

Recasting the Viability of a Small Ally's Airpower: South Korea in Focus

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South Korea's deterrence strength lies in its ability to defend its territorial integrity, including its territorial waters. Conflicting economic interests in terms of gas and oil deposits in the East Sea and Yellow Sea (also known as the Sea of Japan and West Sea, respectively) present possible areas of dispute over international waters surrounding the Korean peninsula. Waging war efficiently and effectively in the late twentieth and early twenty-first centuries has demonstrated the necessity for highly maneuverable and accurate airpower. Technology has provided the means for quickly eliminating opposing forces by making use of accuracy and flexibility. This precision in airpower has subsequently resulted in a diminished need for large standing armies.

Even in difficult terrain, as exhibited in Afghanistan, ground troops now function as "mop-up crews," routing small pockets of resistance. Countries throughout the world have reduced the size of their standing armies to compensate for the expanded roles of airpower. No longer is it necessary to present large armies as the principal deterrent in defense of the homeland. Air capability is now the chief means of national security.

Given the intrinsic nature of mission deficiencies in South Korea's rifleman-intensive force composition, the overall combat readiness of its military forces is lacking in force viability (i.e., survivability, mobility, lethality, and maneuverability). This article discusses the implications of each of these viability features in enhancing the combat readiness of the Republic of Korea Air Force (ROKAF).

Survivability: South Korea's Double Benefit from the US Patriot System

The ROK government's delayed purchase of the Patriot system (PAC-3) to replace the ROKAF's obsolete Nike Hercules surface-to-air missiles is an example of South Korean defense posture's shortcomings in terms of survivability. Benefits of the ROKAF's acquisition of the Patriot system are twofold: (1) it will assure drastic improvement of the ROKAF's air defense posture against hostile aircraft and missile attacks and (2) it will thereby increase South Korea's deterrent capability and at the same time relieve the South Korean public's fear of the Scud threat from North Korea. Despite the fact that Russian-designed Scud missiles, armed with a single and "wildly inaccurate" warhead, turned out to be "a significantly degraded threat" since Operation Desert Storm, the ROKAF's purchase of the combat-proven Patriot

system would likely provide a psychological deterrent against North Korea's ruler Kim Jong Il, as well as a morale boost for the South Korean people. Such was the effect on Israelis during the Persian Gulf War of 1991.¹

In addition to tactical and psychological benefits, the ROKAF's acquisition of the American-designed Patriot system offers the South Korean government an opportunity to enhance its long-term strategic cooperation with America. By offering a new partnership in the development of the "drastically improved" air/missile defense area, "Korean Patriot systems [could be] netted into a U.S. theater architecture [that includes the] U.S. Navy's Aegis system and the USAF's AWACS [airborne warning and control system] platforms."² South Korea could also benefit "from U.S. sensor and cueing data provided by the American Navy's *Cooperative Engagement* and other sensor netting and fusing capabilities, and therein enhance the effectiveness of [the ROKAF's] own strike systems."³

Mobility: A Key Facet of South Korea's Airpower

The ROKAF's shortage of airlift capability decreases the ROK's military mobility. The current ROKAF transport fleet of barely 25 aircraft—10 C-130Hs and 15 Spanish-designed, twin-engined CN-235Ms—cannot support such huge South Korean ground forces as seven ROK Army special-forces brigades for airborne operations (paradropping and air resupply), plus five independent brigades (two infantry and three counterinfiltration) and 24 active combat divisions (19 infantry, three mechanized, and two marine), excluding more than 23 reserve divisions for logistical air support.⁴ Increasing traffic on South Korea's road networks, congested due to geographical features (mountains and rivers), would benefit from more airlift capability. Conditions of surface transportation will likely worsen in wartime, especially when ground movement runs into floods of refugees.

South Korea will continue to take part in US-led United Nations operations such as peace enforcement, disaster relief, and humanitarian assistance, as well as antiterror operations in Afghanistan—all of which will require interregional airlift support from the ROKAF.⁵ Enhancing the ability of South Korea's military forces to transport personnel and equipment to theaters of operations may prove just as important as its new fighter aircraft. For that reason, ROKAF leaders should expand the current C-130H fleet by either purchasing or leasing additional numbers of the "all new" C-130J—the upgraded version of the C-130H.

