

**EXPERT GROUP MEETING ON POLICY RESPONSES TO
POPULATION AGEING AND POPULATION DECLINE**

Population Division
Department of Economic and Social Affairs
United Nations Secretariat
New York, 16-18 October 2000

**POLICY RESPONSES TO LOW FERTILITY AND
POPULATION AGING IN KOREA ***

Ik Ki Kim **

*This document was reproduced without formal editing.

**Dongguk University, Department of Sociology, Seoul, Republic of Korea. The views expressed in the paper are those of the author and do not imply the expression of any opinion on the part of the United Nations Secretariat.

CONTENTS

- A. Introduction**
- B. Demographic Prospects in Korea, 1995-2050**
- C. Consequences of Low Fertility and Population Aging**
- D. Policy Options to Low Fertility and Population Aging**
- E. Concluding Remarks**

A. Introduction

Demographic transition in Korea has started since the beginning of the 1960s mainly due to the interaction of rapid socioeconomic development and full-scale adoption of family planning programs (Kim, 1987). During the period of the first five-year economic development plan, 1962-67, the gross national product (GNP) grew at an annual rate of 7.0 percent. Since then, the Korean economy has consistently grown at a record high speed. The national family planning program has been very successful since its initiation in 1962.

The crude death rate in Korea showed a tremendously high level of 33 per thousand in 1955. Since then, the mortality level has drastically declined. The crude death rate decreased to 16 in 1960 and then 5.3 per thousand in 1996 (Kim, 1999). In accordance with the continuous decline of the crude death rate, life expectancy at birth has consistently increased over time (KNSO, 1997). Life expectancy at birth in 1960 was 51.1 years for males and 57.3 years for females. Life expectancy for males increased from 57.2 years in 1970 to 69.5 years in 1996. Life expectancy for females increased from 64.1 years in 1970 to 77.4 years in 1996.

Decrease of the fertility level has also affected population aging in Korea. The crude birth rate in 1960 was as high as 45 per thousand. The crude birth rate declined to 23.4 in 1980 and then to 15.2 per thousand in 1996 (Kim, 1999). Total fertility rate also decreased from 6.0 in 1960 to 4.5 in 1970 and then to 2.7 in 1980. The total fertility rate in Korea decreased to the replacement level in 1984 and has remained below the replacement level since then (Cho and Byun, 1998). The total fertility level in 1995 indicates 1.74.

The rapid process of demographic transition in Korea has brought about the increase of both the absolute number and the proportion of the elderly. The proportion of the elderly aged 65 and over was only 3.3 percent in 1966. But, it increased to 5.9 percent in 1995 and is projected to increase to 19.3 percent in 2030 (KNSO, 1996). According to Chung (1998), the aging speed of the Korean population is apparently faster than that of developed countries. Korea, which has already experienced large declines in fertility and mortality, has a tremendous momentum for further population aging (Kim, 1999). The projected declines in fertility and mortality will add to the momentum for even further population aging in Korea (Kim and others, 1996). Low fertility would eventually bring about declines in the size of population, declines in the population of working age as well as various socioeconomic problems.

This paper investigates the demographic prospects of Korea, in comparison with the results presented by the United Nations Population Division. Then, this paper examines the possible consequences of low fertility and population aging. Finally, this paper deals with the various policy options that Korean government would adopt to cope with the low fertility and population aging. Different from populations of other developed countries, Korean population is projected to decline after its peak in 2030. Thus, in this paper it may be more appropriate to use the term 'low fertility' instead of 'population decline' in figuring out the consequences and policy options of population decline and population aging.

B. Demographic Prospects in Korea, 1995-2050

Building upon the medium variant of the 1998 Revision, the UNPD project on the replacement migration considers five different scenarios (UNPD, 2000). According to scenario I, the population in Korea would increase from 44.9 million in 1995 to 53.0 million in 2030, and then decline to 51.3 million in 2050. The working age population in Korea is projected to increase from 31.9 million in 1995 to 36.3 million in 2020, and then decrease to 30.4 million in 2050. The population aged 65 and older would increase from 2.5 million in 1995 to 12.7 million in 2050. As a result of these changes, the potential support ratio, which is defined as the ratio of the population aged 15-64 years to the population aged 65 and over, would drop from 12.6 in 1995 to 5.7 in 2020, and then to 2.4 in 2050.

