Abstract

**Purpose:** This study is to reveal the limitations of the existing concept and recognition of the reserve force by analyzing the actual situation and policy of the reserve force. In addition, by establishing a new concept of the reserve forces based on the total force, and suggesting the direction for the modernization and force integration of mobilization-oriented units, it is intended to contribute to the expansion of national security in the future.

**Method:** The research method is to conduct a single case study that provides a framework for understanding and interpretation in decision-making and execution of the reserve force reinforcement policy. An interpretive case study will be conducted to analyze the process of forming the total force of the United States (US), focusing on the case itself rather than the theory. Also, for a qualitative study through archival research, reports from the US Department of Defense and Congress, historical data of the National Guard, research papers and publications published by the ROK Ministry of National Defense (MND) and Army, and domestic and foreign papers will be reviewed.

**Results:** According to the total force policy of the 1970s, US viewed the reserve force as a companion force of the standing army and promoted the reinforcement of its forces. And the successful innovations in the structure, organization, and training of reserve forces by the Military National Defense (MND) and the Army of U.S. in the 1960s supported this policy. However, the strength and readiness of the Reserve Forces of ROK have not improved significantly compared to the past in terms of structure and organization, training system, and budget.

**Conclusion:** The concept of a reserve forces should be extended from a combination of mobilized personnel and materials to a unit composed of them. First of all, efforts should be focused on improving the operational capability and effectiveness of the mobilization-oriented units among the reserve forces. So the concept of reserve forces should include all human and material resources mobilized for national security and mobilization-oriented units augmented in wartime.

**Keywords** Reserve Forces, Total Force, Mobilization, Reserve Unit, ROK Army’s Mobilization Force Command

1. Introduction

Korea is a divided country and at the same time a country in a ceasefire. The Korean Peninsula is like a gunpowder warehouse in Northeast Asia where tensions and anger accumulated over a long period of military confrontation and contraposition between the two Koreas can turn into conflict or war at any time. In addition, this region is also a place where strategic competition between the US and China, which has intensified since the spread of COVID-19, and conflicts with neighboring countries are in sharp. National Defense is required to actively respond to transnational and non-traditional threats in addition to traditional security threats [1].

However, domestic defense conditions are poor. First of all, the shortage of military service resources is serious due to the rapid decline of the population, which is approaching reality.
Due to the impact of the corona pandemic, it is difficult to provide sufficient financial support for the defense sector. The development of science and technology in the 4th industry is expected to rapidly change the battlefield of the future, so it is necessary to hasten the task of changing the constitution of the military to adapt to it[2]. It seems clear that the government and the military have considerable difficulties in establishing defense policies that respond to the environmental changes and demands of the times.

However, building a strong national defense is still the responsibility of the state and the reason for the existence of the military[3]. Now, policy measures to realistically respond to various future national security threats must be found in the reserve force. The pursuit of priming reserve forces into the elite in both the past Defense Reform 2020 and the present Defense Reform 2.0 may have come from this recognition[4]. However, it is disappointing that the reserve force has been revealed as a result of the recent state audit. This is because, despite the fact that it was pursued as a key task for national defense reform, problems with the reserve force’s weapon systems and equipment appeared to be serious. The reserve force budget also said to be expanded to 1% of the national defense budget, but in 2022, it was only 0.47%, which was less than half.

This fact raises doubts as to why policy on the reserve forces promoted in the defense reform of the Roh Moo-hyun administration did not come to fruition for nearly 20 years, and whether the reserve force, which has not changed much from 50 years ago, will be able to sufficiently cover future national security[5]. In recognition of this problem, in order to conduct a prescription-oriented study to strengthen the reserve force to the same level as the standing army, it is necessary to first diagnose and analyze the entire reserve force. A comparative analysis of the ROK military reserve forces with the US total force approach from[6]. Through this, problems with the reserve force as the total force of the Korean national defense would be derived. Based on these results, policy recommendations will be made for the development for reserve forces of ROK.

