

ROK MND Initiatives for Use of Civilian Resources

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1. Introduction

One way to innovate military capabilities is to use civilian resources such as civilian manpower, private capital, technology, and best business practices in the private sector. The ROK Ministry of National Defense (MND) had a long history of utilizing civilian resources in limited areas such as outsourcing equipment maintenance, transportation consignment, and academic research prior to 1998. However, the ROK MND has adopted a policy to expand the use of civilian resources since 1998.²

The policy of using civilian resources has been changing its focus from outsourcing simple non-core tasks to fully utilizing civilian capabilities to improve management efficiency in the main areas of combat service support. The target areas are as follows: (1) expanding civilian workforces in military medicine, education, training, and other core areas; (2) using civilian capabilities and best business practices in military logistics; and (3) using private capital to fund the construction of new military facilities.

Since the use of civilian resources is continuously progressing, its purpose has become more complicated. Nowadays, the purposes of using civilian resources in Korea are twofold. First, they are expected to achieve optimization and management efficiency of military assets and, at the same time, strengthen core competencies of combat readiness by utilizing well-developed and efficient civilian capabilities in the context of greater military budget constraints. The second purpose is to achieve military structural reformation—reducing the total number of the ROK Armed Forces—by minimizing noncombatant troops in the

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² The ROK MND had established a standing committee—“Defense Reform Committee”—on April 5th 1998 to carry out specific reform tasks under the Minister of National Defense. The Defense Reform Committee had chosen the use of civilian resources as one of the defense reform tasks. The ROK MND, *1998 Defense White Paper*, pp. 165-180.

military sector.³

This study is to establish the selection criteria of possible areas that can continuously expand in their use of civilian resources, and suggests the key points for implementing such a utilization policy. This paper will review the progress of the utilization policy by period/applied areas and will provide lessons to further implement the use of civilian resources.

2. Stages of Utilizing Civilian Resources

The stages of the utilization policy can be divided into 4 phases: (1) Initial phase of outsourcing (prior to 1998), (2) Formulating phase as a defense management policy (1998-2003), (3) Implementing phase I (2003-2008), and (4) Implementing phase II (2008-2013).

2.1. Initial phase (prior to 1998)

Before 1998, civilian resources were only utilized in limited areas such as equipment maintenance, transportation consignment and academic research. At that time, the ROK MND didn't have the capabilities to independently carry out such tasks due to a limited budget. Therefore it was more efficient to use well-developed civilian capabilities in the defense and transportation industries, research and academic institutions rather than to equip corresponding capabilities within the military sector.

2.2. Formulating phase as a policy (1998-2003)

Prior to 1998, the topic of using civilian resources was not a policy issue or formal reform task that the MND actively pursued. However, it was partially implemented when there was a consensus that using civilian resources would be more efficient and effective rather than having those capabilities within the military. In 1998, during the Kim Dae-jung administration, the ROK MND launched the "Military Reform 5-Year Plan (1998-2003)." The 5-year plan was

³ The ROK MND defines the term, 'the use of civilian resources,' as encompassing all activities that aim to effectively and economically utilize the civil workforce, organization unit, capital, technology, and know-how of civilians to improve defense operational efficiencies and to strengthen core competencies such as assurance of combat readiness posture in the areas of combat service support. Areas of combat service support refer to areas such as logistics, facilities, education and training that support combat capability.

designed to include 58 specific tasks, with one of them being to utilize more civilian resources.⁴

At that time, Korea was under IMF control, which meant corporations and organizations were placing an emphasis on efficiency by undergoing the restructuring and streamlining of infrastructure. The military was also following this trend by identifying areas in which civilian resource usage could be maximized and where military resource usage could be minimized. More than 500 types of standard military equipment were replaced by their commercial counterparts, and there were initiatives to outsource and privatize in the areas of logistics, maintenance, and transportation.

In the late 1990's, Korean information technology had greatly advanced and as a result had far outperformed the traditional military IT capability. Therefore, it made more sense to contract from private information technology vendors, which helped in developing the establishment of the C4I System, the Defense Resource Monitoring System, and the Security System.

2.3. Implementing phase i as a policy (2003-2008)

In 2003, the Noh Moo-hyun administration (2003-2008) attempted to bring about a defense reform by selecting 101 defense reformation tasks. According to this defense reform plan (2006-2020), the outsourcing policy was targeted to the simple labor workforce of the depot maintenance, laundry service in supply units, and vehicle maintenance and repair service in the intermediate level maintenance (field level maintenance). This outsourcing policy was intended to contribute to structural reform by reducing the total number of conscripted soldiers in the non-core military sectors.

