

Analysis of 2021 ROK Defense Budget and Its Policy Implications

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The year 2021 marks the actual beginning of the era of a 50-trillion-won defense budget, which initially started in 2020, but had to be put on hold due to a revision of the budget brought about by COVID-19. The defense budget for 2021 is 52.8 trillion won (\$47.9 billion), an increase of 5.4% from the previous year. This is the world's 10th largest defense budget, accounting for 9.5% of the government's total expenditure and 2.4% of the Republic of Korea's (ROK) GDP.

Table 1. 2021 Defense Budget (general account)

(Unit: KRW Billion, %)

	2018	2019	2020		2021	Increase rate	
			main budget	Supplementary budget		compared to main budget	compared to supplementary budget
Defense Budget	43,185.1	46,697.1	50,152.7	48,378.2	52,840.1	5.4%	9.4%
force operating costs	29,637.8	31,323.8	33,472.3	32,614.6	35,843.7	7.1%	9.9%
force improvement programs	13,520.3	15,373.3	16,680.4	15,763.6	16,996.4	1.9%	8.3%

Note: Due to the increase in the demand for social welfare services in response to COVID-19, the 2020 main budget for defense was reduced by 1.78 trillion won (0.86 billion won from force operating costs, 0.92 billion won from force improvement programs).

Breakdown of the 2021 Defense Budget

The defense budget is divided into force operating costs, under the jurisdiction of the Ministry of Defense (troop operating costs + operations and maintenance costs), and force improvement programs (FIPs), under the jurisdiction of the Defense Acquisition Program Administration. The 2021 troop operating costs amount to 20.59 trillion won, an increase of 3.7% from the previous year, and the operations and maintenance costs amount to 15.26 trillion won, a 12.1% increase. Over the past four years (2018–2021), the average annual increase of force operating costs was 6.2%. In more detail, the average annual growth rate of troop operating costs was 4.7%, while that of operations and maintenance costs was 8.6%. The 2021 force operating costs was allocated to focus on (1) building an elite manpower structure, (2) prioritizing essential costs for the current force to be able to secure its full capabilities, (3) improving soldiers' welfare continuously, and (4) strengthening the force's ability to respond to non-traditional security threats.

First, the 2021–2025 Defense Manpower Structural Reform plan has been reflected in the budget. In 2021, the number of officers will increase by 1,065 (710 fewer commissioned officers, 2,315 more non-commissioned officers) while the number of civilian military employees will increase by 5,367. The essence of this reformation plan is to adjust the number of officers, from 199,000 (70,000 commissioned officers, 129,000 non-commissioned officers) from a total of 555,000 standing troops in 2020 to 202,000 (67,000 commissioned officers, 135,000 non-commissioned officers) from a total of 500,000 standing troops by 2025. By increasing the number of majors and lieutenant colonels in the field-grade officer ranks and the number of sergeant first class and master sergeants at the non-commissioned officer ranks, Korea aims to transform its troop structure from a so-called broad-based into an urn-shaped structure. Additionally, the number of civil–military employees will be increased from 35,000 (accounting for 6.3% of active-duty soldiers) in 2020 to 47,000 (accounting for 9.4% of active-duty soldiers) by 2025.

Second, the essential costs for military logistics, facilities, and education and training necessary for the current force to be able to exert its full capabilities have been reflected in the budget. A total of 3.74 trillion won has been allocated for equipment maintenance costs, an increase of 7.7% from 2020, to guarantee a certain equipment utilization rate. In addition, taking the fact that 30% of the current facilities are more than 30 years old into consideration, the paradigm of military facilities policy has shifted from new investments to maintenance investments, and since 2018, the portion of facility maintenance has greatly increased. Further,

scientific training equipment, such as the multiple integrated laser engagement system (MILES) and virtual and augmented reality (AR and VR) training systems are being expanded.

Third, military welfare levels are continuously improved in accordance with society's rising expectations. Reasonable compensation is provided for enlisted men and women, self-development of soldiers is supported, the quality of food, clothing, and housing is being improved, and access to civilian medical care is ensured. Key examples include the increase in monthly salaries (541,000 won to 609,000 won for petty officer 2nd class), the introduction of a new military group insurance plan, and the expansion of housing for unmarried soldiers and non-commissioned officers.

