



The Korean Air Force: Strategy for the 21st Century

by Myeong Chin Cho

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In the current security landscape with more emphasis on the war on terrorism since the horrendous commercial aircraft attacks of 9/11, there are two major concerns amongst Republic of Korea (ROK) defence planners, who still regard North Korea as a major threat. One is how fast the Korean Air Force (KAF) can be regrouped to fill the gap that is opening as the US begins to reduce its size and commitment on the divided peninsula.¹ The other is how to build up a technically advanced, self-reliant military capability after the reunification. For both cases, the KAF should prepare itself for countering possible scenarios by looking at neighbouring countries' strategies and armament directions.

Republic of Korea (ROK)'s Air Power versus North Korean Airpower

It is evident that the air power of the ROK-US Combined Armed Forces² is far superior to that of North Korea. The comparison between North and South indicates that the South possesses more modern military hardware and well-trained pilots, whilst the North keeps a numerical edge over its counterpart.³ This comparison does not necessarily demonstrate which air force can operate more effectively in the event of military conflict.

It is said that a country's crisis management capability is directly related to whether the country has experience of waging a war or at least of defending itself with its own budget. In this sense, North Korea attained this type of know-how through the Korean War. It means that the North Koreans clearly have the

operational capability to carry out a war independently. On the contrary, the South lacks such an asset. The KAF, which began its history as a unit of the United States Air Force (USAF) during the Korean War, is still dependent upon the US. This is a legacy of the ROK-US combined military doctrine.

Under this setting, the operational scope of the KAF has been limited due to its reliance upon US air power, particularly in the area of intelligence-gathering by intelligence satellites and U2 aircraft. In this regard, the KAF strength would remain unchanged at 65,000, while the Army would be most heavily affected by the Defence Reform⁴ presented by the Ministry of National Defence in September 2005.

In the meantime, due to financial constraints, North Korea has not been able to revamp its air force. Nonetheless, it has shown keen interest in importing MiG-29, MiG-31 and Su-25. The North Koreans have put their effort into assembling the combat aircraft instead of purchasing the hardware off-the-shelf. However, the tactical usefulness of those fighter aircraft is mainly dependent upon how the North Korean Air Force can utilise advanced air-to-air missiles such as Russian AA-11 Archer and AA-12 Adder, and how many they possess.

How to Enhance the Independent Operational Capability of KAF's Air Power

In spite of possessing advanced military hardware, KAF's weak point is the absence of a capability of integrating operations with the other two armed forces. In terms of network-centric capability, there exists the combined operational system for linking the three armed forces – but as mere infrastructure, not as an operable network. This is the case with former major weapons procurements where there has been a lack

of coherent approaches, as with the F-16 for the Korean Fighter Programme (KFP) and the F-15 for the Next Generation Fighter (F-X).

It cannot be ruled out that there is potential for military confrontation in the Korean peninsula and the East Asian region. In these circumstances, KAF should pay careful attention to programmes of weapon modernisation in China, Japan and Russia. The reason for including Russia is that the major air weapons systems of China originated from Russia, whilst those of North Korea come from the former Soviet Union.

'A weak point is the absence of a capability of integrating operations with the other two armed forces'

Furthermore, it is worth examining the progress of Chinese and Japanese aerospace industries, which have been keen on developing indigenous fighters. For geopolitical reasons, the Korean peninsula has been a battleground between Russia and Japan, and more recently between China and Japan. So that history does not repeat itself, maintaining the proper level of air power would be an effective measure of deterrence.

The two most important elements in air power are responsiveness and flexibility⁵ – responsiveness so that an air force can react immediately and effectively to any hostile action, and flexibility so that an air force is able to operate suitable weapon systems for each situation. The following is how to improve these two elements in the KAF.

Procurement of F-XX

The inventory of the KAF will be reinforced with 40 F-15Ks from 2005 to 2008, together with 170 F-16Ks. In addition, 94 T/A-50s, as light-combat aircraft, will be delivered to the KAF. These three types of aircraft will play a role as the main combat aircraft of the KAF for the next three decades.

In the meantime, the USAF will replace F-15, F-16 and F-18 with JSF or F-22. Some experts expect that by 2010, one third of US combat aircraft will consist of unmanned combat air vehicles (UCAV).⁶ This indicates that the KAF would operate its combat aircraft one generation behind the USAF. As a consequence, when the KAF considers procuring F-XX around 2025, 50–60% of the USAF inventory is expected to be UCAVs, the exceptions being some long-range bombers like B-2, B-52 and F-117.

Due to financial constraints, the KAF has reduced the number of F-X aircraft from 120 to 40. According to its recent long-term procurement plan released on 9 January 2006, the KAF aims to operate 420 fighter aircraft in 2018. In order to maintain the required inventory, the KAF plans to look for a further 40 F-X fighter and develop 40 next-generation Korean Fighters (KF-X) at the same time.

It is a long-term and time-consuming process to procure advanced weapon systems. Therefore, the KAF needs to produce a long-term defence strategy. In order to prepare for the period after the year 2017, the KAF should begin to look for new fighters or develop KFX for that time. The problem is that it looks unrealistic to allocate the appropriate

budget for revamping air power, since the Korean Helicopter Programme (KHP) has got the green light.⁷

The KHP for the Army would play a negative role in maintaining a proper level of air power as its funding means that the KAF would, at most, be able to procure additional 20 T/A-50s and a further purchase of 10 F-15Ks under the limited defence budget.

'ROK needs to develop missile systems indigenously, and this is important in achieving an independent operational capability'

Diversification of Weapons Systems

One of the methods of achieving more efficient air power is to diversify weapon systems of combat aircraft. It is technically feasible to equip F-16 with ASRAAM, MICA and R-550. If the KAF is able to install a platform for air-to-air missiles on T/A-50 to accommodate ASRAAM or MICA, the European air-to-air missile systems, it would be realistic to push for KFP. In that case, because the US does not want ROK to go for non-American weapon systems, Korea needs to get approval from Washington and technical assistance from Lockheed Martin, which looks complicated.