In addition, the ROKAF long has been deeply concerned about a midair refueling system that would extend flight time during combat air patrols, often conducted in the outer edge of the Taegu Flight Information Region, where all

search-and-rescue operations become the ROK government's responsibility. To operate efficiently, the ROKAF fighter fleet needs tankers since fighters burn six to seven times more fuel on takeoff with full power. Furthermore, the role of tankers will become more demanding when South Korean fighter pilots have to conduct low-level training missions over water rather than land because of concerns about flying over densely populated areas and public complaints about noise pollution.

Airlift is a fundamental part of air force capability (rapid, flexible, and long-range mobility). Improving the ROKAF's airlift in wartime, as well as the so-called assistance-projection capability in peacetime, will make an appropriate contribution to regional security and international peacekeeping.

Lethality: "All Bombs Are Becoming Political Bombs"

The ROKAF's efforts to enhance lethality by increasing its stocks of precision-guided munitions (PGM) are hampered by budgetary constraints arising from the burden of maintaining an excessive number of infantry troops.⁶ The ROKAF should enlarge its arsenal of PGMs in anticipation of the "clean wars" of the future. As Col Phillip S. Meilinger, USAF, retired, observed, "Few will forget the cockpit videos of laser-guided bombs flying down air vents and into bunker doorways."⁷ Desert Storm introduced an improvement in the accuracy of PGMs, combined with stealth technology. Accuracy and stealth allowed coalition forces to strike and neutralize targets quickly and safely—and to do so less expensively. Aircraft could safely hit more targets in a given time period, thus permitting parallel operations.⁸ During Desert Storm, PGMs inflicted 42 percent of the damage upon strategic targets, even though these weapons constituted only 9 percent of the total tonnage of ordnance dropped.⁹ This statistic suggests that PGMs could reduce not only the number of combat sorties, but also—and more importantly—the combat attrition of skilled pilots.¹⁰

Forces of the future will engage in clean wars to soften the impact on civilians by minimizing collateral damage while concentrating on the neutralization of military targets. Colonel Meilinger has called on all air leaders to reduce civilian casualties and collateral damage as much as possible: "Air warfare has thus become highly politicized. . . . All bombs are becoming political bombs, and air commanders must be aware of this emerging constraint."¹¹ Obtaining weapons that avoid collateral damage should become an important new aspect of the ROKAF's future conduct of air operations.

Maneuverability: Russian versus South Korean Aircraft

From the pilot's standpoint, maneuverability means agility and versatility in aerial combat and air strikes. Agility comes with accelerating power (i.e., thrust-to-weight ratio), radar, and fire-control systems, just as versatility comes with combat range, diversity of weapon loads, and all-weather capabilities. Maneuverability in aerial combat ensures survivability and lethality. Clearly, then, a preponderance of maneuverability is a high priority in selecting new fighter aircraft. For this reason, ROKAF fighter pilots are keenly concerned about the emerging challenge of the Russian-designed, highly maneuverable Su-27 all-weather/long-range supersonic fighter aircraft.

Obviously, the ROKAF's F-16 short-range fighter aircraft cannot compete successfully with the Su-27 in the long-range, diverse environments and adverse climatic conditions of the future. Just as the US Air Force and Israeli Air Force have successfully demonstrated mission efficiencies with their fighter mix of F-15s and F-16s, so does the ROKAF need a similar mix in the years immediately ahead, given the increasing number of Su-27s in Northeast Asia.¹²

Although South Korea cannot afford an ultra-advanced and hyperexpensive next-generation fighter such as the F-22 (over \$200 million apiece in then-year dollars),¹³ it can nevertheless obtain reasonably good systems.¹⁴ In parallel with the recently approved production of an additional 20 KF-16s, the ROKAF should consider the F-15 scheme an "interim" advanced-fighter program that will allow its pilots to deal with the Su-27s until Russia fields a combat-operational MiG-1.42 or S-37 (the prototype of its next-generation fighter aircraft—equivalent to the US F-22).¹⁵

Strength versus Weakness

Given the innate limits in resources, technology, and geography, as well as diplomatic restraints in world power politics, South Korea cannot wage war on its own, particularly in the case of an aerospace-oriented theater threat employing either nuclear weapons or weapons of mass destruction.

Accordingly, efforts to enhance a balanced defense posture for South Korea should focus on mission efficiencies of conventional tactical weapon systems. According to Dr. Manwon Jee, "the stockpile of strategic weapons of the [Korean People's Army] is beyond the defense capabilities of the ROK forces."¹⁶ That is why the South Korean military has been and will continue to be discouraged from growing beyond a tactical military power and "encouraged" to remain dependent upon, and complementary to, US forces deployed on the Korean peninsula.