2. Total Force Policy of U.S.

2.1. Change in the concept of reserve power in the process of policy formation

In 1969, the Nixon administration pursued strategic changes to restore the US defense force sunk in the Vietnam War and balance power with emerging actors in response to the Soviet threat. From 1970 to 1973, the United States abolished the conscription system and switched to the volunteer service system. To this end, the US foreign policy and national security strategy were revised, followed by changes in military strategy and defense plan[6].

According to the realistic deterrence strategy, Melvin R. Laird, the first Minister of DoD of the new administration, named the military force with strategic sufficiency as 'Total Force'. In 1971, he proposed the Total Force Concept, in which the reserve forces follow-up the standing forces in case of emergency. Instead of reducing the standing army to an appropriate level in peace-time, he wanted to nurture a reserve force to reinforce the necessary power in case of emergency. This concept could be achieved through the Force Planning Initiative, the development of advanced technologies, and the formation of a combined force with allies. This force plan included a plan to foster reserve forces and support the standing forces[7].

However, based on the results of re-evaluation of the Soviet Union's conventional power in Europe, various research institutes have come up with an analysis that the power required to suppress them is insufficient by about 3 divisions. This could not be ignored by the DoD and Army. However, for the United States to have an additional standing force, the political and economic losses the Nixon administration had to bear were great. At this time, a plan was proposed to replace the additional required power with the reserve force without the reinstatement of the conscription system[8].
In 1973, the Army Chief of Staff, Creighton W. Abrams Jr., reported to the Minister of DoD, James R. Schlesinger, a plan to expand conventional forces using reserve forces in case of emergency. The Defense Minister drafted this proposal under the title of ‘Total Force Policy’. This policy plan was to expand the conventional force that was lacking in case of emergency through a mixed formation of the standing and reserve forces. As a result, four brigades belonging to the National Guard were included in the wartime formation of the army's four standing divisions, and the army could expand to 16 divisions[9].

Although this policy has its origins in Laird’s concept of total force, it is meaningful in that the perception and character of the reserve force has changed from the auxiliary force of the standing army to the companion force. This policy transformed the U.S. reserve force into an operational force that was mobilized early in the war and performed equivalent missions with the standing forces. In other words, the reserve force came to mean a unit capable of demonstrating the same level of combat power as the standing force while being mobilized. For this, the modernization of the reserve forces and changes in the training system were inevitable.

2.2. Promotion of modernization of reserve forces in the MND and army of US

The Army's traditional perception of reserve forces was mistrust. During World War II and the Korean War, the reserve forces became bloated. At that time, the reserve force was a dull organization that took at least one year to complete its mission even if it was mobilized[10]. The readiness posture of the reserve forces mobilized during the Berlin crisis of 1961 was the worst[11]. For this reason, the United States was hesitant to send reserve forces to the Vietnam War[12]. The aspect of modern warfare has changed and the battlefield environment has changed, but the reserve forces remained in the past.

The Ministry of National Defense attempted to reform this outdated reserve force. First, the structure, organization, and training fields of the reserve forces were reformed. In 1967, Defense Secretary, Robert Strange McNamara, promoted the creation of the Selected Reserve Force. The DoD selected 150,000 of the army reserve forces and formed a Rapid Response Force. The Ministry of National Defense selected 150,000 of the army reserve forces and formed a rapid response force. This reform was successful, and the unit participated in the Vietnam War in 1968 and was well received by field commanders. After that, the National Guard was organized mainly as a combat unit, and the Army Reserve Force was reorganized into combat support and combat service support units. These reforms of the DoD contributed a lot to dispel the army's distrust of the reserve forces.

In order to shorten the preparation period for mission performance, the Army has ordered that they complete mastery of essential combat tasks prior to the mobilization order. Accordingly, from 1969, each unit conducted tactical training and evaluation from platoon to company. In 1970, the reserve force was strengthened by applying the standing army training system to the reserve forces and conducting the standing army-reserve army integrated training(Army Affiliation Program). In the integrated training of the standing army and the reserve army, one battalion of the reserve army and one battalion of the standing army conduct education and training together. All reserve battalions were to undergo joint training with the standing army battalions operating with them once a year in case of emergency. This had the effect of increasing the combat readiness and interoperability of the reserve forces. Since 1973, this training has been further strengthened, and all reserve forces have undergone three-week integrated training.