The Noh administration planned to decrease the service term of conscripted soldiers from 24 months to 18 months in order to give young citizens less pressure to serve as well as set a nationally accepted standard for mandatory service. Also a decrease in the number of conscripted soldiers was forecast due to the decrease of the birth rate after the 1980's. In order to counter such consequences, the administration decided to actively increase the utilization of civilian resources.

In the early stage of implementation, this outsourcing policy was expected

⁴ The ROK MND, *1998 Defense White Paper*, pp.165-180 & The ROK MND, *1999 Defense White Paper*, pp.145-151.

to contribute to the reduction of personnel operation expenses; however, it led to concerns about the encroachment of defense spending due to replacing conscripted soldiers with a relatively high-cost civilian workforce. Thus, the policy of outsourcing non-core tasks to the civilian workforce was no longer expanded.⁵

In April 2006, the outsourcing promotion T/F was established in the ROK MND. In February 2007, the outsourcing promotion T/F had created detailed plans, which emphasized promoting sectors that were reflected in the 2007-2008 budget and those that did not require any additional budget. Sectors that were reflected in the budget were facility management and pilot restaurants for soldiers; sectors that did not require any additional budget were the welfare center, dining rooms for high ranking officers, laundry services, and gas stations. Other sectors would be annually promoted step-by-step after the T/F had taken into consideration the 2008-2012 budgeting plans, personnel management innovations for military civilians, and the advancement of operation and support systems.

Several years of promoting and preparing a policy for utilizing civilian resources had raised a few issues. First, there was a lack of consistency in plans, and there were frequent modifications. Short-term plans were established in November 2005, and in November 2006; these were separated by short- and medium-term plans. In February 2007, in accordance with instructions given by the MND, only detailed plans registered by each military service were promoted without clear objectives and direction of the initiatives.

Second, there was a lack of consensus between each military service and the MND in terms of selecting which areas to outsource and promote. Since outsourcing was supervised by the MND in a top-down manner, which focused on reducing the budget and personnel, there was organized resistance and no active participation from its respective function and organization. Because of the failure to stabilize members through its personnel management and transition plan, there was no positive support for outsourcing.

⁵ See the following papers for the details of the defense outsourcing policy in the early stage of the Noh administration. Sangjin Lee, "Efficient Ways for Defense Outsourcing," *Report on the National Defense Section for National Mid Term Fiscal Operation (2008-2013)*, Korea Institute of Public Finance, 2008.6, and Jong Tae Kim, S. Kang, G. Kim, H. Son, *A Study on the Procedures and Methodology of Validity Analysis for the Use of Civilian Resources on the Defense Section*, Korea Institute for Defense Agency, 2009.12.

Third, there was no specialized organization to promote outsourcing, and, moreover, there were not enough professionals to plan and execute outsourcing. Also, there was lack of experience and expertise in the tasks involved in outsourcing, and insufficient status reviews at each of the sectors.

Fourth, it was difficult to obtain budgets in certain sectors. Services that were provided with a lower operational cost in reality might require a higher budget if replaced to ensure better quality as a result of outsourcing. However, authorities were not aware of this fact at the initial stage of planning.

2.4. Implementing phase II as a policy (2008-2013)

The Noh administration put an emphasis on reducing the military personnel through utilizing civilian resources. However, there were concerns that the reduction of the service term might lead to a decrease in the quality of the Armed Forces' battle skills. Therefore, the MND planned to increase the number of non-commissioned officers, and utilize more civilian resources to replace the shortage of conscripted soldiers. There was added pressure on the budget due to the replacement of lower cost personnel with higher cost military officers and civilian workers.

The Lee Myung-bak administration (2008-2013) put a stop to the reduction of the service term and established a fixed period of 21 months (as opposed to the 18 months set by the Noh administration), which in turn had an effect on how civilian resources would be utilized. The policy direction for utilizing civilian workers was changed to focus on the core military support areas.

