DEMOGRAPHY OF AGING

M. Nizamuddin

HEC Foreign Professor, University of Gujrat, Pakistan

Javed Sajjad Ahmad

HEC Visiting Professor, University of Gujrat, India

Fauzia Maqsood

Institute of Social and Cultural Studies, University of the Punjab, Research Consultant, University of Gujrat

Keywords: Aging Crisis, Age Specific Fertility Rate, Age Sensitive Policies, Age-Integrated Society, Average Annual Growth Rate, Baby Boom Cohorts, Challenges of Population Aging, Changing Population Structure, Co-residence of Living Arrangements, Declining Mortality Rates, Development Policies, Dependency Ratio, Demographic Transition, Demographic Equation, Dependency in later Life, Disability and Mortality, Double Aging Process, Extended Life Expectancy, Fast Aging Process, Feminization of Aging, Geriatric Care, Global Nursing Home, Healthy Aging, Implications of Population Aging, Intermediate Regime, Intergenerational Relationship, Labor Force Participation, Life Expectancy, Life Span, Maternal Mortality, Means Medium Variant Projections, Modern Regime, Mortality Tested Provision, Differentials, Multi-Generational Household, Old Age Long Term Care, Oldest-old, Pace of Population Aging, Patriarchal Society, Pay-As-You-Go Social Protection, Population Aging, Population Base, Post- Retirement Life, Primitive Regime,, Population Policy Psychological Implications, Pyramid, Rapid Aging, Reproductive Health, Replacement Fertility, Replacement Level, Sex Ratio, Sex Mortality Ratio, Shrinking Population,, Society for All Ages, Total Fertility Rate, Working Age **Population**

Contents

- 1. Introduction and Background
- 2. Global Ageing: An Overview of Major Trends in Developed and Developing World
- 3. Rapid Populations Ageing in Developing World
- 4. Demographics of Ageing: Major Determinants
- 5. Major Challenges of Rapid Aging for Public Policy
- 6. Changing Family Structure, Status of Women and Feminization of Aging
- 7. Problems and Needs of Aging Population
- 8. Financial and Fiscal Policies for Older Persons
- 9. Foreign Assistance and the Role of Civil Society
- 10. Growing Concerns for Public Policy in Developing Countries
- 11. Recommendations for Action

Glossary

Bibliography

Biographical Sketches

Summary

According to the UN estimates, declining fertility and increasing longevity are resulting in aging of population in both developed and developing countries which need serious attention of the governments. Worldwide, the number of people aged 60 and over will increase from about 600 million in 2000 to almost 2000 million in 2050. In developing countries as a whole, 60 year and above population is about 8 per cent and will increase up to 28 per cent by 2050.

Successes in reproductive health and family planning programs and improvements in health care services (low fertility and low mortality) have contributed towards population aging by enabling longer survival. Moreover, population aging in developing countries is taking place at a much faster pace than it did in developed world.

The problems posed by aging population constitute economic, social and emotional dependency of the older people. Moreover, elderly population is also likely to be affected by chronic diseases and disabilities. Hence, they pose a heavy burden on the national budgets in terms of their pension, improved living arrangements, health care cost and social needs. These issues have invited policy makers to revisit the old policies and formulate new policies and social protection programs for the aged.

In most developing countries, women constitute at least 55 per cent of the total aging population. Old women experience old age, mostly as dependents and vulnerable compared to men. Developing countries need to take urgent steps to address the concerns of aging population and to take preventive measures to ensure healthy and active ageing in the future.

There is a need to evolve a new paradigm to minimize the generation gap between the older people and young generation for social protection and to meet the growing needs of elderly population on priority basis

1. Introduction and Background

Population aging is increasingly being recognized as a process of major significance for all societies, and particularly for those in less developed regions, as they enter the twenty-first century. The concern for older persons emerged strongly in The First World Assembly on Aging, held in Vienna, (1982) when United Nations International Plan for Action on Aging in the enunciation of Principles for Older Persons and Targets on Aging for the year 2001 were adopted. It was further promoted by the General Assembly Resolution 46/91 of December 1991, which more explicitly recognized the importance of these issues in less developed regions.

