Low Fertility: Concerns for Military Planning in South Korea

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The Republic of Korea (ROK) has the sixth largest armed forces in the world (Central Intelligence Agency 2010). As seen in Table 1, the only countries with larger military forces are: China, USA, India, Russia, and North Korea (Globalfirepower 2009). Given the historical disagreements and recent developments in the Yellow Sea, it is unlikely that that there will be major scaling back of armed forces in either North or South Korea (Kirk 2010).

Concurrently, South Korea is one of the countries with the lowest fertility rates in the world (Population Reference Bureau 2010). South Korea's low fertility rate has been below replacement level since 1983 and has experienced, with some variations due to the zodiac calendar (Lee and Paik 2006), a decline to the current Total Fertility Rate (TFR) of 1.2 first recorded in 2002 (Korea National Statistical Office 2009; US Census Bureau 2011). Despite this unprecedented and sustained low fertility rate, scholars and policymakers have not adequately considered whether low fertility will pose a security risk for South Korea in the coming years.

OPTIONS FOR THE MILITARY TO AMELIORATE LOW FERTILITY

Five possible options for avoiding the dearth of potential conscripts are: 1) to decrease the size of active military; 2) to increase (or not shorten) the service time; 3) to increase fertility; 4) to increase immigration; and 5) to increase the number of women serving in the military. The first two options hold the most hope. After presenting data on population projections that support the first two options, the discussion below highlights why the last three options will be difficult for South Korea to achieve.

The first option of decreasing the size of the military is the most likely one to address the situation since ROK government officials and military officers are keenly aware of the impending population implosion and have put into place reductions of the army troops from 522,000 to 387,000 by 2020. Navy and Air Force are expected to maintain their current size for the time being at 68,000 and 65,000 troops respectively.

To determine how many young men will be available to serve in the Korean military, three population projection series are utilized. The three projection series were selected to provide a range of fertility levels that are plausible for the country and illustrate possible population scenarios between now and 2050. The United Nations high series is used as the High Series for this analysis. The UN Series starts with a 2010 Total Fertility Rate (TFR) of 1.51, increasing to 2.09 in 2045-50 as an upper limit. The middle projection uses data from the Korea Statistical Information Service (KOSIS) with a TFR starting at 1.15 in 2010, increasing to 1.28 by 2040 and then remaining at that level through 2050. The low projection series (Heilig-Stephen) utilizes a starting TFR of 1.2 for 2010, ending at 0.7 in 2050.

To get a finer sense of the supply of annual conscripts, population projections are shown for 20-year-olds. Age 20 was selected as being representative of one age cohort for conscripts in a given year as a central age for the college-aged population. The dynamics of the fertility decline in South Korea

become even more obvious by focusing on one specific age over time, especially when matched with the potential required number of conscripts.

Figure 1 shows the projected number of 20-year-olds from 2010 to 2050 using the three projection series. The largest number of 20-year-old men should occur in 2013-2014 when there will be approximately 367,000-368,000 20-year-old men in the ROK. Between now and 2013 there are slightly insufficient numbers of 20-year-olds to supply the armed forces with the number of needed conscripts to maintain troop size, but from 2013 to 2020 there should be enough men since the projections of 20-year olds is higher than the required number of recruits. Starting in 2020, however, the situation becomes more problematic and by 2050, if troop size is kept constant, only the most optimistic of the projection series (and thus the most optimistic fertility scenario) will come close to producing the supply of needed men.

While troop reduction is necessary, a reduction in time served is counterproductive for the ROK military. To make military service more attractive the Ministry of Defense had made plans to reduce the service period by six months. This change was to have been implemented gradually between January 2008 and February 2016. The reason given for the reduction in the Defense White Paper of 2008 (285) is: "MND [Ministry of National Defense] is gradually reducing the service period to relieve citizens' burdens and allow more people to fulfill their obligations by assigning service duties fairly." Paired with the reduced service time for the majority of the troops is the option for personnel to extend their duty time. The intent is that by 2020 there would be 40,000 servicemen who would serve an additional 6-8 months (combat and expert skills) and 3 years for those who operate advanced equipment. The Ministry of National Defense (2011) states: "The extended service system seeks to secure the following two types of servicemen: those adroit in combat and other skills who are expected to be difficult to retain once the period of military service has been reduced, and those trained in the operation of advanced equipment who will be needed once high-tech equipment has been adopted following the defense reform."

