Based on this lifestyle modification, as a result of the educational goals of the program for promoting, "healthy lifestyle during old age" should be pursued to realization of changes towards a healthy lifestyle.

Therefore, the educational standards of healthy lifestyle education and the necessary tools for evaluation of the trainees, identification of elderly people with persistent knowledge, identification of the elderly with changed behavior and monitoring the program were designed and utilized. This standardization was implemented through 3 training programs for specialists in universities active in elderly activities task forces.

The program for promoting "healthy lifestyle during old age" started late 2007 by filling questionnaires with 16 questions regarding the most common problems in the 60 to 69 age group. After reviewing the questionnaires, the common health problems in each region were identified, and then the educational topics were set and classes were held since early 2008. The most common identified problems in 72 selected cities were joint pain and dental problems.

Based on national estimates, by the end of 2008, approximately 100% of the elderly identified with common problems should have been covered by the trainings. However, only about half of them received the training. Out of the total number of elderly who received the training, 39.1 percent were males and 60.7 percent were females. Out of the total number of elderly who received the training 19.4 percent were literate and 80.4 percent were illiterate. Out the total number of elderly who received the training 10.9 percent lived alone and 89.3 percent lived with a partner. Out the total number of elderly who received the training 49.7 percent were in the 60 to 64 age group and 51.1 percent were in the 65 to 69 age group.

Monitoring of "healthy lifestyle during old age" classes in later stages

The goals of the programs included: increasing the percentage of elderly with improved behaviors in line with training received through healthy lifestyle program; increasing awareness and increasing the proportion of universities that have educational teams consisting of trainees and educated teachers in order to transfer the healthy lifestyle concepts to the target group and also increasing the percentage of families with heightened awareness on topics such as healthy lifestyle during old age, respecting the elderly, importance of a healthy and independent old age period.

According to the program, a total of 2,160 Health Houses (30 Health Houses in each city) and 720 Urban Health Centers (10 centers from each city) were to be monitored; out of which 902 Health Houses and 253 Urban Health centers were actually monitored. Results of the final review of the monitoring check list data regarding the extent to which the program standards/criteria were observed

in healthy lifestyle training classes revealed that the lowest percentage in rural areas was due to the lack of equipment in the teaching classes such as blackboards/whiteboards, markers and books. Moreover, the low of percentage of safety indicators in rural areas due to shortage of lighting, heating and air-conditioning equipment was reported. It should be pointed out that output indicators of the class in this program included the following: observed physical factors, the necessary equipment, observing safety precautions, audience with standard characteristics, conducting needs assessment, conducting pre-test, preparing lesson plans, teacher accountability and the final test in urban health centers and health houses.

Implementation of the "Integrated and Comprehensive Care for the Elderly" programme:

In 1998 and 2002 two national surveys were conducted on the status of the elderly and later a study about 250 common diseases in the country by age specific distribution in both sexes in 2003 was also carried out. Based on the latter study, the burden of disease data in each age group was extracted, which became the basis for incorporating priority diseases/disorders in the "integrated care for the elderly" program. The plan was included in the agenda in 2005 and was implemented as a pilot study in 4 cities in 2006, and was expanded to 17 cities in 2007. Some of the objectives of this plan were: (1) determining implementation problems and eliminating them; and (2) the efficiency level of the program, at least 12 months and at maximum 36 months, after implementation and revision.

As a result of the implementation of this project, by the beginning of 2008 nearly 55,000 elderly were covered. Based on the outcomes of the program, until the end of 2008, the most prevalent diseases among the monitored elderly persons included: risk of cardiovascular disease (25 percent), arthrosis (21.5 percent) and hypertension (18.5 percent); and the least prevalent diseases were tuberculosis and colorectal cancer (1 percent) and dementia (4 percent). The program is planned to be implemented gradually and would have nationwide coverage by 2016.

- Performing the elderly health screening plan
- Providing training on geriatric medicine and elderly care to all levels of medical human resources, from doctors to health workers (National Strategic Programme Document)

Acting as the head of the National Council for the Elderly, the Ministry of Health is one of the ministries that are active in ageing and elderly-related issue. The Office for Elderly Health is active in the Bureau of Family Health within this ministry. In the Bureau of Family and Population Health, the following activities are being implemented:

A) Creating sensitivity and raising public awareness on importance of population ageing, strengthening level of reverence and respect for the elderly and strengthening of intergenerational relations via:

1- Briefing IRIB's steering committee on the priorities of elderly health programs
2- Celebrating the International Day of Older Persons
3- Organization of [relevant] meetings and seminars

B) Healthy lifestyle training

Based on the "death study" in four provinces in 2000 and in the ten provinces in 2001, the most common causes of death in the 50 years old and over age group were cardiovascular disease, cancers, respiratory diseases, and accidents. Based on the national study of the status of the elderly population the most common disorders or diseases were movement disorders, dizziness/vertigo, hypertension, angina pectoris, vision and hearing problems, urinary problems, diabetes and etc. After reviewing the course of disease in the above cases, the types of interventions at various levels of prevention were determined. At the first level, training individuals on healthy lifestyle throughout life including old age period is of great importance. Therefore, these recommendations have been collected in a four-volume educational series of books, including topics such as nutrition and exercise recommendations for the elderly, dealing properly with the common problems like bone and joint disorders, flatulence and constipation, dental hygiene, incontinence and bladder control, menopause, memory loss, retirement and etc. The books are designed as self-learning material and the target group is the elderly. Family health managers/authorities and health staff have been trained in this field and the knowledge is gradually transferred to the elderly.