The Programme of Action of the 1994 International Conference on Population and Development (ICPD) provided a major impetus for addressing this theme and further progress has been made through a number of international meetings identifying needs and initiating programs and projects. These include the recommendations of the ICPD+5 Technical Meeting on Population Aging held in Brussels (Cliquet and Nizamuddin, 1999), and the proposals for key actions for further implementation of the

Programme of Action of the ICPD in the Report of the Secretary-General for the 21st Special Session of the UN General Assembly. Recommended actions focused on fostering intergenerational dialogue and solidarity, gender sensitive research to meet the policy and program challenges of population aging, and the need to document catching positive experience of relevant policies and programs from the advanced nations and from those countries with relevant experience.

The Second World Assembly on Aging (SWAA), held in Madrid in April 2002, built upon the concept of a "Society for All Ages", set a milestone and called upon member states for changes in attitudes and adjustments in national and international policies, corporations and other organizational practices. The Madrid International Plan of Action on Aging that was adopted by the assembly, made several far reaching recommendations to the member states, such as:

- i. Provide opportunities, programs and support to encourage older persons to participate or continue to participate in cultural, economic, political, social life and lifelong learning;
- ii. Provide information and access to facilitate the participation of older persons in mutual self-help, intergenerational community groups and opportunities for realizing their full potential;
- iii. Older persons should be treated fairly and with dignity, regardless of disability or other status, and should be valued independently of their economic contribution; encourage the establishment of organizations of older persons at all levels to, *inter-alia*, represent older persons in decision-making;
- iv. Enable older persons to continue working as long as they want to work and are able to do so; make special efforts to raise the participation rate of women and disadvantaged groups, such as the long-term unemployed and persons with disabilities, thereby reducing the risk of their exclusion or dependency in later life; encourage appropriate social protection/social security measures for older persons in rural and remote areas;
- v. Ensure equal access to basic social services for older persons in rural and remote areas.
- vi. Assist families to share accommodation with older family members who desire it:
- vii. Encourage and promote literacy, numeracy and technological skills training for older persons and the aging workforce, including specialized literacy and computer training for older persons with disabilities;
- viii. Organize, as a matter of urgency where they do not exist, social protection/social security systems to ensure minimum income for older persons with no other means of support, most of whom are women, in particular those living alone and who tend to be more vulnerable to poverty; and
- ix. Set targets, in particular gender-specific targets, to improve the health status of older persons and reduce disability and mortality.

2. Global Ageing: An Overview of Major Trends in Developed and Developing World

In the year 2007, United Nations undertook a detailed global review of the progress

made since the Madrid International Conference 2002. The UN Population Division published a report, titled: *World Population Aging 2007*. The data of the report reflects the latest projections and revised estimates on population aging.

Declining mortality has improved survivorship among the middle aged and the elderly, further enhancing the prospects of extended life expectancy and contributing to the structural shift from younger to the older populations. Consequently, populations of older persons are not only growing numerically but also as a proportionate share of the total population. (United Nations, 2007).

The above mentioned figures indicate the proportion of the population aged 60 and over in the world population in 2006 and 2050. It shows that in 2050 the population of 60+ persons will be doubled, which is a serious concern for the policy makers and program managers in both developed and developing world.

Despite the increasingly widespread occurrence of this phenomenon, however, the extent of population aging at the end of the twentieth century varies widely between regions. The large proportions of older persons in the more developed regions have attracted a great deal of supportive concern as those 60 years of age and over reached 20 percent of the total population by 2006, and projected to reach a level of 32 percent by 2050(United Nations 2007). By contrast, relatively little attention has been directed to the rapidly changing population structure in less developed regions.

The issue of living alone in old age is also considerable as in more developed regions, there are only 13 percent men living alone at old age in 2006 compared to 32 percent women. In less developed regions these figures are 5 percent and 9 percent for men and women respectively. (See Table 1). Aged people 60 years or over, who are currently married, in more developed regions, 79 percent are men and 48 percent are women. In the less developed regions, situation is not much different having 81 percent men and 47 percent women married at this age. Thus, a large proportion of older women at age 60 and over are either widowed, divorced or separated, which of course put these women in vulnerable position.