The scope of utilizing civilian resources in core military support has been planned in six fields: maintenance (contracting maintenance depots), supply (establishment of military integrated distribution centers, utilizing civilian/national distribution systems), transportation (utilization of civilian vehicles in combat support areas, outsourcing new military driver training), medical affairs (military hospitals' civilian consignment), welfare (contracting out dining facilities), education and training (expanding civilian instructors/professors in military schools). Each field is working in collaboration with private organizations to determine applicable and feasible areas.

3. Utilizing Civilian Resources

The utilization of civilian resources can be categorized in a variety of ways. Depending on the utilization method, it can be classified into contracting, civil collaboration, or privatization. Also, depending on the element of the production function, it can be categorized by workforce, capital, and civilian capabilities. This paper is categorized by the elements of the production function.

3.1. Use of the civilian workforce

One of the core combat service areas for utilizing civilian workforce is the military education and training sector. The plan is to replace the active-duty officers in current scientific training units and four military academies with civilian instructors/professors.⁶

Reduction of the number of high-ranking officers (by up to 292 officers) and budget (by up to more than ten billion won a year) in the education and training sector will be carried out by switching the instructors in the current scientific training units (BCTP, KCTC, Naval War College, Air War College) with veterans in the reserve forces. Expanding the plan to use the civilian workforce can be applied not only to the scientific training of troops but also to the military academies (Korea Military Academy, Korea Army Academy at Youngchun, ROK Naval Academy, Korea Air-Force Academy). The ROK MND plans to increase the ratio of civilian professors to 40% by the end of 2015.

The following are issues regarding the utilization of civilian workforces in the education sector. First, education in military academies is very similar to private schools in terms of curriculum, but they have a very low percentage of civilian professors compared to foreign military academies. There are no civilian professors in the Korea Military Academy and Korea Army Academy, while 16% in the Naval Academy and 11% in the Air Force Academy are civilian professors. The percentage of civilian professors is 20% in the U.S. Military Academy, 25% in Canada, 100% in Germany, and 45% in France. Through the Military Civilian Personnel Management Directive, the MND is trying to

⁶ See the following papers for the details of the Lee administration's policy on expanding the use of civilian resources. Jae O. Back, et al., *2011 Defense Budget Analyses × Evaluation and the Direction of Mid-term Policy*, Korea Institute for Defense Agency, 2010.12., pp. 83-99 and Presidential Committee for Military Reform (PCMR), *The Report on Military Reform Plan*, 2010.12.

increase the ratio of civilian professors in the military to 40% by 2015. But considering the case of international military academies and the cost of general studies in the military, the target ratio can be upwardly adjusted up to 50%. However, to ensure excellence in education with regard to hiring civilian professors, factors such as legal, institutional, financial, and cultural issues need to be supplemented. Some people are concerned that civilian professors can possibly weaken the vibrant spirit of the young cadets; but the discipline officers in the military academy can easily compensate for this concern. Second, there is a better outcome in areas where the majority is composed of officers rather than conscripted soldiers. The education sector is considered to be the most optimal field for utilizing civilian workforce because it will directly contribute to the reduction of troops and cost of personnel management. The faculty in the education and training sectors mainly consists of high-ranking officers; it will also save on the follow-up costs of educating military officers as professors.

Utilization of civilian resources can be expanded to other integrative sectors, such as the field of integrating education and military capabilities—for example, the Air Force’s primary flight training requires both education and logistics support. In Singapore and the UK, pilot primary training was not provided by the Air Force independently but entrusted to private companies like LockheedMartin STS. These private flight schools were able to train primary pilots with aircraft provided by private companies, thus reducing the burden to acquire, operate, and maintain the aircraft. Therefore, utilizing private resources in key features of the education and training sector rather than focusing on simple non-combat service support will bring about a better outcome as far as reaching the goal of reducing both troop size and budget.