C) Development of standardized protocols for provision of first and second level services to the elderly:

Dealing appropriatly with the problems and priority diseases that affect the elderly in an effective and appropriate manner is not just limited to educating them on healthy lifestyle modification and requires designing diagnostic and therapeutic interventions. This designing includes determining the types of intervention, academic standards of the intervention, frequency of delivering services, appointing qualified persons to deliver/provide services, and determining levels and etc., which are currently being carried out. After completion and final approval of the protocol and after it is piloted; the program will be announced for nationwide implementation.

D) Follow-up on training of qualified human resources specializing in geriatrics and healthcare of the elderly, and incorporating relevant material in syllabuses and curriculum of other fields of study, which has already been included in constant retraining programs for physicians.

6-7 Medical Sciences Universities and Research Centers

Measures that have been taken in universities with medical sciences programs are as follows:

- Setting up post-graduate programs in geriatric nursing, geriatric MPH and geriatrics PhD.
- Launching specialized ageing clinics that provide services in this field such as geriatric clinic in Ayatollah Taleghani Hospital as a daily aging clinic, Sina and Rasul-e Akram Hospitals, Rouzbeh Hospital and geriatric medicine clinics in Zahedan, Shiraz and etc.

6-8 **Municipality**

In developing countries a greater proportion of population moves towards ageing than in developed countries. Within 5 decades, over 80 percent of the world elderly will live in developing countries which is comparable to the 60 percent in 2005 (Shariat, 2012: 13)

Submission of "Aged Friendly City" bill

According to this bill, Teheran municipality is obligated to incorporate the following into its agenda in coordination and cooperation with other relevant organizations with participation of the citizens: Focusing special attention on making the public transportation more appropriate and provision of a standard specific area or seats for the elderly; preparation, communication and supervision over proper enforcement of standards and their improvement in order make public and private places spaces and routes more appropriate –particularly in the field of urban equipments in places such as bus and metro stations, subways, urban transportation terminals, parks, sanitation facilities and residential and commercial structures. Finally provision of special welfare-related, cultural, sports and recreational services and facilities and their use of public transport systems in the framework of the reverence plan of Tehran municipality.

- Installation of sports equipment for special use by the elderly and individuals with physical and movement impairments throughout the city
- Setting up of 374 “Jahandidegaan” clubs throughout Tehran neighborhoods with 75,000 members (Performance report of Health Department of Tehran Municipality, 2011, p. 18). Members in these clubs which include religious, recreational, cultural, educational, scientific, artistic and etc. Committees participate in various social activities (Mehdi Amiri, Deputy for the Health Department of Tehran Municipality)
- Cultural centers for the elderly
- Preparation and distribution of "Elderly Dignity “cards. This smart card which is issued to persons aged 65 years and over, provides limited benefits such as discounts when using buses, subway and swimming pools and etc. for the holder.

6-9 Kahrizak Charity Institute

There is only one charity institute in the field of elderly care in Iran. Construction work on the elderly care center, which was made possible through efforts of Dr. Hakimzadeh, launched on July 24, 1973; the birthday of Fatemeh Zahra (P.B.U.H.), in a 28,000 square meters field. The center expanded to a 420,000 square meters venue, and is currently home to various multi-functional buildings such as dormitories for males and females, elderly with disability workshops, a physiotherapy facility, a special building for M.S. patients, a sports salon, greenery and a water feature – all that disposal of the support seekers. Construction of many of the current buildings and facilities have been completed through donations by charitable individuals and named after them.

Chapter Seven

Review of Ageing Studies in Iran

7-1 Introduction

Reviewed resources in this section contain articles, dissertations and studies that are published in the format of books. Places to refer to these resources are varied and include websites, libraries, organizations and other relevant bodies. The reviewed resources are 189 cases that directly addressed the field of ageing studies.

7-2 Studies conducted in the field of Ageing in Iran

The references and resources, in terms of content, are divided into two groups of micro-level and macro-level studies. The micro level studies include those that have been conducted using sample surveys and individual data analysis, in which the unit of analysis has been the elderly. Using aggregate data, which was mainly obtained from census databases, the macro level studies are not about the individuals but rather have studied the demographic-economic and social aspects of ageing by investigating the age structure of the population.