Population aging has the following notable features:

- i) Population aging also causes changes in living arrangements resulting in increasing number of older people living alone(about 13% men and 35% women of older age in 2006, in Europe, lived alone(see Table 1)
- Population aging is particularly rapid among women, resulting in "feminization" of population aging (because of lower mortality rates among women). For example, in Asia, there were 10.4 percent older women and 8.9 percent older men in 2006 aged 60 years or over, or a sex ratio of 88 men for every 100 women (see Table 1)
- Since older persons have usually lower income and a higher proportion of them are living below the poverty line, population aging is associated with poverty, particularly in developing countries. (Gavrilov and Heuveline 2003)

	POPULATION AGED 60 YEARS OR OLDER								
Country or Area	Number (millions)		Percentage of total population		Percentage currently married	Percentage living alone	60 and above population Percentage in labor force	Sex ratio (men per 100 women) 2006 2006	Life expectancy at age 60 2005-2010
	2006	2050	2006	2050	Men/Women	Men/Women	Men/Women	60+	Men/Women
World	687	1968	11	22	80 / 48	8 / 19	40 / 16	82	17 / 21
More Developed Regions	247	400	20	32	79 / 48	13 / 32	22/11	72	19 / 23
Less Developed Regions	440	1 568	8	20	81 / 47	5/9	50 / 19	88	17 / 19
Least Developed Countries	39	171	5	10	85 / 39	4 / 8	71 / 37	85	15 / 17
Africa	48	192	5	10	85 / 39	6/11	64 / 32	83	15 / 17
Asia	374	1 231	9	24	81 / 50	5/9	48 / 18	88	17 / 20
Europe	151	225	21	34	80 / 47	13 / 35	15 / 7	69	18 / 22
Latin America and the Caribbean	50	188	9	24	75 / 42	7 / 10	46 / 16	82	19 / 22

Table 1. Population aged 60 years or older: World and Major Regions *Source:* United Nations Population Division 2007

Although most countries in these regions have younger populations, showing clear signs of aging. According to the latest estimates, in less developed regions as a whole, just 8 per cent of the population today is aged 60 years or over but by 2050, 20 per cent of their population is expected to be in that age range. The proportion of older persons is lowest in Africa, though rising, but in the Latin America/Caribbean region the proportion is just below that for Asia which is expected to reach 24 percent in 2050. At that stage, Asia will have 85 percent of the less developed regions' population aged 60 and over. Less developed regions are predicted to have 20 percent of their population in the over 60 years of age category by 2050.

Most of the elderly live in the less developed regions. By 2006, the less developed regions had 64 percent of the world's older population and in 2050; this share is expected to be 80 percent and above Translated into numerical terms, less developed regions had about 440 million persons aged 60 and over in 2006 compared with 247 million in more developed regions, and these totals will rise to 1568 and 400 million respectively in 2050(see Table 1). The implication is clear: the less developed countries, where issues of reproductive health including family planning, infant, child and maternal mortality have long been the central focus of population policy, must now also include serious considerations of population aging.

3. Rapid Populations Ageing in Developing World

Population ageing has been a global issue since the early 1980's. Population aging is happening on a very large scale in developing countries. The numbers of older persons in developing countries will more than double by 2025(reaching 850 million). 200 million more than the total population of Europe at that date. Developing regions were having greater percentage of population in the age group of 5-50 as compared to the percentage in the age group 60-80 years or more(United Nations, 2002). But the percentage of these age groups is estimated to change drastically in the year 2050 when the pyramid of Population Aging converts into a pillar with less percentage of lower age group population and more percentage of higher or old age population.(see figure 1)

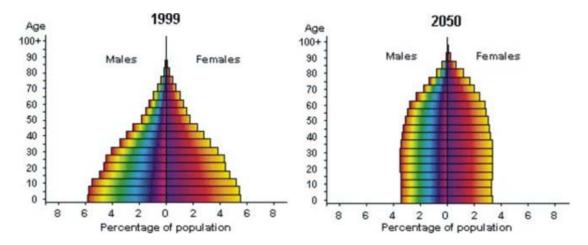


Figure 1. Age Structures – From Pyramids to Pillars: Developing Regions *Source:* United Nations, 2002

3.1. Regional Dimensions in Population Aging

Global trends reflect significant differences among older population on the basis of region and gender. Wide regional variations do exists with aging population among developing countries.