One of the inalienable privileges (strengths) of the ROK forces is their alliance with US forces, particularly the US Air Force, which is committed to reinforce its South Korean counterpart. One of the impermissible weaknesses of the South Korean military establishment, however, is the severe disparity among

its three services and the excessive dependency upon US airpower. Thus, the ROK could easily lose one of its prime strengths—US reinforcements—if coming to the ROK's aid were not in the best interests of the United States.

The political nature of the US commitment of reinforcements institutionalized in the US-ROK Mutual Defense Treaty makes the possibility of America's revoking its security commitment a serious concern for South Koreans. It is even more serious for South Korean airmen because America could disengage its committed airpower in the ROK quickly and in a relatively short time. US combat aircraft stationed in South Korea could fly out swiftly if the US government chose not to become directly involved in fighting. Obviously, all air base facilities and ground-support elements without US fighter aircraft would become useless since the loss of fighters incapacitates all remaining elements of American airpower. One American official pointedly noted the salient political and psychological differences between ground forces and air units: "War planes are like geese. They can honk and fly away."¹⁷

Military Expenditures

Since the Korean Armistice Agreement, the South Korean economy has made great strides—for example, per capita income is now almost 100 times greater than it was in 1958 (nearly \$10,000 as opposed to less than \$100). Similarly, the ROK's defense posture has improved remarkably, surpassing the readiness standards of 1958. In the past three-and-a-half decades, South Korean taxpayers invested an enormous amount of money in the enhancement of their military's combat readiness. From 1974, when the US government grant ceased, to 1996 a total of approximately 34.5 trillion won (about \$30 billion in US currency)¹⁸ were invested in ROK Force Improvement Programs (table 1).

Table 1
ROK Force-Improvement Programs

<i>Agency</i>	<i>Programs Implemented</i>
Ministry of National Defense	Command, control, communications, computers, and intelligence (C ⁴ I) systems

Army	<p>K-1 tanks (indigenous) Artillery (105 mm and 155 mm)</p> <p>Multiple rocket launchers (130 mm)</p> <p>Helicopters (500MD, AH-1, UH-64, and UH-47)</p>
Navy	<p>KDX (indigenous destroyers, frigates, and submarines)</p> <p>Antisubmarine warfare (P-3C four-engined maritime patrol aircraft).</p>
Air Force	<p>Project 222 (automation of ROKAF radar-network systems)</p> <p>H-TACC/K-COIC (hardening and modernization of USAF-ROKAF combined command post)</p> <p>Fighter aircraft (KF-5, F-4, and F/KF-16)</p> <p>Trainers (T-59/BAE Hawk and KTX-1)</p> <p>Transport (C-130 and CN-235)</p> <p>Helicopters (UH-64 and CH-47)</p> <p>Jet airdromes (Chongju, Joongwon, and Seosan air bases)</p>

Clearly, the combat posture of South Korean military forces has made noticeable strides in terms of firepower, maneuverability, and mobility. Accordingly, the downsizing of South Korean riflemen should have been implemented in proportion to the qualitative enhancement of the ROK's combat readiness. The increased amount of manpower required by the ROKAF and the Navy to man their additional aircraft and combat vessels should have been replenished by drawing down infantry forces; that is, the number of people should drop over time as mature leadership and the enhancement of viability (i.e., battle tank, combat vessel, fighter aircraft, C⁴ISR [C⁴I plus surveillance and reconnaissance], etc.) substitute for labor (foot soldiers).

Issues concerning the cost-effectiveness of maintaining the ROK's huge ground troops have never been highlighted in South Korean congressional debate since the first and last revision in 1958. Over the past four decades, the personnel strength of the Air Force and Navy has grown to 63,000 and 67,000 (including 25,000 marines), respectively, while the manpower of the Army (approximately 560,000 men in 2002) has not changed.¹⁹

Lease of Overseas Airdromes

South Korea should have as its top priority current readiness and operations. The diversification of flying-training facilities of both combat and undergraduate pilot training requires immediate attention, for ROKAF pilots are incessantly threatened by the increasing possibility of midair collisions from ever-expanding air traffic. For example, after the newly built Incheon International Airport opened last year (2001), traffic congestion increased, with takeoffs and landings occurring every 30 seconds. Airspace over the Korean peninsula has become more congested by over 250,000 flight movements a year, excluding military traffic of fighters and helicopters. From January 1990 to August 1997, South Korean flag airlines alone reported 48 near-miss midair collisions.²⁰ South Korean citizens residing in the vicinity of air bases surrounded by sprawling "concrete jungles" are constantly exposed to perennial noise pollution and the danger of possible accidents involving fighter aircraft carrying bombs.