Individual-level studies constitute128 in total (about 67 percent of the total studies) and macro-level studies amount to 61 cases, approximately 33 percent of the total studies. Both of these two study levels have also been reviewed from the perspective of thematic groupings. Table 12 shows the distribution of each of these two levels and their subgroups. At the micro- level, the greatest contribution is allocated to the field of mental health and depression (28 percent), followed by quality of life (18 percent). In addition, the lowest percentage of studies conducted in the field of ageing is related to elderly leisure time, gender inequalities among the elderly (1.6 percent) and elderly abuse/mistreatment (2.2 percent) (Figure31). At the macro level, the majority of studies are based on the economic consequences of population ageing (49.2 percent) and trend of the age structure of the population (23 percent). The lowest percentage of studies has been carried out on factors affecting the changes in the age structure of the population (6.6 percent) and population ageing and related policies (8.2 percent) (Figure54).

Regardless of the level of the studies, the mental health and depression studies (19.6 percent), those which are associated with the economic consequences of changes in the age structure of population (15.9 percent), studies related to the quality of life in the elderly (12.7 percent) and those related to the trend of the age structure of the population (7.5 percent) had the greatest proportion of elderly studies in Iran, respectively (Figure54).

Table 12: Frequency and percentage of studies by subject in micro and macro level, 2012

	Topic	Number of Studies	Percentage to Each Level	Percentage to Total
Micro Level	Leisure Time	2	1.6	1.1
	Gender Inequality/Disparity	2	1.6	1.1
	Abuse of Elderly	3	2.3	1.6
	Physical Health	4	3.1	2.1
	Successful Ageing	4	3.1	2.1
	Position in Household	5	3.9	2.6
	General Health	7	5.5	3.7
	Self-sufficiency	7	5.5	3.7
	Nutritional Status	7	5.5	3.7
	Life Satisfaction	8	6.3	4.2
	Illness Status	8	6.3	4.2
	Health Behavior Improvement	10	7.8	5.3
	Quality of Life	24	18.8	12.7
	Mental Health and Depression	37	28.9	19.6
	Total	**128**	**100**	**67.7**
Macro Level	Factors Affecting the Age Structure	4	6.6	2.1
	Population Ageing and Policies	5	8.2	2.6
	Demographic Consequences of Population Ageing	8	13.1	4.2
	Pattern/Trend of Changes in Age Structure	14	23.0	7.4
	Economical Consequences of Population Ageing	30	49.2	15.9
	Total	**61**	**100**	**32.3**

Table 12 demonstrates the distribution of studies in relation to other features. There is no difference between the studies in terms of sex; most of them have been conducted for both sexes. Since the age structure of the whole population, its changes and the following implications are macro-level studies. The total population has been addressed and, therefore, sex differences have not been discussed. Moreover, most of the macro-level studies have been conducted at the country level, while in the micro-level studies have mostly been carried out at provincial level, since the researcher was required to navigate. Most studies have been conducted in urban areas of the country and a very small number of them have been carried out at rural level.