Demographic trends show that globally 51% of the older persons live in cities. In developed countries 74% of older people are living in cities. Whereas, in developing countries, majority of older people (63%) live in rural areas. This trend in developing countries has serious implications for rural development policies because higher proportion of older people in rural areas means less number of people for production activities and large number of people for consumption of goods and services.

Developed countries have gone through the demographic transition and lowered their fertility and mortality rates, resulting in their populations becoming greyer at a slower but consistent pace. On the other hand, the population in the developing countries have historically maintained high fertility rates and thereby a young age structure. The demographic data indicates that average age of population starts increasing with declining fertility rates. For the period 1995-2000, 61 countries in the world, representing 44 percent of the world's population, are at or below replacement fertility. By 2015, the world's population is projected to reach 7.2 billion, of which about two thirds will be living in countries at or below replacement fertility.

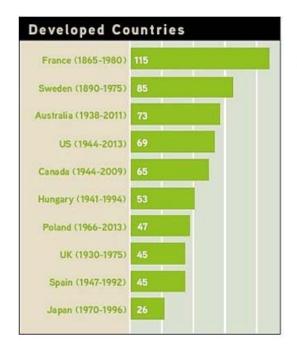
The fast aging process is taking developing countries by surprise. Already scarce resources will be further strained; competition for them from different sectors will intensify.

The Asia and Pacific region experienced rapid decline in fertility in past several decades. Total fertility Rate (TFR) dropped from 6.0 in 1950-1955 to 2.7 in 1995-2000, though there are sub regional variations. Pace of aging is fastest in Asia and Pacific which is an inevitable outcome of sustained declines in fertility and mortality during last three decades. It took 114 years for Sweden and France to double its 60+ population from 7 to 14 per cent while the same was accomplished in Singapore in just 18 years(see figure 4). Therefore, no Asian country will escape the substantial aging of its population in the first half of this millennium.

Although the growth of older population is more in the developed regions, the speed of aging is more rapid in the less developed countries. Because rapid changes in age structure may be more difficult for societies to adjust to than change that is spread over a longer time horizon, the speed of population aging has important implications for government policies, such as pension schemes, health care and economic growth.

Typically, the transition from 7 to 14 per cent took longer for countries that reached the 7 per cent level at an earlier date. For example, France and Sweden, which reached the 7 per cent point before 1900, took 115 years and 85 years, respectively, to reach 14 per cent. Several developing countries shown in figure 5 will also make a rapid transition from 7 to 14 per cent aged 65 or older. Brazil, Sri Lanka, Thailand and Tunisia are projected to make this transition in a time span of less than 25 years, and the two most

populous countries, China and India, may require only 26 and 28 years, respectively.



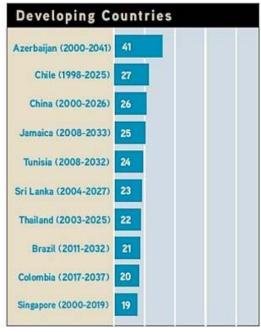


Figure 2. Number of years required or expected for percent of population aged 65 and over to rise from 7 percent to 14 percent.