In December of 2010, however, the reduction was frozen at 21 months effective on February 27, 2011 (The Chosunilbo 2010a). The Presidential Committee on Defense Advancement proposed that service time be restored to 24 months for the army but the decision was made to hold the service term at 21 months for the army. Service terms for the Navy and Air Force will be 23 and 24 months respectively.

To illustrate the effect that the time served would have in conjunction with the draw down in troop size, the Person Years Served were calculated. Each person who serves one year is counted as one person year served; if ten conscripts serve for two years each, that counts as twenty person years served, etc. The average number of days that a conscript would serve is calculated depending on the year in which he enlisted and by the branch of service.

Figure 2 shows the Person Years Served by these conscripts based on the 2011 service time of 21 months for Army personnel from 2011 to 2020, 23 months for the Navy, and 24 months for Air Force. The overall reduction in Person Years Served is 27 percent. The 2011 modified service period

reduction is responsible for 6 percent in the decline in Person Years Served from 2008 to 2020 rather than 18 percent had service time not been frozen in 2011.

The analysis of Person Years Served shows that a reduction of service time works against the MND's stated goal of manpower planning in the 2008 Defense White Paper. The decision to hold the service time at 21 months for the army is an excellent step in the right direction; the Commission's proposal to return to 24 months of service for the army is the next critical step. Therefore, this option is one of the strongest actions that the MND can incorporate immediately and should do so before the 21-month service time becomes the norm.

Although demographic options such as increasing fertility and/or increasing immigration have been proposed as solutions to increasing the supply of young men, they are not easy or quick fixes.

In order to understand why increasing fertility (option 3) is not a likely option for increasing the pool of recruits, it is critical to understand the history and socioeconomic reasons of the fertility decline which started in the 1960s when the state disseminated messages promoting small families coincided with the country's rapid rise of urbanization and industrialization (Moon 2005).

Economic factors, in addition to demographic factors, have kept fertility rates very low. The 1997 economic crisis was devastating for Korea, with unemployment rates for men aged 20-24 jumping from 8.7 percent in 1997 to 19.4 percent in 1998 (Eun 2006). More recently, Korea has been affected by the international financial crisis of 2008. The economic shocks have led to diminishing expectations for labor market success, which is one of the factors leading to an increasing mean age at marriage (Choe and Park 2006; Kim 2009).

Mean age at first marriage rose from 24.1 years in 1985 to 28.1 years in 2007; mean age at first birth was 27.2 in 1995 and was 29.6 years in 2005 (Choe and Retherford 2009; Korea National Statistical Office 2009; Lee 2009). In 1970, 88 percent of women aged 25-29 in South Korea were married; by 2005 that number had dropped to 40 percent (Westley, Choe and Retherford 2010). Delayed marriage and fewer persons marrying have been cited as the primary causes for the decline in the fertility rate between 1995 and 2005 (Choe and Cho 2008).

Labor force participation rates for women aged 25-29 have risen from 47.9 percent in 1995 to 72.7 percent in 2007 (Eun 2006; Kim 2009). To date many South Korean women have not been able to integrate work and family roles successfully. With a lack of public childcare facilities in Korea, the burden for caring for young children generally falls to families, and most specifically to mothers. Although there are no school fees for public elementary and middle schools, extra-curricular studies and private after school academies (hagwon)--which are attended by most children--are very expensive and time consuming. South Koreans spend more on education per capita than any other country (Borowiec 2011). The cost of raising and educating a Korean child is estimated to be at least US $253,000 (Jones, Straughan and Chan 2009).

Although family planning programs in the 1960s and 1970s were highly cost-effective, pronatalist programs that have been instituted in the past five years have not yet proven to have had much effect

in large part due to the forces of socioeconomic development that keep fertility low (Westley, Choe and Retherford 2010). Haub (2010) argues that increasing fertility in Korea must be accompanied by "changes in attitudes on women's roles by society (and men in particular) along with the establishment of programs and policies by government and businesses." The country's work culture and gendered society will require societal shifts for success of any pronatalist plan (Hallex 2010; Moon 2005). In essence there is no simple solution that will lead to an increase in fertility rates.

The fourth option--increasing immigration—would add to the overall population base of the country, but immigration is not a very feasible for maintaining current troop size because there is currently no possibility for immigrants to become citizens. The restriction of Korean nationals serving in the military could be relaxed in the future but it would require a massive ideological change in the military. South Korea traditionally has had very low rates of immigration; efforts at multiculturalism and ethnic diversity have not been successful (Borowiec 2011). The integration of immigrants into the fabric of the Korean society would be challenging: "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" (Kim 2000:4).