Figure 54: Percentage of studies by subject, 2012

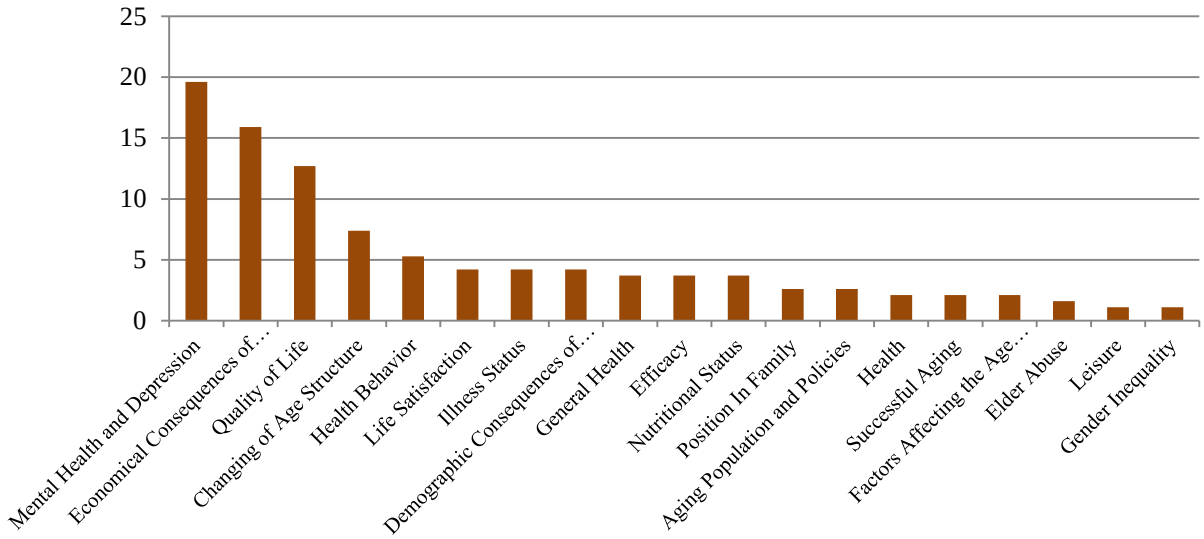


Figure 55: Percentage of studies by subject at the micro level, 2012

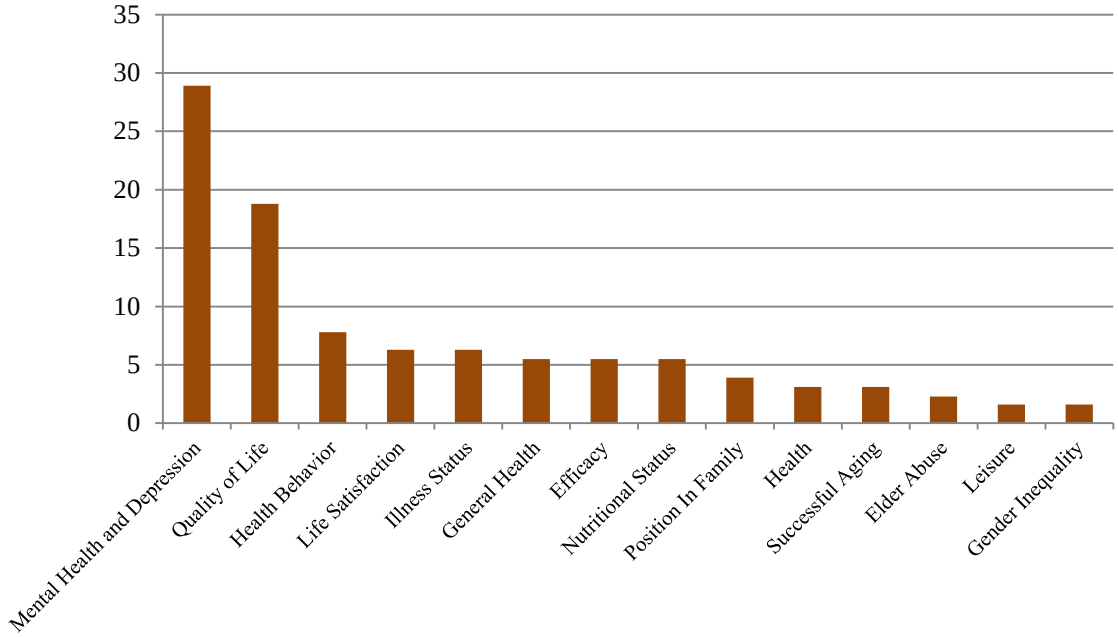


Figure 56: Percentage of studies by subject at the macro level, 2012

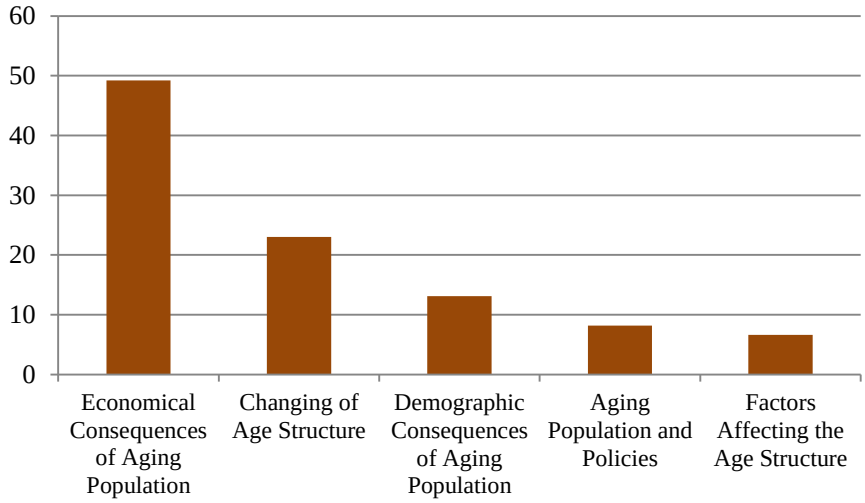


Table 13: Percentage of studies by publication and level of analysis, 2012

Level of analysis	No. of studies	Target population			Publication			Coverage	
		Male	Female	Both	Article	Book	Dissertation	National	Provincial
Micro Level	128	4	5	119	113	1	14	1	126
Macro Level	61	0	0	61	59	0	2	61	0
Total	189	4	5	179	171	1	16	62	126

	No. of Studies	Publication Date				Region Of Study		
		Before 90	90's	20's	After 20	Urban	Rural	Both
Micro Level	128	0	1	91	36	113	6	9
Macro Level	61	0	0	29	32	0	0	61
Total	189	0	1	119	68	112	6	70

Conclusion and Recommendations

Issues on characteristics and challenges of population ageing in Iran are mentioned in the Executive Summary section of this report. Conclusions can be drawn on every single item and recommendations for planning in the field of ageing can be provided accordingly. The most important points have been selected and will be elaborated here.