Source: Kinsella K, Gist Y. Older Workers, Retirement, and Pensions. A Comparative International Chart Book. Washington, DC

In many cases, it will take substantially less time for the transition from 14 per cent to 21 per cent, than it took to move from 7 to 14 per cent aged 65 years or older. Although no country has yet reached the point where 21 per cent of the population is aged 65 or older, some countries are expected to reach that point before the year 2015. At a later date, Canada and the United States of America are expected to make a very rapid transition from 14 to 21 per cent aged 65 or older, as its large baby boom cohorts enter the higher ages. Thus, in the near future some societies will be faced not only with older populations than have ever existed at the national level, but populations that are aging at an extremely rapid pace.



TO ACCESS ALL THE 43 PAGES OF THIS CHAPTER,

Visit: http://www.eolss.net/Eolss-sampleAllChapter.aspx

Bibliography

Alam, M.(2007). "Aging in South Asia: An Overview and Emerging Issues for Future Research." Paper prepared for the IUSSP meeting on Aging in Developing Countries: Building Bridges for An Integrated Research Agenda, Santiago (Chile), April 23-25, 2007: [This paper gives a comprehensive view of emerging issues of aging in South Asia].

Alam, M., and Mishra, S.N. (1998). "Structural Reforms and Employment Issues in India: A case study of Industrial Workers." *The Indian Journal of Labour Economics*, 41(2): 271-92:[This is a case study of Industrial workers in India about structural reforms and their impact on employment issues]

Alam, M. and Mehtab,S.K.(2006)._"Changing Demographics, Emerging Risks of Economic-Demographic Mismatch and Vulnerabilities Faced by the Aged in South Asia: A Review of Situation in India and Pakistan." Asia-Pacific Population Journal.[This paper addresses emerging risks of economic-demographic mismatch and vulnerabilities faced by elderly people in South Asia].

Albert, S.M., Alam, M. and Nizamudin, M.(2006). "Comparative Study of Functional Limitation and Disability in Old Age in Delhi and New York City," submitted to the Journal of Cross Cultural Gerontology [In this paper a comparison of functional limitation and disability of elderly people living in Delhi and New York is made]

.Bulatao, R.A.(1993). "Mortality by Cause, from 1970 to 2015", The Epidemiological transition Policy and Planning Implications for Developing Countries, ed. J.N. Gribble and S.H. Preston, Washington national academy Press, [This is a comprehensive analysis of the epidemiological processes to measure cause of death and effects on the older population]

Chadha, G.K. and Sahu, P.P. (2006). "Employment in Unorganized Manufacturing in India: Post Reform Trends and Future Directions," *Sarvekshana*, 26(2): 1-23. [This papers studies unorganized manufacturing in India and analyzed future directions]

Cladwell, J.C.(2001). "Prospects for the aged in the developing world, UNFPA Symposium on the Aged," IUSSP Conference, Salvadore de Bahia,3pp [This paper is relevant in addressing the future prospects for the aged population in developing world}

Cliquet, R. and Nizamuddin, M.(1999). "Population Ageing: Challenges for Policies and Programs in Developed and developing Countries." Leuven, Belgium. [This is collection of papers on various aspects of policies response of developed and developing countries to handle the rapidly increasing aging population]

Coleman, D.(2001). "Social Biology and Human Affairs." The Journal of the Biosocial Society 66(20): 1-11

[This article briefly describes the social and biological processes through which human body ages]

Danan Gu and Zeng Yi,(2004). 'Socio-demographic effects on the onset and recovery of ADL Disability among Chinese Oldest Old'. *Demographic Research*, 11:1-4 [This paper studies socio-demographic effects on the ADL disability among Chinese elderly]

David, W. N.(1997). 'The Economics of Population Aging'. 967-1014. in: Mark R. Rosenzweig and Oded Stark,

(Eds)., *Handbook of Population and Family Economics*, New York, Elsevier. [This article and the book primarily deals with economic and financial implications for supporting an aging population]

de Gray, D.N.J.(2005). "Resistance to Debate on how to postpone aging is Delaying Progress and Costing Lives." *EMBO Reports* 6: S49-S53. [This paper addresses the issues of postponing aging]

Eberstadt, N.(1997). "World Population Implosion." *Public Interest* 129: 3-22 [This gives a comprehensive view of world population]