In the same year, this system was developed and the ‘Round-Out Brigade Concept’ was introduced. This concept refers to a brigade in which the units required to fully form a standing division in wartime consist of a reserve force. When the mobilization order is declared, this brigade will be organized into a pre-planned standing division and carry out its mission. In 1974, four brigades of the reserve army were trained together with the standing division to be organized in wartime. Following the abolition of the conscription system, the reserve army, like the standing army, was in short supply. Therefore, many difficulties arose in the formation of the
troops. To solve this problem, various incentives were provided, such as a wage increase for the reserve army. In addition to recruiting the standing army, the Army also studied the method of recruiting troops for the reserve forces. And under the concept of “One Army”, the reserve forces were included in the standing army formation.

Meanwhile, reforms were also promoted in the field of weapons systems and equipment and materials for the reserve forces. Even before that, there were voices in various studies that the reserve forces should be modernized for modern warfare. These discussions were gradually discoursed as the Standing Army-Reserve Force Mix. In the 1970s, the modernization of reserve forces was promoted as part of the modernization of the US military force. From 1971, equipment and materials used in the Vietnam War were transferred to the reserve forces. In addition, the equipment of the reduced standing army was taken over by the reserve force and used. However, at that time, the United States was engaged in the Vietnam War, so it was not enough to secure supplies, equipment, and budget for the reserve forces. The shortage of supplies was a major obstacle to the modernization of the reserve forces[13].

3. Establishment and Development of a New Concept for Mobilization Division in the ROK

3.1. Current concept and limitations of reserve forces in national defense

The ROK advocates the theory of companion power in terms of the reserve, but in reality, it is evaluated that it remains in the perception and policy close to the theory of auxiliary power[14]. This is because the composition of the reserve forces is limited to personnel, material resources, and each capability. Policies also exist in the mobilization plan as matters related to the organization, and combat power of units composed of these resources. <Table 1> shows a comparison of the reserve forces of the US and ROK.

### Table 1. Comparison of reserve forces of the US and ROK.

<table>
<thead>
<tr>
<th></th>
<th>Reserve of U.S.</th>
<th>Reserve of ROK</th>
</tr>
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<tbody>
<tr>
<td>Identity</td>
<td>Military service</td>
<td>Civilian</td>
</tr>
<tr>
<td>Categories</td>
<td>Ready reserve</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Selected reserve</td>
<td>Individual ready reserve</td>
</tr>
<tr>
<td></td>
<td>Standby reserve</td>
<td>Retired reserve</td>
</tr>
<tr>
<td></td>
<td>Mobilization designated</td>
<td>Mobilization non-designated</td>
</tr>
<tr>
<td>Organization</td>
<td>Designated unit</td>
<td>Unorganized</td>
</tr>
<tr>
<td>Drill</td>
<td>14~39 days</td>
<td>at least 1 day</td>
</tr>
<tr>
<td>Sizes</td>
<td>~810,000</td>
<td>~250,000</td>
</tr>
<tr>
<td>Budget</td>
<td>9% of defense spending</td>
<td>1.2% of defense spending</td>
</tr>
</tbody>
</table>

Note: Shin D & Jeong CW. Suggestions for elite Korean reserve forces through U.S. reserve forces development cases(2016).

This is problematic because it is based on perceptions that have only been possible in the past. At that time, there were abundant resources and enough time to prepare for battle. This trend of recognition has focused on maintaining the status quo and quantitative management in terms of scale and composition of the reserve[15]. In other words, it was gradually hardened into a bureaucratic work behavior that only paid attention to the annual adjustment of the organization for training or change of formation[16].