One means in which immigration could lead to higher fertility levels or at least a larger number of children being born is through international marriages. In 2004 there were 35,447 marriages between Korean citizens and non-Koreans, which was 11.4 percent of all marriages (Lim 2008). Children of international marriages would be considered Korean and thus would be eligible to serve in the military. The increasing number of international marriages will certainly challenge the notion of national identity and challenge the myth of ethnic homogeneity in Korea, but would be one of the few positive options to alleviate the demographic quagmire facing the country.

With regard to the fifth option, the number of women in the South Korean military has been limited to date. During the past 50 years many other countries have utilized and integrated women into their armed forces. Notably Israel drafts females, while the United States, Canada, Great Britain, the Netherlands and Norway allow women into nearly all service branches (Hong 2002). However, "In the case of Korea, during the past half-century, women have played a minor and non-substantial role in the South Korean armed forces due to constitutional and cultural restraints" (Hong 2002:731).

The Ministry of Defense plans to increase the percentage of female commissioned officers from the current 4.3 percent (3,111 officers) to 7.7 percent by 2020. They also hope to expand the percentage of non-commissioned female officers from 2.9 percent (3,051 officers) to 5.5 percent in this same time period (The Chosunilbo 2010b). The Ministry of Defense (2008:167) states that, "all qualified service members, regardless of gender, will be assigned to any job and will carry out the same missions during peace and war." If there is a greater reliance on technology and less reliance on on-the-ground troops, then increased numbers of women in the ROK military might be more feasible. Less certain is whether young women would find the military option desirable.

The inclusion of more women in the ROK military would seem to be a simple solution to the shortage of young males, but it is evident that it will require parallel changes in the gendered structure of the

country. Hong (2002) argues that armed forces should be socially representative, and furthermore that social representation stems from citizenship. If military service is constructed as a right as well as an obligation, then marginalizing one group (women) limits their citizenship. The societal changes that would bring about acceptance of women into all areas of the ROK military are likely to develop over a long period of time; whether that will be by 2050 remains to be seen.

MILITARY PLANNING

The Ministry of National Defense (MND) must make major shifts by 2020 to have a sufficient force and should not wait until then to institute the proposed changes. The decline in the number of young men serving in the armed forces and the reduction of time to be served by conscripts will lead to a leaner military. The overarching question is whether the supply of young men, military troop reductions and time served reductions are opportunities or catastrophic problems for the ROK. The demographic analysis presented here points to four critical planning goals for the ROK Military.

The first step is one that can be instituted immediately. Time served should be increased/stabilized at 24 months for all branches of the military.

The second action is that the MND must move away from "a manpower-intensive structure to achieve a scientific, integrity-driven, technology-intensive structure" (Ministry of National Defense 2008: 58). The demographic projections clearly show that a leaner military will be required as early as 2020.

The third planning goal for the MND must be to develop technology. The budget for defense R&D increased by 11.5 percent in 2010 from the previous year and is now 6.1 percent of the entire defense budget (Paek 2010). The 2010-2014 Defense Plan calls for upgrading the development of high-tech weapon systems that would match an advanced country; the 2015-2019 period has the goal of developing state-of-the-art weapon systems (Paek 2010).

The fourth planning goal is to continue and strengthen the alliance with the United States. Klingner (2008) argues that, "Washington and Seoul should develop a joint strategic vision of the future purpose, objectives, and roles of the broader alliance and how it furthers the two countries' national interests. It will then be possible to identify the roles, missions, and required capabilities of the two militaries and then implement the broader alliance through procurement, deployment, and training. The two governments must then engage in extensive public diplomacy to gain public support for the revised military partnership."

The Ministry of National Defense faces great uncertainty about potential conflict with North Korea. The size of the North Korean military should remain fairly stable. Fertility in North Korea was steady at replacement level (TFR of 2.1) from 1996 to 2008 and has been at 2.0 since then (US Census Bureau 2011). Barring any other social or economic disasters such as another famine, there should be a sufficient number of young people to continue serving in the North Korean military.

It is impossible to predict what kind of war might occur between North and South Korea. A ground war is still a possibility but a reported North Korean cyber attack in April 2011 raises a different set

of concerns that would argue for a more technologically sophisticated South Korean military (Harlan and Nakashima 2011). Some argue that there will be more evidence of North Korea launching more cyber attacks or stealthy warfare because the country "is so bankrupt that it can no longer train its troops or buy the technology needed to fight a conventional war" (Shanker and Sanger 2010).