3.2. Use of civilian capabilities in military logistics

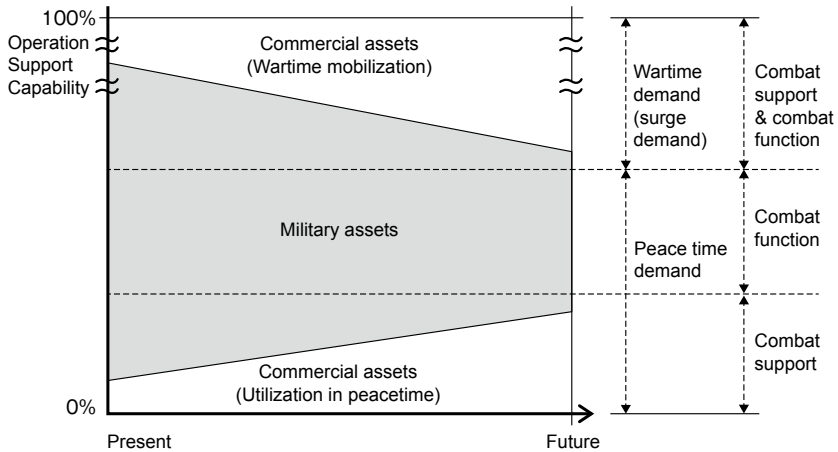
Maintenance, supply and transportation functions in the areas of military logistics are fields where the use of civilian capabilities can be effective. Military logistics functions are very similar to those of general businesses; and, moreover, since the efficiency of commercial logistics is superior to that of the military, it can emerge as an area where civilian logistics capabilities can be effectively utilized.

The ROK MND has set up three directions for expanding the use of civilian resources in the logistics area as follows. The first direction is to decrease the

amount of military-owned assets for combat support function and, also, reduce military inventories for wartime demand or surge demand. The second direction is to comprehensively utilize all national infrastructure and assets, including government and private resources, and to integrate all national capabilities for logistics support. The third direction is to adopt best business practices in logistics areas such as PBL (Performance Based Logistics), the prime vendor system, and the 6 sigma movement.

3.2.1. Expanding the use of civilian resources

The ROK military forces need to focus on strengthening combat core capabilities. For this objective, it is essential to make the best use of civilian resources and, in turn, this will contribute to a fundamental reform in the combat support system. The current military capabilities as well as national and civilian resources as a whole have to be used at their best.



<Figure 1> Future direction of utilizing civilian capabilities

The notion of undergoing a war needs to change from possessing the maximum amount of military assets to the utilization of the maximum amount of civilian assets as shown in <Figure 1>. In order to retain an optimal level of military assets, civilian resources need to be highly utilized in peacetime while mobilization should be ensured during wartime. In other words, if there is a

certain level of demand in peacetime, military assets need to be utilized from peacetime; otherwise, civilian resources should be utilized and their mobilization systems should be strengthened and, in turn, military assets should be reduced. Therefore, maintenance, supply and transportation sectors need to be improved so that they are appropriate for future war and military restructuring.

Expanding the use of civilian resources in the military logistics sector needs to consider the following thing. If the military wants to comprehensively utilize all national assets including private assets, it should establish a feasible mobilization system. This mobilization system should support any kinds of military operations in war and emergency situations. The use of civilian resources can save a considerable amount of budget by using a low-cost, high efficiency defense management system. And it will improve the integrity of core combat competency by choosing and concentrating on defense budget and personnel, which is the objective of “Defense Reform 2020.”

There may be many limitations when utilizing civilian resources in times of war. This is because there is a discrepancy between the plan and the reality as to how the military will utilize civilian resources in times of emergency, especially in the fields of military transportation and maintenance. Peacetime mobilization training exercises do not involve actual mobilization of private transportation assets, but are only presented in a written document. Under these circumstances, some high ranking military officers are bound to have doubts about the reform plan of utilizing civilian resources.

As a way to supplement the utilization of civilian resources, it is necessary to have a close interrelationship with national mobilization plans. If the military does not own any assets, it is essential for the MND to be affiliated with mobilization exercises. In order to ensure resource mobilization in wartime, it is necessary to secure binding legislation to establish institutional supplementations in the government’s wartime program (Chungmu Basic Plan). A transportation mobilization unit can be established with actual civilian transportation assets through peacetime exercise. To carry out this annual or biannual exercise, a budget is required to be set.

It is also possible to reverse this idea in the area of civilian resource utilization: for example, it is worth thinking about the opposite direction in privatization in the transportation sector. In other words, instead of eliminating the military owned assets and resorting to outsourcing, the military can retain its

ownership on assets while lending assets to private enterprises in peacetime. This way, rental revenue will be generated in peacetime and the profit can be used for wartime mobilization of resources, if these assets are operated efficiently. In wartime, it may be easier to use military owned assets.

3.2.2. Comprehensive use of national resources

The second direction is to comprehensively utilize all national infrastructure and assets, including government, private, and military resources and to integrate all national capabilities for nourishing military capabilities.