Consequently, the ROK government should diversify ROKAF air-training areas and launching bases either by building additional new airdromes or leasing overseas airfields (e.g., in the United States, Canada, and Australia). Countries such as Singapore and some NATO countries (e.g., Germany, the Netherlands, and Denmark) lease airfields abroad.²¹ As a matter of fact, leasing overseas airdromes could prove more beneficial than building new ones in-country in terms of money, time, and societal backlash. To build an airfield on the scale of the recently opened Seosan Air Force Base on the west coast would cost 5,000 billion won (\$435 million US) and would take eight to 10 years.²² In addition, the government should also take into account the constrained availability of

already congested land and the difficulties involved in soliciting land owners' consents. The two-tier benefits of leasing overseas airfields are worth considering: (1) ROKAF pilot-training programs could stay open in wartime without fear of hostile attack or harassment and (2) the ROK government could expand flying facilities without posing political and diplomatic burdens on neighbors or aggravating the worsening flying environment at home.

To lessen the nation's fiscal burden, the ROK government should freeze the defense budget at the current level until the government fully recovers from the foreign-currency liquidity crisis. But this should *not* entail transferring the redundant budget to nonmilitary programs. Instead, savings accrued from the force reduction should go to improving efficiencies of the South Korean military. The US government froze its defense budget at \$250 billion for five years (1997–2001) as a means of increasing by 50 percent the money required for weapons procurement for US force improvement.²³ South Korea might do the same.

The Right to Self-Defense: ROK's Inviolable Prerogative

The US policy of restraining the growth of the ROKAF has persistently reflected the fear of American policy makers that the ROK might unilaterally use any offensive means given it against either North Korea or Japan. South Korean politicians and defense planners should be reminded of the reason for the restrained growth of their own airpower and the severe disparity of their military composition.

The challenge for South Korea today is to build credible armed forces with a reasonable self-defense capability for tomorrow. The inviolable prerogatives of a sovereign state to protect its territorial integrity demand the ability to defend itself, particularly its airspace at the critical, initial stage of war, before external assistance arrives. South Korea, therefore, should be able to act if an external attack were imminent because the purpose of its right to act in self-defense should be preventive in nature rather than retaliatory.²⁴

Notes

1. None of the 71 Iraqi al-Husayn missiles fired during Operation Desert Storm successfully carried out pinpoint attacks against such key coalition installations as airpower staging bases, largely due to the inaccuracy and unreliability of their warheads; the latter demonstrated fusing problems and other technological limitations, such as breaking up during flight. *U.S. News and World Report, Triumph without Victory: The Unreported History of the Gulf War* (New York: Times Books, 1992), 243–45; and Jacquelyn K. Davis, "The Roles and Missions Debate in the United States: Implications for Korean

Security," in *Strategic Trends in Northeast Asia at Century's End*, ed. Choon Geun Lee and Chung Min Lee (Seoul: Sejong Institute, 1994), 99.

2. Davis, 100.

3. Ibid.

4. International Institute for Strategic Studies, *Military Balance, 2001–2002* (London: Oxford University Press, 2001), 199.

5. A battalion of ROK Army troops is currently engaged in the peacekeeping mission in East Timor. A squadron of six C-130H transport aircraft is also flying airlift missions at Diego Garcia in support of US operations in Afghanistan.

6. Direct expenses of the ROK armed forces (e.g., salaries, food, clothes, etc.) constitute 45.3 percent of the operating cost, which occupies 69.9 percent of the annual (1998) total defense budget. ROK Ministry of National Defense, *Kook Bang Baek Seo 1999* (Defense white paper 1999) (Seoul: Daejong Printing Co., 1999), 257.

7. Phillip S. Meilinger, *10 Propositions Regarding Airpower* (Washington, D.C.: Air Force History and Museums Program, 1995), 45.