Eggebeen, D.J.(1992). "Family Structure and Inter generational Exchanges." *Research on Aging*, 14: 427-447

[This paper gives a comprehensive view of impact of family structure and intergeneration exchange on the lives of aged people]

ESCAP.(2001). "Policies and Programmer for Old Persons in Asia and the Pacific Selected Studies: Social Policy" Paper No 1. [This paper gives a comprehensive view of policies aimed to address the issues of old persons in Asia]

Ghazy, M.(2006). "Population aging in East and South-East Asia, 1950-2050: Implications for Elderly Care." *Asia- Pacific Population Journal* 21(2) 26-28. [This paper studies implications for elderly care in East and South-East Asia

Grant, L. D.(1996). "Effects of ageism on individual and health care providers' responses to healthy aging." *Health and Social Work*, 21: 9-15 *On line at EBSCOhost Academic Search Elite* [This paper discusses the effects of ageism on health care providers]

Grundy, J. (2000). "The Central Australian chronic disease epidemic: where is the epidemic response? Report on a feasibility study to establish a non-communicable disease centre in Alice Springs'," *CARPA Newsletter*, 31: 4-11. [This is a report about feasibility of disease center in Alice Springs]

Gavrilov, L. A., and Heuveline, P. (2003). "Aging of Population." In P. Demeny and G. McNicoll (Eds.), The Encyclopedia of *Population*, vol. 1. [This is a comprehensive article on aging of population]

Hansen-Kyle, L,(2005). "A Concept Analysis of Healthy Aging." *Nursing Forum* 40(2):45-57[This paper focuses on the concept of healthy aging]

Hoyert. L.D.(1991). "Financial and Household Exchanges between Generations." *Research on Aging* 13(2): 205-225. [This paper addresses the exchange patterns between generations].

Johnson, M. A(.2004). "Hype and Hope about Foods and Supplements for Healthy Aging" *Generations*; 28(3) 45-53, [This paper gives a view about food and supplements to promote healthy aging]

Kinsella, K.G.(1992). "Population Aging in Africa: The case of Zimbabwe.Changing Population Age Structures: Demographic and Economic Consequences and Implications," [compiled by] United Nations. Economic Commission for Europe [and] United Nations Population Fund [UNFPA]. Geneva, Switzerland, United Nations 391-8. [This is concerned with the processes of population aging in Africa]

Lu, J. and Yu, X.(2007). "Demographic Transition, Population Aging, and Policy Implications in China," Paper prepared for the Seminar on Aging in Developing Countries: Bridges for Integrated Research Agendas, April 23-24, Santiago, Chile. [This paper comprehensively covers Population aging and policy implications in China]

Marteleto, L.(2001). "The Role of Demographic and Family Change on Children's Schooling in Brazil." Ph D

Dissertation. Department of Sociology and Population Studies Center, University of Michigan. [This PhD thesis studies the role of family changes on children's schooling in Brazil]

McGarry, K. and Schoeni, R. F.(2000). "Social Security, Economic Growth and the Rise of the Elderly Widows' Independence in the Twentieth Century." *Demography*, 37(2): 221-36.[This article discusses the issues of elderly widows]

Mirkin, B. and. Weinberger M. B.(2001). "The Demography of Population Aging." *Population Bulletin of the United Nations – Special Issue* 42/43: 37-53. [This is an analytical paper which comprehensively describes the growth, structure and distribution of the aging population]

Nizamuddin, M.(2003). "Policy Responses to Population Ageing in Asia and the Pacific." In the Proceedings Asia-Pacific Population Conference, ESCAP, Bangkok, [This article describes Asian countries policies and programs for the elderly population]

Nizamuddin, M.(2002). "Sharing of Experiences: Efforts of Developing Countries, Facing an Ageing World Recommendations and Perspectives," German Center of Gerontology, Berlin, Germany, 163-167[This article describes the best practices of selected countries from Asia and Latin America addressing the concerns of the growing aging population]

Palloni, A.(2001). "Living Arrangement of Older Persons" Population Bulletin of the United Nations – Special Issue 42/43: 54-1101. [A comprehensive discussion on living arrangements of older persons]