1. Before any demographic-social consideration in planning activities are discussed, it is recommended that erroneous definitions regarding population ageing be corrected through lectures and scientific seminars, bulletins, or through organization of workshops for managers and policy makers which are involved in preparation and implementation of demographic policies. As it is elaborated at length in this report, individual ageing and population ageing are two interconnected yet distinctive demographic phenomena. It must be kept in mind that planning for improvement of quality of life, welfare and wellbeing of the elderly is based on population size and demographic and socio-economic characteristics which have their roots in the former phenomenon. While the aspect that relates to decline in fertility level, as it is discussed in population policy, reflects on the effect of this demographic behavior on age structure and disruption in the proportion of various age groups, or population ageing. Individual ageing is the result of increase in survival chance and population ageing is the outcome of the demographic transition of societies. Both aspects, as elucidated in United Nations bulletins and reports, are inevitable, unprecedented, pervasive and cannot be reversed.

2. Since individual ageing is the inevitable result of increase in the survival chance, which in turn is the result of the efforts by nations to increase life expectancy and longevity of people, the aged population of Iran is expected to increase in number up to 2060. The policy-related gist of this fact is that the increasing trend in the number of the elderly is unchangeable. Based on United Nations projections, the 60 years and over population which stood at 6.3 million in 2011 will reach approximately 11 million in 2025 and by 2050 it will nearly reach 30 million. These figures are totally independent of any increase or decrease in fertility levels that would occur in Iran and, therefore, program must prepare the society for a population with such traits and the horizon for the programs must be set to 2050.

3. Old population, or oldest old, that encompasses the 80 years and over age group, according to the latest census in Iran (2011) was over 919,000 and United Nations projections indicate that regardless of changes in fertility levels this number will nearly reach 5 million in 2050. This increase means the population growth rate, which stood at 3.5 percent, and will reach over 4 percent by 2050, will be more than 6 percent in the last two decades of the twenty first century. Since the burdens on population –social burdens, burden of disease, disabilities and health issues– are much higher for this age group of the elderly compared with other age groups, special attention must be focused on this group in planning.

4. Iran’s population is on the threshold of entering the age structure transition and ageing. Elderly population ratio and ageing index all point to this fact. However, rural areas have entered this transition period earlier than urban areas due to youth migration. If we consider the elderly population as the judgment criteria in provinces with lower fertility rates such as Gilan and to some extent Mazandaran, Semnan and Isfahan and provinces that people migrate

from, such as East Azarbaijan, Hamedan, South Khorasan, this ratio is higher and in some provinces with lower fertility levels that attract migration, like Tehran, this ratio is lower.

5. There are major differences among provinces of the country in terms of ageing indices, which requires attention in planning and programming. These indices are affected by fertility and mortality levels as well as migration, which results in an increase of the ratio of aged proportion and ageing index in provinces that people migrate from, and results in decrease of the elderly population proportion and ageing index in provinces, that are the destination for migration. Nevertheless, from a social planning and ageing policy making standpoint the important issue is that the target groups must be observed and assessed regardless of these demographic indices. Obviously the most populated provinces host the largest elderly populations as well. However, the findings of this study indicate that these provinces might not have the largest population of vulnerable elderly. Tehran province has the largest elderly population, yet, level and quality of life of these aged individuals is relatively better than the situation of the elderly in less developed provinces. This difference is a significant criterion in regional planning and policy making for the elderly.

6. The decrease in sex ratio of the elderly cohort has continued in the recent decades and will continue to decrease in the future, and would feminize the ageing phenomenon. Therefore, considering the significance of elderly sex in the status and quality of life for Iranian elderly, programs must be designed and formulated by sex disaggregation and gender sensitivity. For instance, economic capabilities of older men and women in Iran are quite different and women usually face economic hardship when they lose their spouse, because 80 to 90 percent of them have never been employed in any former period in their life and they do not benefit economic independence. As a result –and to some extent due to social limitations– they do not possess any assets including properties, and this makes them more vulnerable in comparison to the male elderly. Issues such as difference in health status especially mental health, disease patterns etc. Can also be added to these detrimental factors.

7. As there is very strong association between literacy/education, quality of life and wellbeing among the elderly, existence of the high ratio of illiterate women, is a very serious challenges at present and in the future. Any type of welfare and quality of life improvement program must incorporate and target these vulnerable group. Moreover, differences between provinces in terms of literacy rate are extremely drastic. Based on the findings of this report, while literacy rate among elderly females in Ilam province is approximately 5 percent, this rate is around 50 percent in Tehran province and in Alborz province is over 40 percent. This and other social variables pertaining to the elderly highlight the necessity of regional planning for this group. However, such differences cannot be observed as far as the marital status of women is concerned in the country's provinces. That is in all provinces more or less 50 percent of elderly females are unmarried.