When the mobilization order is declared, the mobilization division must expand its units within a few hours and deploy to the operational area within 24 hours to carry out its mission[17]. In the peacetime, mobilization division operates 8% active duty, 0.1% military personnel, and 4% individual ready reserve(IIR) compared to the wartime[18]. With this troop
structure, they should be fully formed as a reserve force in wartime and assigned to the corps to perform the same duties and functions as the standing division. It is important for mobilization-oriented units to secure excellent mobilization resources in order to display their combat power immediately in the early stages of war. To this end, the Military Manpower Administration has issued a mobilization designation and management policy and is trying to increase the utilization of available resources by applying various methods and priorities. However, since 45% of designated mobilization are replaced every year or the unit’s fixed resources are less than 60%, the military service administrative system is rather complicated.

Mobilization training needs to be systematically completed from individual training to unit tactical training in accordance with the mission of the mobilization division, but 2 nights and 3 days are insufficient schedules to master the essential training tasks. As a result, mobilization training has no choice but to focus on mastery of major skills[19]. In addition, reservists who do not participate in mobilization training must complete 32 hours of training tasks that are not related to wartime missions[20]. Ssangyong Training, the division's comprehensive training, is a training that verifies the corps-centered mobilization operation plan. However, only one-third of the division is participating in this exercise. Due to the lack of troops and equipment, they have to receive support from the adjacent mobilization divisions, and the training period is short, so they are preparing for the training in advance.

Table 2. Level of equipment and materials for reserve forces for mobilization-oriented units.

<table>
<thead>
<tr>
<th>Unit types</th>
<th>Categories</th>
<th>Cannons*</th>
<th>Tanks*</th>
<th>Communications</th>
<th>Equipment</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobilization division</td>
<td></td>
<td>100%</td>
<td>100%</td>
<td>42%</td>
<td>59%</td>
<td>89%</td>
</tr>
<tr>
<td>Mobilization supplement battalion</td>
<td></td>
<td>41%</td>
<td>25%</td>
<td>8%</td>
<td>26%</td>
<td>45%</td>
</tr>
</tbody>
</table>

Note: Cannons(towed: 105 mm, M114, KH-1790), Tanks(M series: M48A3K, M48A5K).

Most of the weapons, equipment, and materials of the mobilization division and the mobilization supplement battalion have passed 30 to 40 years after they were produced. Although their dependence on mobilization is 93%, their equipment and material possession rate is low at an average of 65% as shown in Table 2. Major equipment such as tanks and cannons are being conducted in a reduced scale, so it is impossible to say that this is a practical exercise that assumes a wartime situation. Training on the main skills of mobilization training also takes a lot of time to develop skills if it does not match the skills of the reserve forces[21]. According to the 2019 analysis of the Mobilization Force Command, the results prove that the time required for mastery of the mission is five times that of those with the right Military Occupational Specialty(MOS). In mobilization-oriented units, 82% are appropriate MOSs for the position means that even if the units are deployed quickly, it will be difficult to fully demonstrate their combat power[22]. The formation and training system of the mobilization support groups provided to the corps by establishing a mobilization supplementary battalion during wartime is also similar to or lower than that of the mobilization division, so its combat power is likely to be low.

3.2. Reserve forces capable to ‘force-mix’ with the active forces

Unlike the United States, the South Korea is directly confronting an enemy with a large military force. The country is small, so the depth of the battlefield is short and the front is narrow. Most of the human and material resources are concentrated in the metropolitan area. With the development of weapon systems and the operation of enemy special warfare units, it would be meaningless to respond by dividing the battlefield into front and rear in case of emergency[23]. Considering these topographical conditions, resource distribution, and enemy threats, the missions and roles between the ROK military’s standing and reserve forces must be reestablished.
Accordingly, adjustment of the unit structure, organization, and resource allocation will have to be made.

It is necessary to distinguish the wartime and peacetime missions and roles of the two forces in terms of the total force. Standing forces should focus on war deterrence and initial response in peacetime, and operate with mobilization-oriented units in wartime. The reserve forces respond to national disasters and terrorism in peacetime, but in wartime, the regional reserve perform rear-area operations together with the regional defense division, and the mobilization reserve perform stabilization and civil affairs operations[24]. According to this concept of operation, it is reasonable to plan and operate the divisions deployed within the corps operational responsibility area in various ways, such as 100% standing army, mixed standing army-reserve army, etc. considering the missions according to the front and rear.