Palloni, A.(2002). "Demographic Aging in Latin America." International Journal of Epidemiology March. [A comprehensive view of demographic processes of aging]

Palloni A. and Wong, R.(2007). "Elderly in Latin America and the Caribbean." Center for Demography and Healthof Aging. University of Wisconsin-Madison. [This is concerned with the issues of elderly in Latin America and the Caribbean]

Raymond, S.(2003). "Foreign Assistance in an Aging World", Foreign Affairs, Council on Foreign Relations

[This article is a review of foreign assistance to child health and development programs of the past and strongly recommends a shift in foreign aid towards preparing for aging societies]

Reed, D. M. and Foley, D. J.(1998). "Predictors of Healthy Aging in Men With High Life Expectancies", *American Journal of Public Health*, 88(10): 1463-1468, [This paper is bout healthy aging and analyses predictors of healthy aging that could also contribute to high life expectancies]

Rust,J.(1994). "Averting the Old Age Crisis", World Bank Report. [This report addresses the processes and procedures for averting the problems associated with old age]

Saad, P.(2001). "Impact of Pension Reform on the Living Arrangement of Older Persons in Latin America" Population Bulletin of the United Nations – Special Issue 42/43: 218-228[This bulletin gives a comprehensive view of how pension reform effect living arrangements of elderly in Latin America]

Silverstein, M. and Bengston, V.(1994). "Does Intergenerational social Support Influence the Psychological Well being of older Parents? The Contingencies of Declining Health and Widowhood." *Social Science and Medicine* 38: 943-957 [This paper is about intergenerational social support and psychological well being of older parents].

Sokolovsky, J.(2001). "Living Arrangements of Older Persons and Family Support in Less Developed

Countries." Population Bulletin of the United Nations Special Issue 42/43: 162-192. [This paper is particularly concerned with living arrangements and family support for older persons living in less developed countries]

United Nations(2005). "World Population Aging 1950-2050." New York. [This is a comprehensive report of world aging population with region wise description]

United Nations.(2007). "World Population Prospects: The 2006 Revision." Volume I, New York [This is a comprehensive UN population Division Report on the size, growth, structure and distribution of world's aging population]

UNFPA.(2002). "State of World Population." New York[This is annual report of the UNFPA which presents analysis of population trends, resource flows and emerging new areas that require a financial aid]

UNFPA.(2002). "Population Aging and Development: Social, Health and Gender Issues." New York[This is a collection of papers on various aspects of population aging presented in expert group meeting]

Vaidyanathan, R.(2007). "Declining joint family and emerging crisis in old age security." *Int. J. of Indian Culture and Business Managemen*, 1: 151-173. [This paper addresses issues of declining joining family system and consequently its effect on old age security]

Waidmann, T. and Manton, K.G. (1998). "International Evidence on Disability Trends among the Elderly." United States Department of Health and Human Services, Washington D.C. [This report gives evidence on disability trends among the elderly in different countries]

Wang, P., Shuzhuo L, and Wenjuan, Z.(2005). "The Effects of Intergenerational Supports on the Cognitive Function of Rural Elderly in China." *Psychological Science* 28: 1500-1503[This paper address intergenerational support system and its effects on the cognitive functions of elderly living in rural china]

Ward, R.A, and Spitze, G.D.(2004). "Marital Implications of Parent-Adult Child Co residence: Longitudinal View." *The Journal of Gerontology Series B: Psychological Sciences and Social Science* 59: S2-S8. [This article addresses implications of co residence on elderly people]

WHO.(2002). "Active Aging: A Policy Framework." [This report takes into account a comprehensive view of policy making to ensure healthy aging]

World Bank.(1994). "World Development Report." Washington DC. [This is a comprehensive report about world development]

World Bank.(2003). "World Development Report 2002: Sustainable Development in a Dynamic World.", Washington DC [This world bank annual report discusses the implication of rapidly changing age structure of global population on sustainable development]

World Bank.(2005). "World Development Indicators." Washington, DC. March. [This provides comprehensive description of socio economic development variables]

World Health Organization. (2002). "Active Aging: A Policy Framework, Aging and Life Course Programme."