It is equally difficult to know with certainty the stabilization efforts that might be needed in North Korea if there is a reintegration of the two countries. If long-term stabilization efforts are needed in North Korea, the United Nations forces and NGOs will be required to assist ROK military efforts of peace building. One anticipated major challenge will be the ability to manage a long-term commitment in the North with the need for troop rotation, which would necessitate a large enough force to allow for troops to return to South Korea for periods of time. The type of war and reconciliation will determine in large part the size and type of military required in South Korea. This uncertainty requires the Ministry of National Defense to be prepared with several options. A ground war would be very difficult for South Korea to sustain; the demographic concerns strongly argue for a leaner, more technologically based military that will include more women.

The current situation between North and South Korea is as dangerous as it has been at any point in the past 50 years (The International Institute for Strategic Studies 2011). Although there is much uncertainty about what will happen in North Korea and when a regime change might occur, the timing of troop demand for South Korea will likely overlap with a rapid decline in the supply of young men to serve in the ROK armed forces. This is an issue whose significance to the peace of the Korean peninsula and the alliance with the United States cannot be overstated.

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TABLE 1. Relation of active military to total population for the six largest militaries in the world, 2008

Country	Size of active military	Rank of size of active military in the world	Population	Rank of population in the world	Percentage of population in active military
China	2,255,000	1	1,330,044,605	1	0.17
United States	1,385,122	2	304,059,724	3	0.46
India	1,325,000	3	1,140,566,211	2	0.12
Russia	1,245,000	4	140,702,094	9	0.88
North Korea	1,170,000	5	22,565,347	49	5.18
South Korea	687,000	6	48,379,392	25	1.42

SOURCES: CIA 2009; Globalfirepower 2009; US Census Bureau 2009)

FIGURE 1. Number of projected South Korean Males aged 20 and expected needed conscripts: 2010-2050

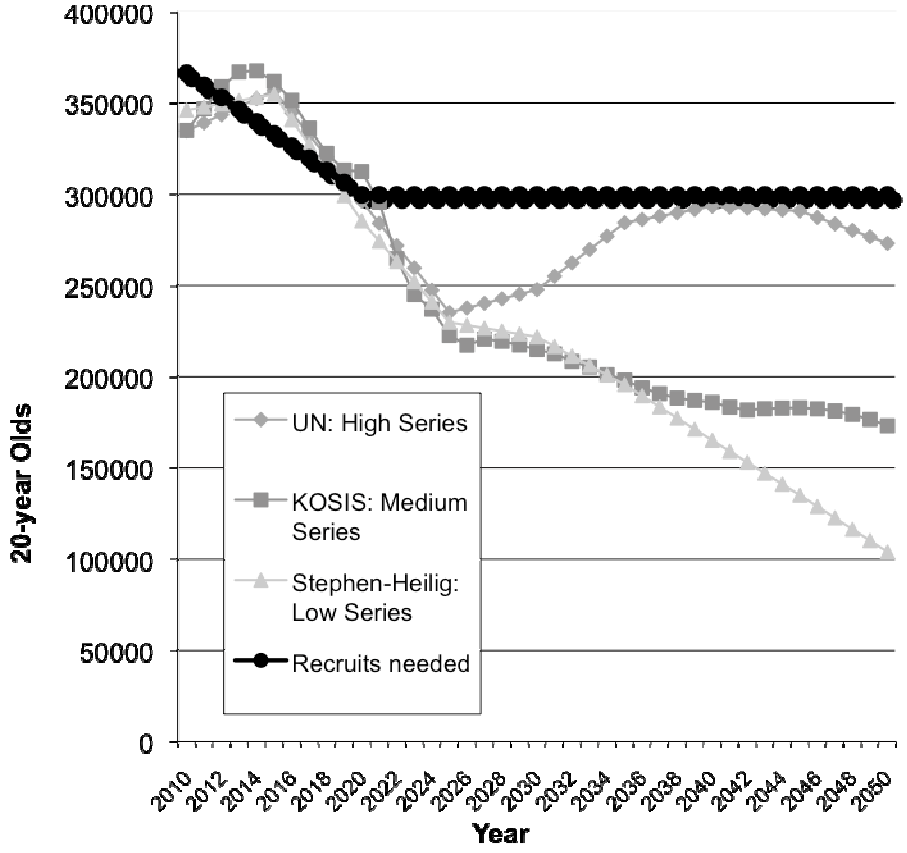

FIGURE 2. Number of Person Years Served by the conscription cohorts based on service times in place as of February 27, 2011, South Korea: 2008-2020.