8. Apart from elderly females who are constantly unhopeful of finding employment in the stagnant labor market, elderly males are still highly inclined to remain in the labor market. This characteristic, aside from reflecting this population's need for a wage gained from economic activity in this period of their lives, is an aftermath of the deficiency and low coverage of pension systems and formal support provided to the elderly in need. Since the coverage of pension funds directly depend on their investment during employment, extension of current pension system for the current generations especially females is not possible,

however, it is necessary to focus on subgroups of the elderly in income compensation plans and prevention of increase in the number of elderly living below poverty line in the formal support system. Furthermore, there are significant provincial differences in economic participation rate of the elderly some of which are a result of difference in economic and employment structures in these regions. For instance, in the somewhat affluent province of Gilan, where the agriculture sector has a greater share than service sector in the economy, high participation rates of the elderly is in fact due to the need for elderly labor in these provinces to compensate for the migration of the youth to the urban areas.

9. Living arrangements of the elderly has been subject to important changes in the recent decades and considering the recent and probable future changes in Iran, especially fertility below the replacement level and late marriage, probably the ratio of the elderly who live alone will increase. Currently, nearly 6 percent of elderly men and over 20 percent of elderly women live alone. The increase in the ratio of this group of the elderly in all countries across the world, especially societies where a majority of the elderly rely on informal social support and kin networks, is one of the major challenges when it comes to planning in the field of social welfare and wellbeing. In order to improve the quality of life for these elderly, it is necessary to develop formal social support systems and institutions for keeping the elderly with an eye on the experiences of advanced countries. Since current generations of the elderly benefit from good family capacity for support, the attention must be focused on supporting children and relatives for provision of this kind of support in governmental programs and support activities.

10. A comparison of various types of received support by the elderly reveals that kin network plays a more significant role in comparison with neighbors, friends and colleague support networks. Apart from received emotional support where the elderly seek to fulfill their needs in non-kin networks as well, in all types of support especially those that require closeness and intimacy such as long-term care and nursing, relatives especially children is the dominant social support network for the elderly. Results of elderly social support networks studies in Iran indicate that current elderly cohorts benefit high informal social and kin support capacity. Therefore, due to high fertility with a higher chance of survival, even in provinces where migration patterns of children are intense, the elderly have at minimum access to one son and one daughter for support. The implication of this situation for social policies is that in welfare programs for current elderly cohorts efforts must be focused on realization of these potential capacities. While with reduction in number of children this capacity will probably diminish for future generations and this limitation puts more emphasis on the efforts by the government to compensate for such deficit.

11. If we separate the kin support networks for the elderly by source and member, findings of studies mentioned in this report indicate that spouse for male elderly and after that children and spouses of children, play in irreplaceable role in supporting the elderly parents in the current elderly generations. At present formal social support system and organizations and institutions have not developed sufficiently to match the size of the elderly population. it is imperative for governments to support children so that they can provide care and support to their elderly parents. For instance, in the case of economically challenged elderly persons, provision of financial support by governments, and more attention to the needs of caregivers can probably increase their motivation to provide instrumental support and decrease the need for care centers and homes for the elderly. Moreover, these programs for future generations of

elderly, who will probably face more limitations in terms of kin support networks, and the current advantage, would be a serious challenge in the future.

12. Gender inequality among the elderly in existing social support networks is another challenge for programs aimed at social welfare and quality of life improvement programs. Findings provided in this report indicate that elderly men –90 percent of who are married– have an important support source in their old age period, which is their spouse. Spouses generally have a high potential for provision of any kind of emotional, care and transport support. However, the spouse is missing from the social support network of nearly half of elderly women and nearly all members of this elderly group rely on their children. Children will be very few for the future generations due to the decline in fertility. It is recommended in this report that the elderly groups be considered in social welfare programs based on social priorities in addition to health priorities. For instance, the elderly women who are illiterate, have been economically inactive during their youth, and probably lack any kind of economic capability, they are also unmarried or have lost their spouse or have no children due to various reasons, and if they suffer illness or any kind of health defect, must be priority number one in formal social support and wellbeing programs.

13. The sex composition of children is of great significance in welfare programs for elderly at least from a social angle. Besides specific cultural characteristics which have survived from the past in stem families in Iran, such as importance of male children and importance of the oldest child, due to gender-related capabilities and distinctions the male children are generally expected to come to the parents aid in case of financial needs, while the female children are a good support source for nursing and provision of care to parents during illness. The decline in fertility reduces the probability of having children from both sexes and, therefore, for some groups of future elderly, one of the sexes will be lacking from the family network. This is an issue that should not be neglected or looked over in social welfare programs for the elderly.

14. The State Welfare Organization is responsible for provision of accommodation to the elderly throughout the country via establishment of homes for the elderly, yet, it has not taken any measures to standardize its elderly-related services and care in its centers. Moreover, creation of various elderly services based on the needs of the elderly in the country and based on international standardized protocols has not been realized, and this will turn out to be a serious shortcoming and deficiency on this organization's part in the near future.

15. Various care services matching the needs of the elderly might be incorporated and included into relevant laws and programs, but they are not being provided appropriately at the moment.

16. Since services provided by the State Welfare Organization have not yet been adapted to the international standards, it is therefore not possible to create and expand newer and more diverse services in the country.