Scenario II is based on the same assumptions of scenario I, but with net zero migration from 1995 through 2050. This scenario shows results similar to those of scenario I. According to scenario III which keeps the size of the total population at the maximum level of 53.5 million in 2035, it would be necessary to have 1.5 million net immigrants between 2035 and 2050. Then, 3.2 percent of the population in Korea would be immigrants and their descendants in 2050. Scenario IV predicts that Korea would need a total of 6.4 million immigrants between 2020 and 2050 in order to keep the size of the working age population constant at its maximum of 36.6 million in 2020. Then, 13.9 percent of the population in Korea would be immigrants and their descendants in

2050.

Finally, scenario V predicts that it would be necessary to have a total of 5.1 billion immigrants from 1995 to 2050 in order to keep the potential support ratio at the level of 12.6 in 1995. Under this scenario, the total population in Korea is projected to be 6.2 billion in 2050, of which 99 percent of the population would be immigrants and their descendants. This extreme result indicates that scenario V is not realistic and thus the 1995 level of the potential support ratio would drastically change in the future.

Then, let's compare the results of the population project by UNPD with those by Korean National Statistical Office (KNSO). Table 1 illustrates major indicators of two projections on the Korean population. The UNPD projection is based on the assumption that the population in Korea would change according to the levels of fertility and mortality of the medium variant of the UN 1998 Revision (UNPD, 2000). The KNSO projection uses 'cohort component method' using the 1995 census population to set up the base population (Kim, T.H. 1997). The KNSO projection used the populations of three consecutive years (1994, 1995, 1996) for the weighted average population and then finally calculated the mid-year population for the base population because the date for the census was the first of November.

The most important differences between the UNPD projection and the KNSO projection are in the levels of total fertility rate and net migration rate. The assumption on the fertility by the UNPD projection is to keep the total fertility rate at 1.90 from 2020, whereas that by the KNSO is to keep the total fertility rate at 1.80 since 2020. In terms of the assumption on the migration, the UNPD projection assumes no net migration since 2020. However, the KNSO projection predicts that net migration rate would remain at the level of 0.5-0.6 from 1995 through 2030.

Based on the medium variant projection, the UNPD predicts that the population in Korea would increase from 44.9 million in 1995 to the maximum of 52.9 million in 2030, and then decrease to 51.3 million in 2050. According to the KNSO projection, the population in Korea is projected to increase from 45.1 million in 1995 to 52.7 million in 2030. Using the same assumption of the KNSO projection, Kim (1997) predicts that the population in Korea would decrease from 52.7 million in 2030 to 48.5 million in 2050.

Table 1 indicates that there are some discrepancy between the results of the UNPD projection and those of the KNSO projection. Then, let's examine the discrepancy more specifically. Table 2 shows the differences of some indicators between these two projections. First of all, total fertility rates assumed by the UNPD are higher than those of the KNSO since 2010. On the other hand, net migration rates predicted by the UNPD are lower than those of the KNSO since 2000. Based on the differences of the assumptions in total fertility rate and net migration rate, the results of the two projected populations turned out to be different.

The total populations predicted by the UNPD are lower than those by the KNSO until 2020. Since 2030, however, the total populations projected by the UNPD are much higher than those by the KNSO. The projected population in 2050 would be 51.3 million for the UNPD projection but 48.5 million for the KNSO (actually Kim's projection). The KNSO projection indicates that population decline in Korea would be more drastic than was predicted by the UNPD.