Fourth, Korea's capabilities for "comprehensive security," meaning its ability to respond to non-traditional security threats, such as cyber threats, terrorism, natural disasters, and infectious diseases, are being strengthened. The budget for non-traditional security threats in the 2021 force operating costs is set for the reinforcement of cyber capabilities (28.9 billion won), strengthening of capabilities to respond to infectious diseases (115.2 billion won), and heightening of counterterrorism and counter-CBR-terrorism response capabilities (54.4 billion won). From the FIP budget, a total of 154.7 billion won is allocated to non-conventional threat response, such as for the research and development (R&D) of explosive ordnance detection and disposal robots, submarine rescue ship II, and decontamination truck.

As for the 2021 budget for defense burden-sharing, a total of 1.04 trillion won has been allocated. The ROK-US Special Measures Agreement (SMA) negotiation will be settled with the new Biden administration. In March 2020, it was reported that the working-level negotiations between the ROK and the US reached a tentative agreement to "increase the burden-sharing by 13% in 2020, with an annual increase of 7–8% until 2024," but the two sides failed to reach a final agreement. This tentative agreement will be the guideline for the conclusion of the defense burden-sharing negotiations.

The 2021 budget for FIPs amounts to almost 17 trillion won, an increase of 1.9% from the previous year, with the average annual increase over the past four years (2018–2021) of 8.7%. The FIP budget has been allocated to focus on (1) securing strategic deterrence ability to be able to proactively respond to omnidirectional security threats, and (2) vitalizing defense R&D and the defense industry.

First, 85% of the 2021 FIP budget is allocated for response to nuclear and weapons of

mass destruction (WMD) threat (5.81 trillion won), for operational control (OPCON) transition (2.27 trillion won), and for military structural reorganization (6.35 trillion won). This allocation is in line with the reformation of force structure and unit structure outlined in Defense Reform 2.0.

Here, the priority lies in the preparation against North Korean nuclear and missile threats. Accordingly, investment priority goes to independent surveillance and precision strikes against strategic targets, namely, military satellites, high-altitude information search capability, stealth aircraft, long-distance naval power, and precision-guided munitions for both defense and offense. Key related projects include military reconnaissance satellites, F-35 Lightning II, Jangbogo-III Batch-II, Gwanggaeto the Great class destroyer (KDX-III) Batch-II, L-SAM missile defense system (R&D), improvement of Patriot missile system performance, and ballistic missiles early warning radar system.

The next priority is concerned about the OPCON transition and military restructuring according to Defense Reform 2.0. The OPCON transition project includes the military satellite communications system, tactical information communication system (TICN), and improvement of identification of friend or foe (IFF) equipment performance. The military restructuring project includes KF-X fighter jets, K-2 tanks, Korean Utility Helicopters, and Ulsan-class Batch-II frigates.

Second, the focus is put on defense R&D and efforts are made to foster the domestic defense industry. The average annual growth rate of defense R&D expenses over the past four years (2018–2021) is 11.9%. The 2021 defense R&D budget is set to 4.33 trillion won, a 10.5% increase, for system development (2.19 trillion), technology development (1.39 trillion won), and personnel and operating expenses of the Agency for Defense Development and the Defense Agency for Technology and Quality (756.6 billion won). Technology development is emphasized, which consists of development of core technology (631.8 billion won), development support for localization of parts and components (88.6 billion won), and civil–military technical cooperation (90.8 billion won). Investment in core technology development increases the number of development tasks of the eight areas of defense strategic technique (autonomous and AI-based surveillance, hyper-connected intelligent command and control, ultra-high-speed and high-power precision strikes, future propulsion and stealth-based platforms, manned and unmanned combined combat capabilities, cutting-edge technology-based personal combat system, active cyber response and future defense, and future state-of-the-art new technology) by 100 (273 tasks to 373),

and focuses on future technologies such as space technology. For the development of localization of parts and components, the development of core parts of major weapons systems such as the next-generation domestic fighter jets and submarines is supported while export restrictions are set, and development tasks are newly established.

To foster the domestic defense industry in 2021, 96.8 billion won, an increase of 23% from 2020, has been allocated toward supporting defense industry exports (especially support for weapons system modification and development), defense startups, and small-but-strong global defense companies.