17. One of the other challenges the State Welfare Organization faces is payment of cash subsidies to centers for the elderly which is not calculated based on the basis of the most recent rates of service and care provision and payment of costs of such services. Not only does this fail to help establishment and expansion of various centers but will also result in the intense reduction of quality of services provided by them, and this in turn would make this organization face huge challenges in this regard in the near future.

18. Another challenge for the State Welfare Organization is the lack of infrastructure for payment of elderly insurance compensations (basic and supplemental elderly insurance) which has made establishment and expansion of various services and elderly care such as home care, assisted living, adult day care, homes for the elderly and nursing homes more complicated. However, this is an ultra-sectorial activity that requires cooperation by at least two organizations: the Ministry of Cooprative, Labar and Social Welfare, Social Security and Insurance institutions.

19. Another serious problem which hinders establishment and further development of elderly care services in the country is the lack of a scientific and appropriate approach towards insurance payment system for the elderly (basic and supplemental). Books and scientific literature on old age and geriatrics indicate that today in all countries of the world costs of a large variety of services – care, medication, aid supply and clinical and paraclinical tests required by the elderly are calculated and estimated during the decades of their lives based on the Comprehensive Geriatric Assessment (CGA) and the states are bound to implement this after their citizens reach retirement age of 65 years old and above. However, this has not yet been realized in our country, which is the main hindrance to implement of elderly program in Iran.

20. Among other serious problems in the elderly program in the country is lack of attention to establishment and observation of environmental standards in physical features, spaces, residential homes and homes for the elderly (elderly friendly city). This diminishes the possibility of service provision to the elderly, their chance of social participation and has caused problems for their caregivers.

21. Currently, access of researchers to data and findings of elderly studies is very limited, and the data is not up-to-date. In terms of data collection and dissemination the following points are recommended:

    A- Existing data, with any quality, be made available to academicians and researchers in a timely manner, and comprehensive and serious programs to collect elderly-related data be formulated and prepared so that all aspects and angles of elderly life is covered.
    B- Sampling and data collection is scattered and in many cases researchers are unaware of existence of data on any aspect of the life of the elderly. Therefore, it is suggested that before the studies and research become too numerous to organize, interagency efforts be made to unify them and communicate them to the researchers.

22. With all problems and shortcomings in the current status of the elderly program in the country taken into account, implementation of pilot projects in the country in the following frameworks is necessary:
    A- Project for correction of the infrastructure for elderly insurance services and medication, treatment and care and elderly centers costs;
    B- Project for establishment of database including population/demographic data;
    C- Implementation of a national-countrywide elderly health assessment including data on finding patients and screening, common chronic diseases and cancers, medication, costs, insurance services, centers, formal and informal caregivers, elderly services, standards for residential spaces, care centers and urban spaces;

D- Establishment of a sample/model elderly friendly city in the country; establishment of residential complex for retired elderly in the country; establishment of at least one or more facilities for provision of various elderly services; establishment of at least one specialized geriatric hospital, and establishment of a center for dementia patients based on international standards, so that it can be a sample/model for establishment and expansion of such centers and to encourage the private sector and/or charity organizations in the country.

23. A large proportion of illnesses and health problems of the elderly is due to chronic and non-communicable diseases. These kinds of diseases essentially require prolonged and expensive treatment. Therefore, to reduce the side effects of these kinds of diseases among the elderly, provision of health care services is a high priority. Thus, designing and implementation of elderly health programs and preparation of service packages for prevention and old age care that are provided through insurance support must be considered by health sector policy makers as a fundamental right of the elderly, and resources must be allocated accordingly.

24. Creation of self care programs and training on the subject in order to improve elderly health must be an integral part of service provision system at various levels of the health-treatment network in the country (appropriately and sufficiently developed throughout the country). Therefore, it is necessary to utilize modern and effective training methods for the elderly and their family members to perform self-test activities.

25. Since a great deal of illnesses and health problems of the elderly start considerably before they enter this period designing interventions and programs to prevent and treat old age illnesses must be paid attention to years before the elderly actually get old. Thus, promotion of healthy life style including healthy and proper nutrition (reduction of consumption of fats, sugar and salt), sufficient physical activity, and observation of personal hygiene and refraining from smoking must be considered and incorporated into the elderly health programs.

26. As psychological and social problems are among other major problems for the elderly, improvement of mental and social health among them is another important area which should incorporated as integrated programs into the elderly health program. In particular, social support policies and programs necessary for vulnerable groups such as women, rural area residents and outskirt dwellers are among the highest priorities to improve health level among the elderly and reduce inequity among members of this group.

27. Attention must be focused on designing a comprehensive and targeted program/plan for empowerment of the elderly in order to perform self-care as another strategy in the program for provision of services to the elderly.