C. Consequences of Low Fertility and Population Aging

The rapid process of fertility decline and population aging due to the rapid demographic transition has substantially affected Korean society. The effects by these changes, however, would be more enormous and serious in the future. Let's examine the consequences of low fertility and population aging in some detail. First of all, increase of the proportion of the elderly has affected both dependency ratio and aging index. The dependency ratio of the population aged 65 and over was 8.3 in 1995 and is projected to be 25.2 in 2030. The aging index was only 29.8 in 1995 but is projected to increase to 120.6 in 2030. The aging index indicates that in 2030 the population aged 65 and older would be larger by 21 percent than the population aged 0-14 (Kim, 1999).

Low fertility and population aging has affected the size and proportion of the working age population (15-64 years). The size of the working age population in Korea has consistently increased up to now and is projected to increase until 2020, and then projected to decrease (Chang and others, 1996). The proportion of the working

age population has increased until 2000, but is projected to consistently decrease since then. The UNPD (2000) predicts that the population of working age in Korea would decline by 6.4 million from 1995 to 2050. Low fertility would also bring about the decline of the size of the population of the newly entering working age. Thus, the working age population would be accordingly aging.

Low fertility in Korea has brought about the increasingly imbalanced sex ratio (Kim, 1999). Korean society has a long tradition of strong boy preference (Kim, 1987). The tradition of son preference has become even stronger as the fertility level has declined. Sex ratio at birth increased from 105.3 in 1980 to 116.6 in 1990 (Chang and others, 1996). In 1990, sex ratio for the fourth birth was as high as 214.1. In 2010, sex ratio for the marriage mate is predicted to be 123.4 (Kim, T.H., 1997).

For the past three decades, the educational attainment of the elderly in Korea has consistently increased. However, improvement in the educational attainment is projected to be greater for the female elderly than for the male elderly (Kim and others, 1996). The literacy rate for the female elderly in Korea was 20 percent in 1980 but it would increase to over 95 percent by 2020 (Hermalin and Christenson, 1991). This change will significantly affect the role of the elderly both in the family and the society, and will also influence the pattern of the support for the elderly.

Low fertility and population aging has affected the living arrangements of the elderly. In recent years, the proportions of the Korean elderly living alone and living with spouse only have greatly increased while the proportion of those living with family members has increased (Kim and Choe, 1992). The elderly living alone suffer from serious economic problems. An increasing proportion of the elderly living alone indicates that the tradition of strong family support is weakening. Economic difficulties are not confined only to the elderly living alone. A 1984 Korea Elderly Survey revealed that about half of the elderly aged 60 and over had financial difficulties (Lim and others, 1985). According to a 1988 Survey (Korea Gallup, 1990), the proportion of those who reported financial difficulties was almost two-thirds of the elderly respondents. The most recent survey (Chung and others, 1998) indicates that 50 percent of the Korean elderly felt poor in their financial status.

Financial difficulty is a serious problem to the elderly in general. In Korea, however, this problem is much more severe among the rural elderly because of the massive outmigration of young people from rural areas. Massive outmigration of young people from rural areas has brought about different patterns of the living arrangements of the elderly between urban and rural areas (Kim, 2000). The most salient finding here is that more than half of the rural elderly live alone or live only with spouse (Kim, 2000). This is clearly related to the labor shortage due to the lack of young people in rural areas. Accordingly, the problem of labor shortage is much more serious in rural areas than in urban areas. As population aging proceeds, this problem would be even worsening.

Population aging requires adaptation to the problem of long-term care of the elderly. As in the U.S., the population of the elderly aged 75 and over in Korea has increased faster than the total population of 65 years and over (Eustis and others, 1984; Kim, 1999). The significance of the disproportionate increase in 'old-old' (as opposed to 'young-old') for long-term care lies in the greater prevalence of functional impairment and chronic disease among the very old. Functional impairment and the need for help can have enormous impact on the elderly and their families (Kim and Maeda, 2000).