Geneva. N [This is an excellent set of recommendations for population to be healthy and actively aging]

Xuejun, Y.(1995). "Economic Research on Population Aging in China," China Population Publishing House." Beijing. [This describes comprehensively the history of population aging in China and its economic analysis]

Zimmer, Z.(2003). "A Further discussion on revisiting the classification of household composition among elderly people." *Journal of Cross-Cultural Gerontology* 18: 247-250.[This article discusses the size and composition of older families and living arrangement]

Biographical Sketches

Dr. M. Nizamuddin, obtained, PhD from the University of Michigan, Ann Arbor, Masters from the University of Chicago, USA and BA Honors and Masters from University of Karachi, Pakistan. Immediately after completing PhD, he taught as Assistant Professor at the University of North Carolina, Chapel Hill. Later, he joined the UN system where he served in high level leadership positions in both programmatic and technical areas. During the 24 years of service with UN Population Fund, he was posted in Jordan, Egypt, and Ethiopia and finally at the headquarters in New York, as Director for the Asia and Pacific region and as Director for Technical and Evaluation Division. During 2002-2005, as Clinical Professor for Socio medical Sciences Mailman School of Public Health Columbia University New York. He also served as UNFPA's Senior Advisor on Ageing, and Program Director of International Program on Population Aging in Developing Countries, implemented in collaboration with Columbia University, New York. For the last three years, he has been serving as a Foreign Professor, under Higher Education Commission, at the Department of Sociology, University of the Punjab, Lahore and has been serving as the Vice Chancellor, University of Gujrat, Pakistan. He has extensive teaching and research experience in population issues. He has several publications some of whom were published by the United Nations. Dr. Nizamuddin is regarded internationally an authority on population aging. Since 2004, he is Co-Chair of IUSSP Panel on Ageing in Developing Countries (IUSSP, Paris, France).

Javed S. Ahmad, holds a Master's degree in Public Health Education, from the University of California, Berkeley, a MBA from Long Island University, New York and MA in Social Welfare from Dhaka University of Bangladesh. During his nearly forty years' professional career with UN, bi-lateral donor and international non-governmental organizations, he has provided technical support to ministries of health and education, academic institutions and NGOs in sub-Saharan Africa and South and Central Asia, in the population field. He has served in Sri Lanka, Kenya, Liberia, Nepal, Kazakhstan and Slovakia with regional and/or national responsibilities. After retiring from the UN-ILO in 2002, he worked for two years on a Population Aging Program in Columbia University, New York. From July 2007 to March 2008, he worked for the University of Gujrat as a visiting Professor. He has several research reports and professional publications to his credit. He is a citizen of the USA and currently working as a Health Communication Consultant. [E-mail: javedsahmad@gmail.com]

Fauzia Maqsood has Masters in Sociology (Gold Medalist) from the University of Punjab. She is lecturer at Government APWA College Lahore. She is also a PhD candidate in Sociology at the Institute of Social and Cultural Studies, University of the Punjab, Lahore. Currently she is consultant for Research and Planning Cell, University of Gujrat and teaching course Population Aging to Postgraduate diploma students. She worked as Research Officer in the Project *Contribution of Private Tube wells in the Development of Water Potential in Pakistan* sponsored by Ministry of Planning and Development and conducted by Specialist Group Incorporated(SGI) and National Engineering Services Pakistan(NESPAK) 1990 to1991. She also served as Social Welfare Officer in Social Welfare Department Government of the Punjab Lahore from 1991 to 1994. She worked as data analyst in projects(i) *Women's Rights to*

Inheritance in Pakistan, Conducted by Human Rights Commission (2004);(ii) Poverty and Human Violation: A Study of Marginalized Groups in Pakistan Conducted by Sociology Department (2006). She also worked as Teaching Assistant of Dr Mohammad Nizamuddin for Aging course in Master Degree Program for Population Studies University of the Punjab.