Political Implications

Policy implications of the 2021 defense budget in terms of size, distribution, and efficiency are as follows. First, the growth rate of the defense budget in the medium-term is likely to decline compared to the previous three years. In principle, the defense budget is determined by various factors such as threats and economic factors. However, in reality, the defense budget was set at 10% of the government's total expenditure. From 2005 to 2021, the annual average share of the defense budget in the total government expenditure has been 10.0%. However, in the last four years (2018–2021), the average share was 9.8%, while it is calculated to be 9.5% in 2021. In other words, the increase in the defense budget is smaller compared to the recent increase in the total government expenditure. This can be confirmed from the fact that the annual growth rate of the total government expenditure in 2021 was 8.9%, while the defense budget increased by 5.4%.

Considering the government's mid-term fiscal policy stance and real economic growth forecasts, the growth rate of the defense budget is likely to slow compared to the past. One of the solutions is to identify and invest in priorities while costs for those of lower priorities continue to be adjusted downward. The priorities of the 2021 defense budget are structural reformation of the defense personnel, force structure, unit structure, defense R&D, and essential costs for troop operations, which are all key tasks of Defense Reform 2.0.

Second, the allocation of the 2021 defense budget seems exceptional. As shown in Table 1, it is because the 2021 force operating costs has an annual increase of 7.1% while the FIPs have an increase of 1.9% from the previous year.

However, the actual growth rate in 2021 when compared to the 2020 revised budget is 9.9% for force operating costs and 8.3% for FIPs. The defense budget is always set presupposing

the whole budget would be expended. In addition, the allocation of the defense budget must be evaluated not for a single year but over the entire period of the Moon Jae-in administration. The Moon administration's policy is to primarily allocate funds to FIPs, as they respond to omnidirectional security threats and invest in key projects of Defense Reform 2.0. Over the past four years (2018–2021), the defense budget saw an annual increase of 7.0%, among which force operating costs increased by 6.2% and FIPs increased by 8.7%. In 2018, 31.3% of the entire defense budget was allocated to FIPs, whose share increased to 32.2% in 2021.

Third, the efficiency of the defense budget is required in all fields, including manpower, logistical support, military facilities, weapons system acquisition, and defense R&D. Considering the lack of military service resources due to a population decline, maintaining the 500,000 standing troops in the long term while acquiring resources for officer ranks is a challenge. To solve this problem, an effective policy mix must be established.

To maintain a reasonable utilization rate of the weapons system, the Total Life Cycle System Management (TLCSM) in an incipient stage must be established as soon as possible. The key is to accurately estimate the equipment operation and maintenance cost, taking the total life cycle of the weapons system that is being operated and to be acquired into consideration. In addition, the management of the comprehensive facility utilization information is required, including military facility maintenance details. Furthermore, it is necessary to establish the scope and level of the military's role against non-traditional security threats, and to have legal and institutional grounds for such purposes. Once established, effective investment in non-traditional security threats will be needed.

Another task is acquiring weapons systems efficiently in a timely manner. This can be achieved through reasonable verification and management of the costs, performance, and schedule at the acquisition level, as well as through flexible business promotion.

The Ministry of National Defense is pushing forward its initiative for “Smart Defense Innovation” that utilizes cutting-edge technology of the Fourth Industrial Revolution in the fields of defense management, technology and infrastructure, and weapon system. The Ministry must establish a systematic roadmap to secure impetus for achieving practical results. Examples of such innovation include the establishment of smart units on every base, improvement of safety, medical care, food service, and clothing quality using big data, and optimization of total life cycle management of weapons system. From the total 2021 troop operating costs, 155.2 billion won has

been allocated for the promotion of this innovation, which consist of 55 projects (informatization, education and training, military, facilities, etc.).

It is not easy to innovate the military system by incorporating the technology of the Fourth Industrial Revolution into cutting-edge weapons system or into core technology for future battlefields. It is thus necessary to develop future strategic technology and secure military advantage by acquiring cutting-edge weapons, such as manned and unmanned combined systems that have applied future technology. There must be weapon system innovation that utilizes not only unmanned air vehicles and robots, but also artificial intelligence.