According to a 1995 Survey in Korea (Park, 1999), proportion of the elderly who needed long-term care due to the impairment in ADL (activities of daily living) or IADL (instrumental activities of daily living) was 46.3 percent. In addition, the proportion of the elderly who could not live by oneself due to the functional impairment was 5.6 percent among the whole elderly population. Thus, in accordance with population aging, the medical expenses for the elderly has drastically increased. From 1985 to 1996, the medical expenses for the total population increased by 12.7 times, whereas that for the elderly population increased by 35.5 times (Park, 1999).

Despite the fact that the absolute number and proportion of the elderly have increased, the proportion of the welfare services for the elderly in Korea has rather decreased in recent years (Kim, 1999). The role of the government in the welfare services for the elderly would be more limited as the number of the elderly population continuously increase. In this situation, the family should continuously take part in the care of the elderly. Most Koreans take it for granted that they will receive support from their own children. Contrary to their expectation, however, there are many circumstances under which such support is not available from their

children due to the recent socioeconomic changes (Kim, 1999). It is really a dilemma whether the elderly should be taken care of by the family or by the government.

Pension is another serious issue as a consequence of the population aging. A population projection suggests that the pension system in Korea would encounter operating deficits soon after it becomes fully functional, requiring an increase in contribution rates, government support from tax revenues, or both (Westley, 1998). Chung (1998) predicts that if the national pension system in Korea continues to be operated by the current system, the reserved fund would be exhausted by the year 2033.

D. Policy Options to Low Fertility and Population Aging

In chapter C, this paper examined various consequences of low fertility and population aging in Korea. As UNPD (2000) argues, fertility would not recover sufficiently to reach the replacement level and thus population aging would be a continuous phenomenon in the foreseeable future. In accordance with this argument, UNPD (2000:7) suggests that, among the demographic variables, only international migration could be instrumental in addressing population decline and population aging in the short to medium term.

According to the scenario IV of UNPD (2000), which is to keep the constant working age group (15-64 years), Korea would need 6.4 million immigrants from 1995 to 2050. Then, would replacement migration be the only possible and acceptable policy in coping with the population decline and population aging in Korea? If not, what would be other policy options available to solve these problems? This chapter examines the acceptability of adopting the immigration policy in Korea and explores some policy options that the Korean government have adopted or will adopt in coping with the low fertility and population aging.

First and foremost, large volumes of immigrants (for instance 6.4 million) would confront with serious social and political objections in Korea. Korea has traditionally been a uni-racial country for the past five thousand years. In terms of the immigration policy, Korea has been a sending, not a receiving country. Thus, adopting a new immigration policy would face many difficulties. Up to now, the immigration law of Korea has continuously restricted the admission of even new foreign workers to a few categories. Legal status was offered only to those who would be employed in reporting, technology transfer, business, capital investment, education and research, entertainment, or for employment that was recommended by a government minister (Abella and Park, 1995). Unskilled foreign labor was not allowed to enter, but trainees were allowed to enter Korea.

Over the last few years, however, a large number of unskilled foreign workers have entered Korea for the purpose of employment because of the shortage of labor in certain occupations. They have grown from a few thousand in the early 1980s to current estimates of 168 thousand in 1999 (Bureau of Medium-Sized Industries, 1999). Among the number, 65 percent of the workers are working illegally. Because of their illegal status, most of the illegal workers (overstayers) receive less wages and worse benefits than Korean workers and they also face many problems of human rights. The problems caused by immigration would be much more complicated than that of foreign workers who temporarily stay in Korea. Immigration in sufficient numbers to fill up the labor shortage due to low fertility and population aging would also arouse fears of loss of national identity (UN, 2000). Thus, the adoption of new immigration policy in Korea may not be the best policy option to cope with the labor shortage in the short run.

Korean government launched a full-scale national family planning program in 1962. Since then, the national family planning programs in accordance with the rapid socioeconomic development had been very effective in controlling the record high fertility (Kim, 1987). Korea has been known as one of the most successful countries in adopting the national family planning programs. The total fertility rate in Korea reached the replacement level in 1984. Since then, the total fertility rate in Korea has remained in the state of below replacement level.