Constructing an integrated logistics center in the military should be carried out in conjunction with the planning of the national distribution system. The Ministry of Land has made the basic plan for the national distribution system and has executed the initiatives so far. The ROK MND needs to take advantage of the preexisting national logistics infrastructure to optimize military facilities and equipment. Therefore, it is necessary to construct an integrated logistics center in the military in conjunction with the planning of the national distribution system. To achieve this more effectively, it is necessary to build an integrated database of transportation assets retained by the government, private, and military sectors.

Utilization of civilian resources in the maintenance sector is currently practiced by military depots and/or outsourced maintenance; it should further be established in conjunction with the comprehensive utilization system of national maintenance capabilities throughout the country. The proportion of outsourced maintenance in 2009 accounted for a large 68%, and the burden of the equipment maintenance budget increased due to the high dependence on outsourced maintenance and high-tech equipment. Therefore, a solution for efficient use of budget and equipment through improving the maintenance support system should be addressed rather than utilizing unlimited amounts of civilian resources in the maintenance sector. In order to comprehensively take advantage of maintenance capabilities of the government, private, and military sectors, applicable joint projects should be carried out. For example, to comprehensively take advantage of the aviation maintenance capabilities of the government, private and military sectors, a pan government consultative group—comprised of the MND, the Ministry of the Knowledge Economy, the Ministry of Education,

Science and Technology (MEST), and enterprises including defense contractors—should be formed to review the specific plans. Building a collaborative framework with overseas outsourced maintenance can serve to maximize capacity utilization in the military and defense industry that will prevent the duplication of investment of national resources.

With the above considerations to utilize civilian maintenance capabilities, it is necessary to take the following directions. First, it should be pursued in the direction in which the national maintenance support system, performance-based logistics support system, and national comprehensive utilization system are interrelated and interconnected. Second, in order to reduce personnel costs and maintenance budgets, the current three to five levels of the military maintenance system should be reduced to two to three levels. Third, military maintenance depots are improving their competitiveness by contracting out some amount of required maintenance to defense vendors, and adopting best business practices like the lean 6 sigma. Fourth, equipment with a maintenance volume is able to some extent to achieve economic efficiency through competition among multiple maintenance sources; but equipment with the least repair requirements or military uniqueness should pursue a sole maintenance source by military owned operation, contracting or privatization.

The military transportation sector operates in military owned vehicles that meet simultaneously both routine and non-recurring (or surge) needs; therefore, the operating rate of military vehicles is quite low. In addition, military vehicles are aging at a rapid rate—in 2009, aging rate was 25.3%—which results in an increase of fuel consumption and maintenance costs as well as a vicious cycle caused by the lack of required resources. Thus, there have been attempts to enhance the efficiency of vehicle operations by renting private vehicles.

3.2.3. Execution of best business practices

The third direction is to actively adopt best business practices such as a performance-based logistics support system, prime vendor system, and 6sigma movement.

‘Performance-based logistics’ refers to a contract concept which contracts with an enterprise to be responsible for the performance of a weapon system (or equipment) by integrating all logistics functions—such as maintenance, supply, and transportation. The military proposes performance indices in regards to the

system's availability rate and customer waiting time, and pays the differential cost according to how much of the given objectives the enterprise achieves; this enhances accountability of the private enterprise and induces voluntary improvement to reduce customer waiting time and inventory of corresponding weapon system parts. There are some pilot projects (the Army's UAV, the Navy's torpedo system, the Air-Force's KT/A-1) in progress in each military service, however, the lack of appropriate performance target and performance indicators make it difficult to set the contract terms and conditions.

Prime vendor is a concept of supply chain management that directly delivers the product ordered by the military user after MND makes a contract with a prime vendor. In 2009, the prime vendor system was applied to test trials for 757 military supplied drugs worth 3.5 billion won; it was found that the prime vendor system is effective in reducing budget and customer waiting time. In 2010, medicine procured by the central agency was put through test trials, and products procured by each unit were put into use throughout the entire army. The inventory cost of central procurement items was reduced, and administrative processes streamlined due to a unit price contract with a third party, a process made possible by internet shopping set up by Public Procurement Service (PPS)'s marketplace. The target for the prime vendor system is moving towards repair parts of weapons. To do this, database systems for key domestic and international suppliers of spare parts should be established.