8. The improved accuracy of PGMs allowed a remarkably low loss rate per sortie (less than .05 percent).

9. Gen Ronald Fogleman, USAF, retired, "Aerospace Power: Possibilities for the 21st Century," in *Airpower Dynamics and Korean Security*, ed. Chung-in Moon and Chung Min Lee (Seoul: Yonsei University Press, 1999), 93.

10. Training a skilled South Korean F-16 pilot costs more than \$3 million US and takes about eight to nine years, including four years of college education at the ROKAF Academy, one-and-a-half years of pilot training, and three to four years of combat-readiness training prior to his assignment to operational duties.

11. Meilinger, 46.

12. South Korea recently selected the US-designed F-15E Strike Eagle as its next long-range, all-weather fighter aircraft to augment the existing F-16s and to fill the gap until the fielding of F-22s.

13. The 2001 defense appropriations bill will invest \$2.1 billion in the purchase of the first 10 F-22s for the US Air Force. Jennifer Palmer, "U.S. Air Force's F-22 Raptor Program Safe," *Defense News* 15, no. 30 (31 July 2000): 6.

14. The US Air Force fighter fleet will be upgraded to be a mix of F-22 and Joint Strike Fighters (F-35s) within this decade. For the time being, however, it would be premature for the ROKAF to look for a similar mix, due in part to budgetary constraints.

15. The Russian Air Force probably will not field its next-generation fighter aircraft within this decade due to budgetary constraints and delayed development. Russian experts believe that "Russia is 5–7 years behind the U.S. in developing such an aircraft." Russian observers questioned whether "Russia will be able to afford development of an advanced combat aircraft at all." One report reveals that Russia cancelled production of the prototype MiG-1.42 in March 1997. Nicolay Novichov, "S-37 Testbed Evaluates New Concepts," *Aviation Week and Space Technology*, 10 November 1997, 46, 50.

16. Manwon Jee, "Between Inertia and New Thinking: Recasting and Forecasting South Korea's Military Strategy," in *Airpower Dynamics and Korean Security*, 82.

17. Earnest W. Lefever, "Withdrawal from Korea: A Perplexing Decision," *Strategic Review* 6, no. 1 (Winter 1978): 34. For Lefever's full account, see pages 28–35.

18. ROK Ministry of National Defense, *Defense White Paper, 1997–1998* (Seoul: Korea Institute for Defense Analyses, 1998), 223. Exchange rate of Korean currency to American dollars in this article is one US dollar to 1,115 Korean won.

19. *Military Balance, 2001–2002*, 198–99. The ROK government does not articulate the number of ROK marines, who are simply included in the ROK Navy's total personnel strength of 67,000. ROK Ministry of National Defense, *Defense White Paper, 2000* (Korean) (Seoul: Daehan Computer Inse Jeongbo, 2000), 57. According to a defense analysis, 500 billion won (\$435 million US) could be saved per year by an organizational reduction of 100,000 active duty soldiers. Paik Seung-ju, "Positive Perception of the Debate on Peace and Arms Reduction on the Korean Peninsula (II)," *National Defense News* (Korean), 7 September 1998, 9.

20. Chung Yong Kwan, "Han Gong Ki Chung Dol Wi Heom Keu Dah: 90 Nyon Yi Hu 48 Geon Ah Seul Ah Seul Seu Cheo Ji Na Gah" (Danger of midair collision is increasing: Forty-eight hairy near-misses happened since 1990,) *Dong Ah Ilbo*, 4 October 1997, 30.

21. *Jane's Defense Weekly* 27, no. 17 (30 April 1997): 22; idem 27, no. 8 (27 February 1997): 37; idem 27, no. 17 (30 April 1997): 23–25; *Flight International* 151, no. 4556 (8–14 January 1997): 14; and *Defense News* 12, no. 13 (31 March–6 April 1997): 14.

22. *Chosun Ilbo*, June 1997, 2.

23. Back Jong Cheon, "QDR Kwa Han Gook Anbo" (QDR and Korean security,) research paper no. 97-05 (Seoul: Sejong Institute [for Strategic Studies,] 18 September 1997), 7. For details, see pages 6–10.

24. "To act in self-defense should be preventive rather than retributive."
Richard G. Maxon, "Nature's Eldest Law: A Survey of a Nation's Right to Act in Self-Defense," *Parameters* 25, no. 3 (Autumn 1995): 56. For Maxon's full account, see pages 55–68. See also D. W. Bowett, *Self-Defense in International Law* (New York: Praeger, 1958), 20.