Annex: Definition of Concepts and Indicators

Age and Ageing

Definition of the age that indicates the onset of ageing is usually a function of the level of mortality and the average life expectancy of a population which may change through time and varies between male and female. Conventionally, two criteria are used to answer the question "just how old is elderly?" The first is the percentage of the population 65 years of age or over based on the latest census data and the second is the age of retirement. Both criteria are poor and unacceptable for a population which is experiencing changing mortality rates and the elderly economic participation rate, especially among elderly males, is declining. Estimating the age at which one can explain how old is an elderly man/woman, by using life tables for 1951 and 1991 in Canada, Denton and Spencer (1996) concluded that if a single definition is required, and especially if the definition must be restricted to five-year intervals, for statistical convenience, then 70 is the obvious choice for the 1990s. They have also pointed that "Analyses of population ageing should recognize that a constant definition of "old" is unrealistic for comparisons over long periods, and at the very least should consider age-sex distributions within the older population, whatever may be the definition chosen as the lower bound for that population" (Denton and Spencer 1996:12).

Although according to Denton and Spencer's theory a large variety of considerations are necessary to define 'old age'; it should also be mentioned that a consensus on the same cut point is necessary to compare the differences of magnitude and speed of population ageing among nations. According to UN estimations in the 2012 revision, life expectancy at birth has been varied from less than 50 years in 18 countries to more than 78 in 13 countries for males, and from less than 50 years in 11 countries to more than 80 years in 44 countries for females (UN world population prospects, revision 2012). Given this various levels of mortality, it is inevitable to use same criteria of age cutoff. As it is explained by WHO "most developed world countries have accepted the chronological age of 65 years as a definition of 'elderly' or older person, but like many westernized concepts, this does not adapt well to the situation in Africa. While this definition is somewhat arbitrary, it is many times associated with the age at which one can begin to receive pension benefits. At the moment, there is no United Nations standard numerical criterion, but the UN agreed cutoff is 60+ years to refer to the older population"[2].

Moreover, ageing of a population must also be distinguished from individual ageing or senescence and from an increase in the duration of human life or increased longevity which is the result of improved standards of living and of medical discoveries.

Total Fertility Rate (TFR)

The Total Fertility Rate (TFR) is the sum of Age-Specific Fertility Rates over the whole range of reproductive ages (15 to 49 for females) for a particular period (usually a year). It can be interpreted as the average number of children a woman would bear over the course of her lifetime if she were to experience the fertility rates of the period at each age.

Life Expectancy

Life expectancy at birth is the average number of years a newborn would live if current age-specific mortality rates were to continue.

[2] See the link: http://www.who.int/healthinfo/survey/ageingdefnolder/en/index.html

Ageing Index
Is the number of persons 65 years and over per hundred persons under age 15.

Old Dependency Ratio
Is the number of persons 65 years and over per one hundred persons 15 to 64 years.

Crude Birth Rate
The ratio of live births in a specific period (usually one calendar year) to the average population in that period (normally taken to be the mid-year population). The value is conventionally expressed per 1000.

Crude Death Rate
The ratio of deaths in a specific period (usually one calendar year) to the average population in that period (normally taken to be the mid-year population). The value is conventionally expressed per 1000.

Population Growth Rate
A population's growth rate is the increase (or decrease) in the number of persons in the population during a certain period of time, expressed as a percentage of the population at the beginning of the time period. As it is possible to calculate the growth rate for the total population, it is calculated for the elderly population and any other age group as well.

Literacy Rate
The literacy rate of a particular age group indicates the proportion of persons in that group who can read and write to the total population of that age group.

Percentage of Employed Elderly
The percentage of persons 65 years old or older who have worked at least one hour during the previous week.

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

Mother-Daughter Ratio
This index has been used as an indicator to measure the burden of aged population, mothers, to the potential caregiver (their adult daughters) and shows the average number of mothers aged 65 years and over per one daughter aged 40 to 64 years old. The basic assumption for the age interval between mother and daughter is nearly 25 years, known as the mean length of a generation. This is calculated by the following formula:

$$\left[\frac{n_{65-70}}{n_{40-45}} \times \frac{n_{65-70}}{n_{65+}}\right] + \left[\frac{n_{70-75}}{n_{45-50}} \times \frac{n_{70-75}}{n_{65+}}\right] + \left[\frac{n_{75-80}}{n_{50-55}} \times \frac{n_{75-80}}{n_{65+}}\right] + \left[\frac{n_{80+}}{n_{55-60}} \times \frac{n_{80+}}{n_{65+}}\right]$$

Where Nx is the number of women in the indicated age group, and N65+ is the total number of women aged 65 and older. That is, in each of four "mothers" age group, the ration of that group to

women in the 5-year age group 25 years younger is calculated; then the weighted sum of these four ratios is obtained (Lee, 1994).

Sex Ratio

The sex ratio is calculated as the number of males per one hundred females in any age group including the elderly. The sex ratio indicates the ratio of 65 years and over, especially elderly males per one hundred elderly female.

Person-Years Lived

Total number of person-years lived by the cohort who have lived or died from age X to X+n. This is value is shown as nLx in life tables.

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