The low fertility has brought about a lot of problems such as population aging, labor shortage, and unbalance of sex ratio, etc. Confronting with new population problems, Korean government changed the direction of the family planning program from the quantitative control of population to the qualitative consideration of population. In 1966, Korean government officially announced the adoption of 'the new population policy' which focuses on the quality of life and welfare for the Korean population (Chang and others, 1996).

Cho and Byun (1988:8) identified the goals of the new population policy as follows: 1) to maintain the below

replacement level of fertility and to improve morbidity and mortality levels as part of the process of achieving sustainable socioeconomic development; 2) to enhance family health and welfare; 3) to prevent the imbalance of sex ratios at birth and to reduce the incidence of induced abortions; 4) to tackle the sex-related problems of the youth and adolescents; 5) to empower women by expanding employment opportunities and welfare services for them; 6) to improve work opportunities and provide adequate health care and welfare services for the elderly.

Among the goals of the new population policy, the first and the most important policy is to keep the below replacement level of fertility. Actually, return to the high fertility in the 1960s is not desirable and most unlikely. However, population aging due to below replacement level of fertility causes rapid changes of age structure and brings about new insights in the welfare for the whole population. Thus, in Korea the challenge for policy development is to put in place adaptive mechanisms that will allow Korean society to prosper over the long run (Teitelbaum, 2000).

As mentioned above, the actual goals of the new population policy in Korea are related to the adaptive mechanisms. Among the adaptive mechanisms, improving work opportunities is one of the important goals of the new population policy. The Korean Ministry of Health and Welfare announced the adoption of the general policy for the welfare for the elderly in 1995 and suggested the five measures in terms of the enlargement of the work opportunities for the elderly (Park, 1999:45-46).

The five measures for improving work opportunities are as follows: 1) to develop and enlarge the appropriate works for the elderly; 2) to prolong the retirement age and to abolish age limitation for the newly employed workers; 3) to make public the necessity of job activities for the elderly; 4) to activate the support system for the organizations of introducing works to the elderly; 5) to establish and enlarge the joint workplace for the elderly.

Retirement system is important not only for the stable lives of the elderly but also for controlling the problems of labor shortage. Korean government introduced the compulsory retirement system for government officers in 1963 (Yoo, 1999). Under the current system, most government workers are to retire as early as 60 years, with the exception of professional government workers like teachers (62 years) and professors (65 years). The situation of the workers in the private sector is even worse than the case of government workers. About 65 percent of the employees working in the private industries retire at the age of 55 years (Yoo, 1999). According to a national survey (Rhee and others, 1994), most of the Korean elderly (79.9 %) want to remain in the workplace as long as possible. Prolongation of the retirement age may be thus indispensable not only for the welfare for the elderly but also for the supplement of the labor shortage due to population decline.

Then, when is the most appropriate retirement age in Korea? According to the project on the replacement migration by UNPD (2000), the upper limit of working age needed to obtain in 2050 under the assumption of the potential support ratio observed in 1995 would be 82.2 year old in the absence of migration. This number, however, seems to be unrealistic. According to a national survey (Rhee and others, 1994), 24.8 percent of the elderly respondent believe that the existing compulsory retirement system should be abolished. At this point, it may be difficult to set a certain age as the appropriate age. Instead, the retirement age should be flexible depending upon the health condition and ability of the elderly.

In order to fill up the labor shortage in the future, Korean government should provide more opportunities for female participation in the labor force. Although the employment of women has grown much faster than the growth of employment of men since 1985, the proportion of women who are currently working is still much less than that of men (Abella and Park, 1995). According to the 1998 Korea Statistical Yearbook (KNSO, 1998), labor force participation rate for males who are 15 years and over was 75.6 in 1997. On the other hand, labor force participation rate for females who are 15 years and over was only 49.5 percent.