Israel is excellent at maximising the capability of weapon systems and is currently able to install F-15I with the Python-4 air-to-air missile, which was indigenously developed by Rafael after all the 25 F-15Is were delivered in September 1999.⁸ ROK needs to develop missile systems indigenously, and this is important in achieving an independent operational capability, freeing KAF from suppliers' influence and interference. The KAF also needs to pursue methods of how to combine different missile systems to gain the strengths and characteristics of each.

Next-Generation Korean Fighter (KFX)

Boeing has promised to assist Korea in developing the KFX until 2015, as part of its offset deal of selling the F-15K package.⁹ The problem is that the KAF has no concrete concept for the KFX. Besides, what Boeing can offer is the basic design of F-15 or X-32, just as Lockheed Martin offered the F-16 basic design for the T-50. Korean Aerospace Industries (KAI) will have difficulty developing the KFX at the same time as it will have to focus on the production line of T-50.

Conclusion

The best option for air supremacy is to have the capability to manufacture the necessary aircraft. However, only the US manages to do this nowadays.

Unlike China and Japan, Korea is not capable of developing a fourth-generation aircraft due to limited finance, an insufficient level of required technology and inexperience. However, Korea can study other designs, as China and Japan do with Russian and American designs. It is a common trend that most air forces use trainers as light combat aircraft, mainly because of financial constraints.¹⁰ What is striking in the cases of China and Japan is that they are able to produce advanced air-to-air missile systems to be fitted to the platforms of their fighters.

In order to prepare for the forthcoming UCAV age, the KAF needs to create a new programme for human resources. For the UCAV operation, system integrators and simulation engineers are more necessary than pilots and navigators. The UCAV age will reflect the significance of network-centric warfare in modern war.

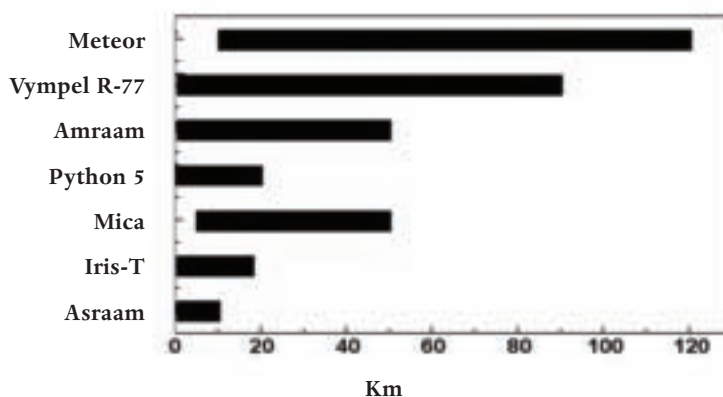


Figure 1: Portfolio of Different Missile Systems



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Air supremacy cannot be obtained without a revolution in military affairs (RMA). However, it should not be overlooked that RMA does not always demand a huge budget and resources. There are possibilities for fostering air power under unfavourable circumstances. The main point is not only to observe the inventory of neighbouring air forces, but to analyse the characteristics of their combined operational capabilities so as to create 'responsive' strategy and tactics, which are followed by 'flexible' operation of different weapons systems. ■

NOTES

- 1 *Jane's Defence Weekly*, 12 October 2005, pages 26–28
- 2 40 F-16C/D, and 23 A-10 Thunderbolt are based at Osan and Kunsan air bases. Since September 2004, the US has deployed 15 F-117 stealth fighters, and a squadron of F-15E
- 3 As of 2005, the number of North Korea's combat-capable aircraft is 590 and the South 540. A North Korean pilot's flying hours per year is 20, while the South counterpart is reported to be approximately 170
- 4 The proposed defence plan was submitted to President Roh Moo Hyun on 1 September. The plan includes a 27% reduction in regular forces from 68,100 in 2005 to 500,000 in 2020. The army will be cut by 32% to 371,000 from the current 548,000. Naval forces would be reduced slightly from 68,000 to 64,000. *Jane's Defence Weekly*, 5 October 2005, page 7
- 5 Two of air power's most important characteristics are its responsiveness and flexibility, according to Air Vice-Marshal Tony Mason, 'Airpower: the New Reality', *Defence Procurement Analysis*, Spring 2003, page 109
- 6 Bill Sweetman, 'UCAVs Grow Fat on Requirements', *Jane's International Defence Review*, May 2003, pages 44–49
- 7 The Korean Multi-role Helicopter (KMH) to replace the Bell UH-1, AH-1 Cobras and MD500s was planned to total 475, including attack helicopters. But it was reduced in April 2005 under a new name, the Korean Helicopter Programme (KHP). The KHP is to procure 245 military utility helicopters, with \$1.24Bn for development and another \$4Bn for production. It means that South Korea will not pursue attack helicopters any longer. *Flight International*, 5–11 July 2005, pages 32–33; *Jane's Defence Weekly*, 20 July 2005, page 5; *Defense News*, 7 August 2005
- 8 Shiomo Aloni, 'Israeli Air Force F-15s', *Air Force Monthly*, February 2003, pages 54–55
- 9 Cho, Myeong Chin, 'An Analysis of F-X Selection Process', *Restructuring of Korea's Defense Aerospace Industry*, Chapter 5, BICC Paper, June 2003
<http://www.bicc.de/industry/paper28/content.html>
- 10 Tucker Jones, Anthony, 'Training the World: Global Survey of the Military Aviation Markets', *Air Force Monthly*, January 2003, page 63



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