3.3. Using private capital

Private investment projects have become operative and started expanding in Korea since 1994, in order to solve the lack of funds necessary for the construction of public-based facilities. In the defense sector, projects—such as BTL (Build Transfer Lease) and BTO (Build Transfer Operate)—utilizing private capital are being implemented and are at maturity stage; they include modernization of military facilities, securement of military official residences, construction of optic networks, and operating personal computer rooms on military bases.

The proposal to utilize private investment in the national defense sector is constantly being raised, in order to solve the shortage of initial investment in a variety of fields, including military facilities as well as Forces Improvement programs (Auxiliary Ship programs, combat support equipment programs), and training facilities, because this can satisfy demands of the military service, in

that military capability is settled at an earlier stage. There have been practices in the UK Ministry of Defense, which prove that utilizing private capital (PFI: private finance initiative) in various sectors in the military can improve management efficiency.

Private investment projects, when compared with the financial business, have the advantage of being able to keep the new facilities or equipment without any initial cost, but inevitably, on the other hand, are at a disadvantage in the future because long term repayment will occur. BTL projects might eventually cause rigidity in defense financial management in the mid-to-long-term due to the accumulation of investment capital and interest. These financial rigidities are serious constraints for promoting new programs in the future.

BTL projects, executed by the MND in the years 2005-2009, were aimed to improve barracks and modernize military official residence properties, which cost up to 3 trillion and 626.7 billion respectively; an average increase of 32.3% occurred in order to pay the financial debts. Repayment costs in the BTL facility sector increased to 241.6 billion won in 2012, and is expected to exceed 500 billion won in 2015. When this happens, the BTL repayment budget will take up 25% of the total facility budget, and 50% of the budget in basic military facilities and military official residences.⁷

For this reason, the adequacy of the guidelines in the financial burden of private investment needs to be evaluated. The UK has managed the financial burden resulting from promotion of private investment projects (PFI) at the level of 2% of the annual expenditure budget. The Korean government also presented its guidelines in private investment projects (PFI) at the 2% level of the annual expenditure budget. In 2008, the guidelines of private investment projects in the field of defense facilities was estimated at 1% of the defense budget, 4% of the Operations and Maintenance (O&M) budget, and 20% of the facility construction program.

However, the guidelines set in 2008 should be lowered to fit the circumstances of the national financial operating keynote, which changed in 2010. Compared to the guidelines set in 2008, BTL repayment cost in 2015 is considered to

⁷ See the following papers for the details of the BTL project's guideline and reality. Jae O. Back, Joon S. Kim, Sang H. Kim, *Report on the Optimum Size of the Build-Transfer-Lease Projects in the Defense Section*, Korea Institute for Defense Analyses, 2008.4. & Jae O. Back, G. Chun, H. Noh, *et al.*, *2009 Defense Budget Analysis×Evaluation the Prospect of 2010*, Korea Institute for Defense Analyses, 2009.12.

exceed the current guidelines by 1% of the defense budget, which was also equal to 20% of the budget of the facility construction program. But as there are positive aspects from utilizing private capital, advantages should be taken into account: although there is the negative aspect of financial rigidity from utilizing private capital, private sector-led business and operation management is proven to be more efficient than military-led business. As seen in the case of the UK—businesses led by private capital were twice as efficient in terms of the project period and the compliance of cost. Also, during contract periods, service was provided over a certain level to operate and maintain facilities and equipment.

It is necessary for the utilization policy of private capital to consider the following. First, it is necessary for private capital utilization to have a long-term plan. If private capital is indiscriminately used at an earlier stage, for the purpose of achieving full military capability, the future defense budget will experience difficulty in promoting new programs. Promoting private investment projects should be cautious and evaluate other possible areas, with a balance between the future and the present. Therefore, budgets for the financial burden of private investment projects should be reset based on the recent state of mid- and long-term financial and operational goals and status, and they should set maximum limits on guidelines for defense budgets, facilities, and barracks. Guidelines will be set to analyze the entire defense budget and O&M costs, which will in effect take control of private investment projects.

Second, investment fields that are cost-efficient should be identified. Private investment programs, without the additional burden of the defense budget, can achieve modernization of facilities and equipment, and improvement in education and training systems. Target areas can be found from the perspective that there are fields with economic potential, which can reduce operating costs when private sector-led business is utilized. One example is to replace outdated vehicles with commercially produced vehicles and/or leased commercial vehicles. Another example is to establish a special purpose company able to lower facility construction costs and Operation and Maintenance (O&M) costs.