To facilitate the female labor force participation, Korean society should establish better infrastructure and environment for female workers. Infrastructure and environment for female workers should include not only institutional reform such as equal opportunities for both sexes but also provision of hardware such as child care facilities at work. In Korea, there has traditionally been severe sex discrimination both in society and home. Especially at the workplace, there has been sex discrimination in recruiting new employees, providing benefits and salary, and discharging from the work, etc. Sex discrimination in all these areas should be abolished.

In addition, there should be some roles of the firms to cope with the labor shortage in the future. Abella and Park (1995) suggest short-run adjustments and long-run adjustments for the firms to take. Specific measures for these adjustments are as follows. For the short-run adjustments: 1) to make more intensive use of the regular workforce through overtime; 2) to employ part-time workers, labor contractors, or foreign workers; 3) to cut down operations and reduce output. For the long-run adjustments; 1) to raise wages/offer other incentives for workers to stay; 2) to improve working environment and conditions; 3) to adopt labor-saving technology/automate operations; 4) to shift to less labor-intensive product lines; 5) to relocate factories to places/countries where labor is more abundant.

Finally, policy options in relation to low fertility and population aging should center on the welfare for the elderly. In Korea, the elderly have traditionally been taken care by women, specifically by wife of the first son. However, the increase in the labor force participation of women has diminished the role of women in the support of the elderly. The more increase in the women's labor force participation in the future for the purpose of supplying the labor shortage would seriously affect the support system for the elderly.

Furthermore, long-term care has emerged as a salient issue because of rapidly growing population in need, dramatically increasing health care costs for the impaired elderly, and increasingly less ability to pay for long-term care on individual basis because of rising medical costs (Kim and Maeda, 2000). Thus, it is expected that majority of the elderly would have increasing difficulties in obtaining care services at home. A significant policy issue is whether the supply of medical personnel and facilities, more importantly, expenditures in the future would be sufficient to care for the frail elderly and whether alternatives to institutionalization would assist in meeting their needs.

The emergence of this problem is reflected in rising demand for social welfare for the elderly and increasing government's responsibility to support the elderly. It is a challenge for the government to develop appropriate and effective programs to provide needed services for the elderly. As mentioned above, however, the role of the Korean government must be limited in providing full services for the elderly. Thus, Korea should mobilize all the resources of government, industries, communities and families to meet this challenge.

E. Concluding Remarks

Korea has experienced very rapid process of declining fertility and thus population aging since the beginning of 1960s. Because of this trend, both UNPD and KNSO predict that the population of working age in Korea would drastically decrease from 1995 to 2050. In relation to the drastic decline of the labor force, UNPD suggests that accepting immigrants would be the only acceptable policy to cope with the labor shortage due to the low fertility. Korea entered the stage of below replacement level of fertility at 1984. Since then, total fertility rate has remained below replacement level. So far, the rapid process of fertility decline and population aging has substantially affected Korean society and would affect Korean society to a great extent in the future.

The low fertility has brought about various new population problems. Thus, in 1966 the Korean government officially adopted the new population policy, which focuses on the quality of life rather than population control. One of the most important goal of the new population policy is to maintain the below replacement level of fertility. However, keeping the below replacement level of fertility would accelerate the process of population aging. In conjunction with the low fertility and population aging, various adaptive mechanisms would be necessary, especially for the supplement of the labor shortage. Adopting a new immigration policy which accept significant number of immigrants in Korea may not be suggestive for the time being. In the long run, however, new immigration policy would be indispensable if the below replacement level of fertility unlimitedly continues.