In other words, the front division will completely organize its troops, equipment, and supplies at 100-110% of the wartime requirement, and the mobilization requirement will be 0%. It is to apply the concept of fighting during wartime and peacetime as it is with the existing power to the organization. In this way, the administrative burden of mobilization of the forward division will be completely relieved. Corps and divisions will also eliminate the need to transport and guard mobilized forces. The forward division is to ensure the conditions in which it can focus only on the vigilance and the initial battle. The rear standing division develops a plan to operate by exchanging and combining the forces of the mobilization division’s brigades and battalions. The active division will have no choice but to operate together with the mobilization division’s power for wartime due to economical military force operation in peacetime[25]. Therefore, the mobilization division that is attached to and reinforced by the corps must have the capability and combat power to operate together with the standing division. This means that the mobilization division must be prepared from peacetime so that it can display the same combat power by combining forces with the standing division immediately after mobilization.

Therefore, the concept of reserve force must also be re-established in accordance with the changing circumstances of the times in Korea. In case of a reduction in military service resources and changes in the unit structure, it is unavoidable to combine operation of a standing force and a reserve force in case of emergency[26]. The reserve force must be able to immediately demonstrate the same level of capability as the standing force. Therefore, the components of the reserve force need to be expanded to include the units and their combat power in addition to human and material resources.

In order to ensure that the mobilization-oriented units can display the combat power of the standing division immediately upon mobilization, their capabilities must be increased according to the following principles. First, the standing army should be modernized to focus on combat, while the mobilization-oriented units should be modernized and armed in the direction of being exclusively responsible for combat support and operational sustainment.

Second, it is necessary to prepare a system and conditions in which standing and reserve forces can exert the same combat power and mix them with each other. This is an attempt to expand and apply the concept of the Round-out brigade in the United States in the 1970s to battalions and companies. Currently, the U.S. military has been piloting a similar program for combat brigade teams and some military units since 2016 under the name of the “Associated Units Pilot Program.” It is possible to consider a plan to include the formation of subordinate units of the mobilization division to be integrated during wartime in the standing division’s organization table.

Meanwhile, one brigade in the future will have the ability to control five combat battalions[27]. The mobilization division should also develop into a brigade-centered modular unit structure like the standing division. Then, each company or battalion under the subordinate of the standing and mobilizing divisions can be composed of mixing from 1:4 to 4:1. This can be done in various ways in consideration of the mission for each operation stage, the deployment and integration period of each unit[28].
Third, it is necessary to clearly establish responsibility and authority for command relations, readiness, training, etc. between standing forces and reserve forces that integrate power. To this end, the higher in the mixed unit must reflect the formation of the integrated unit in its own organization table and specify the command relationship. Then, it will be possible for commander and his/her staffs to command and supervise for the preparation of the integrated unit’s combat readiness with the legitimacy and authority. In addition, it is possible to review the operation of the ‘Force Integration Support Team’ in the corps and division staff departments from peacetime. This support team supports the integration of combat brigades and battalions into divisions and brigades in wartime, and in peacetime has the task of inspecting combat readiness posture, instructing training and supervising the united units on their behalf. This team is composed of a reservist like IRR, but it is necessary to work part-time throughout the year or for a certain period in consideration of the unit’s mission.

Fourth, the training system of the mobilization division should apply the training management system of the standing division to create wartime response combat power and balance the power with the standing army. The expansion of the personnel, the modernization of equipment and materials of the mobilization division do not mean that it has the same combat power as the standing army. The mobilization division must have the same combat power as the standing division to become a useful entity for corps operations. In order to improve the military effectiveness of the reserve forces, training is of paramount importance. This is because the mobilization division, which lacks military effectiveness, cannot carry out operations coordinated with the standing division, but rather puts a burden on it. Therefore, the mobilization division must complete the tactical tasks of the company and battalion during peacetime, that is, before it is mobilized. For this, the training period needs to be extended to 2-3 weeks. In addition, each company or battalion under the standing division and the mobilization division should be combined to suit their missions to activate regular integrated training [29].