Third, the strategy of utilizing private capital should be established on the basis of various economic indicators—overall financial costs (principal and interest), discount rate and risk.

4. Conclusions

4.1. Expandable areas of civilian resources

The policy regarding the use of civilian resources faces the following issues. There is an excessive burden on the defense budget due to the expenses charged to expand the use of civilian resources. Since 2009, the direction of using civilian resources has gradually transformed from simple outsourcing of non-core business to core combat support areas, which is a desirable change. Most current non-core business areas are operated by enlisted soldiers and if these simple non-core areas are contracted out to the private sector, it will reduce the number of soldiers, but instead raise expenses exceeding the current operating level and result in an increase in the defense budget. Also, reduction of the total number of soldiers is insignificant in defense spending, considering that high cost officers are relocated. Therefore, it is desirable that the use of civilian resources in the non-core areas is no longer expanded.

In order to expand the use of civilian resources in key areas of the military, it is necessary to continue making efforts to find economically feasible target sectors. For making use of resources in civilian markets, higher efficiency and competitiveness is a key to lower outsourcing costs, which as a result can achieve economic feasibility. Thus, to use civilian resources, the following should be done: 1) the military should actively seek out target sectors after thorough economic feasibility studies; 2) the military should let the civilian market know about business opportunities in the military sector. Commercial vendors sometimes don't have the information required to do business with the military; and 3) the military should continuously execute current pilot projects to increase efficiency and competitiveness in civilian markets, thereby increasing the opportunity to leverage the use of civilian resources for creating a virtuous circle.

The following criteria may be applied to evaluate whether or not civilian resources are effectively used. The first criterion is to assess if there are any differences in terms of tasks during war and peacetime when it comes to utilizing civilian resources. If the tasks during war and peacetime are identical, civilian resources can be utilized to their maximum potential. On the other hand, if the tasks are different, the usage of civilian resources should be carefully reviewed, since it may require additional resources being put into training to get non-

military personnel ready for specific tasks in wartime.

The second criterion is to assess the change of service quality and competency levels after civilian resources are utilized. Customer service satisfaction rates and waiting times are good indicators that measure effectiveness. Also it would be helpful to carry out cost benefit analyses with two alternatives, keeping military owned operations and using civilian resources.

The third criterion is to compare the external service fees and cost reductions in the military when civilian resources are employed. Utilizing civilian resources generates external service fees, which include service agreement fees as well as evaluation fees. These external service fees must be compared to all personnel management fees, which include expenses, acquisition of tools and resources, and O&M cost.

4.2. Suggestions for utilizing civilian resources

The following suggestions are made as to how civilian resources should be utilized. First, areas should be selected primarily based on budget savings and the reduction of personnel. Limiting target businesses to non-core areas such as support and simple tasks can be economically inefficient. In order to achieve efficiency and reduction of personnel, civilian resources should be utilized in areas where high rank officers are involved. However, it should be noted that without completely reducing manpower from the total number of officers, there could be an increase in the defense budget. The target businesses should not only be limited to combat service support areas, but they should be expanded to key functional areas in order to achieve policy goals.

Second, the use of civilian resources should be actively conducted in areas with high commonality to the civilian sector. In 2010, MND Welfare Agency reported a plan to use civilian capabilities in sales and accommodation functions of the Agency. However, this was not attempted since the research results for plan validity showed that it might worsen both the satisfaction of welfare benefits as well as profitability, which led to keeping the current system—direct military operation—instead of replacing active duty personnel with civilians. However, since the sales and accommodation functions are highly common and competitive in the private sector, it would be difficult to get a public consensus on that matter. In that sense, it is necessary for the ROK MND and each function's CEOs to have a more positive and active attitude towards using civilian

resources.

Third, there is a lack of consideration for, or even a tendency to overestimate, the difference in job characteristics between the private and the military in areas of expanding the use of civilian resources. In promoting the use of civilian resources, it is usually controversial how the uniqueness of the military and the commonality with the private sector should be taken into account. Groups outside of the military emphasize the commonality, while groups within the military highlight its specificity and uniqueness. In order for the military to utilize civilian functions and resources, the military should carefully study the differences in business processes and environments between the civilian and the military contexts. Through this study, differences between civilian and military logistics systems should be recognized, and then, efforts should be made to adjust and overcome those differences.