References

- Abella, Manolo I. And Young-bum. Park (1995). Labor shortages and foreign workers in small firms of the Republic of Korea. In *Adjustments to Labour Shortages and Foreign Workers in the Republic of Korea*, Manolo I. Abella, Young-bum Park and W.R. Bohning, eds. International Labour Office. Geneva, pp. 1-18.
- Chang, Young Sik and others (1996). *Population Size, Structural Change and Policy Questions Depending on the New Population Projection*. (in Korean). Korean Institute of Health and Social Affairs.
- Cho, Nam-Hoon and Young-Chan Byun (1998). New challenges of population policy development in Korea. Paper presented at International Symposium on Population and Development Policies in Low Fertility Countries. Korean Institute of Health and Social Affairs.
- Chung, Kyunghee (1998). Aging and social welfare policies: Health care and income maintenance programs. Paper presented at International Symposium on Population and Development Policies in Low Fertility Countries. Korean Institute of Health and Social Affairs.
- Chung, Kyunghee and others (1998). *National Survey of Living Conditions and Welfare Needs of Older Persons*. Seoul: Korean Institute of Health and Social Affairs.
- Eustis, N. J, Grenberg and S. Pattern (1984). *Long-term Care for Older Persons: A Policy Perspective*. Monterey: Brooks/Cole Publishing Co.
- Hermalin, Albert I. And B.A. Chrstenson (1991). Comparative analysis of the changing educational composition of the elderly population in five Asian countries: A preliminary report. Population Studies Center Research Report No. 91-11. Ann Arbor: University of Michigan Population Studies Center.
- Kim, Ik Ki (1987). *Socioeconomic Development and Fertility Behavior in Korea*. Population And Development Studies Center. Seoul National University.
- (1999). Population aging in Korea: Social problems and solutions. *Journal of Sociology and Social Welfare*. Vol. 24. No. 1, pp. 107-123.
- (2000). Different patterns of the living arrangements of the elderly in urban and rural Korea. Paper presented at the annual meeting of the Population Association of Japan, Tokyo, Waseda University, June 2-3.
- and Ehn H. Choe (1992). Support exchange patterns of the elderly in Korea. *Asia-Pacific Population Journal*. Vol. 7. No. 3, pp. 89-104.
- , Jersey Liang, K. Rhee and C.S. Kim (1996). Population aging in Korea: Changes since the 1960s. *Journal of Cross-Cultural Gerontology*. Vol. 11. Pp. 369-388.
- and Daisaku Maeda (2000). A comparative study on sociodemographic changes and long-term care needs of the elderly in Japan and Korea. Paper submitted to the Journal of Cross-Cultural Gerontology.
- Kim, Tae Hun (1997). Population prospects and social effects. In *Understanding of Fertility Transition in Korea*. (in Korean). Tae Hwan Kwon and others, eds. Seoul: Ilsin Publishing Co.
- Korean National Statistical Office (KNSO, 1996). Population projection. (in Korean).

----- (KNSO, 1997). *Korea Statistical Yearbook*.

----- (KNSO, 1998). *Korea Statistical Yearbook*.

Korea Gallup (1990). *Life Style and Value of the Aged in Korea*. (in Korean). Korea Gallup.

Korean Bureau of Medium-Sized Industries (1999). Report to the Korean National Congress. (in Korean). March.

Lim, Jong Kwon and others (1985). *A Study on the Aged Population in Korea*. (in Korean). Seoul: Korean Institute of Population and Health.

Park, Kwang Jun (1999). Aging society and social policy. In *Aging Society and Welfare for the Elderly*. (in Korean). Park, Kwang Jun and others, eds. Seoul: Sejong Publishing Co.

Rhee, Ka Oak and others (1994). *Analysis of Life Conditions of the Elderly and Policy Questions*. (in Korean). Seoul: Korean Institute of Health and Social Affairs.

Teielbaum, Michael (2000). Sustained below-replacement fertility: realities and responses. *Below Replacement Fertility*. Population Bulletin of the United Nations. Pp. 161-182.

United Nations (2000). *Below Replacement Fertility*. Population Bulletin of the United Nations.

United Nations Population Division (2000). *Replacement Migration: Is It a Solution to Declining and Ageing Populations?* March.

Westley, Sidney B. (1998). Asia's next challenge: caring for the elderly. *Asia-Pacific Population Policy*. No. 45.

Yoo, Seong-Ho (1999). The economic status of the aged and income security programs for the aged in Korea. *Aging in Korea: Today and Tomorrow*. pp. 67-82.