Fifth, it is necessary to stably manage the resource organization of the mobilization division by expanding the recruitment of part-time reserve forces to the enlisted. In order to establish the above-mentioned division of duties and functions, structure and organization, allocation of resources, and education and training systems for the standing and reserve forces, the mobilization reserve forces must be regularly organized and trained in the mobilization division. The military selects reservists for regular service, but the contract condition is for 5 years or more, 120 to 180 days per year, or full-time service. And by giving them the same wage system and welfare benefits as the standing army, the mobilization division reserve force is maintained as fixed as possible [30]. To this end, it is necessary for the Mobilization Force Command to directly take responsibility and authority to operate all mobilization-oriented units, including resource designation and management, convening and training.

4. Conclusion and Policy Recommendations

The ROK must complete the reduction of its troops by about 360,000 by 2022. Assuming that the number of divisions reduced by the national defense reform is the amount of power needed at the beginning of the war, the alternative would be mobilization-oriented units such as mobilization divisions and mobilization supplementary battalions. However, their strength and readiness have not improved significantly compared to the past in terms of structure and organization, training system, and budget [31]. This is the result of not breaking away from the past perception that the reserve force is still an auxiliary force of the standing army and complacent with the conventional construction and maintenance of military force. In other words, there is a problem in the perception of the concept of reserve force as a state in which one resource, such as personnel and materials, is combined through mobilization. In the past, there was sufficient time to mobilize personnel and to produce and train weapons, equipment, and supplies for them. These assumptions, which were only possible in the past, are being made now.
The changed security environment, war patterns, and geographical conditions of Korea must have a reserve power to fight immediately after mobilization. The concept of a reserve forces should be extended from a combination of mobilized personnel and materials to a unit composed of them. First of all, efforts should be focused on improving the operational capability and effectiveness of the mobilization-oriented units among the reserve forces[32]. The reserve force should include all human and material resources mobilized for national mobilization, as well as mobilization-oriented units that are expanded during wartime.

In addition, selection and concentration should be made for the modernization and armed of the reserve forces in terms of total force. The formation of the front division should be completely organized from peacetime so that there is no mobilization required, and the rear division should be able to perform operations by combining forces with the mobilization division. Mobilization-oriented units should be in charge of missions other than combat, and the Mobilization Forces Command should be responsible for nurturing and managing their forces. Therefore, the priority of armed should be placed on the mobilization division. In addition, the IRR, part-time reserve, should be expanded to the enlisted to secure the stability of resource operation necessary for unit structure and organization, education and training system, and maintenance of combat power. As priority is given to the reinforcement of forces for the mobilization division, the reserve forces must be modernized and armed at the same time as the standing forces in the defense acquisition management system. In order to secure the budget rationally, it is necessary to present visible and specific goals for each task of upgrading the reserve force to elite and modernization, independence of the budget acquisition system, and reflection of the budget focusing on the cost of improving defense capabilities.

Now is the time to quickly redefine the new concept and scope of total and reserve forces suitable for the ROK military. This is because, based on this, policies and institutional development directions for the innovation of reserve forces that will contribute to future security can be prepared quickly and wisely. It is suggested that concentrating the capabilities of military policy to first develop the forces of the mobilization division together with the standing army is a realistic and wise choice for building a strong national defense.

5. References

5.1. Journal articles


5.2. Thesis degree

5.3. Additional references


6. Appendix

6.1. Authors contribution

<table>
<thead>
<tr>
<th>Initial name</th>
<th>Contribution</th>
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<tr>
<td>Author</td>
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- Set of concepts ☑
- Design ☑
- Getting results ☑
- Analysis ☑
- Make a significant contribution to collection ☑
- Final approval of the paper ☑
- Corresponding ☑
- Play a decisive role in modification ☑
- Significant contributions to concepts, designs, practices, analysis and interpretation of data ☑
- Participants in Drafting and Revising Papers ☑
- Someone who can explain all aspects of the paper ☑