TABLE1. MAJOR INDICATORS OF POPULATION PROJECTIONS IN KOREA, 1995-2050

⁽¹⁾ UNPD Projection								⁽²⁾ KNSO Projection						
Indicators	1995	2000	2010	2020	2030	2040	2050	1995	2000	2010	2020	2030	2040 ⁽³⁾	2050 ⁽³⁾
Total population (1,000)	44,949	46,844	49,976	51,893	52,898	52,700	51,275	45,093	47,275	50,618	52,358	52,744	51,412	48,508
Male (1,000)	22,646	23,624	25,183	26,053	26,438	26,250	25,496	22,705	23,831	25,536	26,384	26,492	-	-
Female (1,000)	22,303	23,220	24,793	25,840	26,460	26,450	25,779	22,388	23,443	25,081	25,974	26,252	-	-
Sex ratio	101.5	101.7	101.6	100.8	99.9	99.2	98.9	101.4	101.7	101.8	101.6	100.9	-	-
Potential support ratio	12.62	10.67	7.63	5.69	3.60	2.67	2.40	11.98	10.03	7.01	5.27	3.35	2.58	2.44
Age composition (0-14)	23.5	21.5	19.7	17.7	16.7	16.3	16.0	23.4	21.7	19.9	17.2	16.0	15.8	15.4
(15-64)	70.9	71.8	71.0	70.0	65.2	60.9	59.3	70.7	71.2	70.1	69.6	64.7	60.7	60.0
(65+)	5.6	6.7	9.3	12.3	18.1	22.8	24.7	5.9	7.1	10.0	13.2	19.3	23.5	24.6
Mean age	29.2	31.4	36.0	39.7	42.3	43.6	44.4	29.5	32.9	36.3	39.5	42.2	-	-
Crude birth rate		95-2000	2005-10	2015-20	2025-30	2030-40	2040-50	15.6	14.2	11.8	10.8	10.6	-	-
Crude death rate		6.2	7.0	8.2	9.8	11.2	13.2	5.5	5.9	7.1	8.9	10.4	-	-
Population growth rate		0.83	0.58	0.33	0.14	-0.04	-0.27	0.95	0.77	0.42	0.13	-0.04	-0.58	-0.68
Net migration rate		-0.4	-0.4	-0.2	0.0	0.0	0.0	0.6	0.6	0.5	0.6	0.6	-	-
Total fertility rate		1.65	1.76	1.89	1.90	1.90	1.90	1.74	1.71	1.74	1.80	1.80	-	-
Life expectancy at birth (both sexes)		72.4	74.5	76.3	77.8	78.7	79.6	73.5	74.9	77.0	78.1	79.0	-	-

(1) UNPD, *Replacement Migration*. 2000. P.120.

(2) KNSO (Korea National Statistical Office), *Population Projection*. 1996.

(3) Kim, Tae Hun, "Population prospects and social effects." In Kwon et al. *Understanding of Fertility Transition in Korea*. Seoul: Iljin Publishing Co. 1997. P.173.

TABLE 2. DISCREPANCY OF MAJOR INDICATORS BETWEEN UNPD PROJECTION AND
KNSO PROJECTION IN KOREA, 1995-2050

<i>Indicators</i>	<i>1995</i>	<i>2000</i>	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
Total population (1,000)	-144	-431	-642	-465	154	1,288	2,767
Sex ratio	0.1	0	-0.2	-0.8	-1.0	-	-
Proportion of the elderly aged 65+	-0.3	-0.4	-0.7	-0.9	-1.2	-0.7	0.1
Potential support ratio	0.68	0.69	0.62	0.42	0.25	0.09	-0.04
Population growth rate	-	-0.12	-0.19	-0.09	0.01	0	0.31
Net migration rate	-	-1.0	-1.0	-0.7	-0.6	-0.6	-
Total fertility rate	-	-0.09	0.05	0.15	0.1	0.1	-

(1) Discrepancy for each indicator is calculated on the basis of Table 1 (UNPD – KNSO).