

THE MULTI-DOMAIN OPERATION'S VIABILITY AS A FUTURE WAR  
CONCEPT OF THE REPUBLIC OF KOREA MILITARY: CAN IT  
COUNTER NORTH KOREAN HYBRID WARFARE?

A thesis presented to the Faculty of the U.S. Army  
Command and General Staff College in partial  
fulfillment of the requirements for the  
degree

MASTER OF MILITARY ART AND SCIENCE  
Art of War Scholars

by

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<b>REPORT DOCUMENTATION PAGE</b>				<i>Form Approved OMB No. 0704-0188</i>	
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<b>1. REPORT DATE (DD-MM-YYYY)</b> 12-06-2020		<b>2. REPORT TYPE</b> Master's Thesis		<b>3. DATES COVERED (From - To)</b> AUG 2019 – JUN 2020	
<b>4. TITLE AND SUBTITLE</b>  The Multi-Domain Operation's Viability as a Future War Concept of the Republic of Korea Military: Can It Counter North Korean Hybrid Warfare?				<b>5a. CONTRACT NUMBER</b>	
				<b>5b. GRANT NUMBER</b>	
				<b>5c. PROGRAM ELEMENT NUMBER</b>	
<b>6. AUTHOR(S)</b>  Daesu Kang, Major				<b>5d. PROJECT NUMBER</b>	
				<b>5e. TASK NUMBER</b>	
				<b>5f. WORK UNIT NUMBER</b>	
<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b> U.S. Army Command and General Staff College ATTN: ATZL-SWD-GD Fort Leavenworth, KS 66027-2301				<b>8. PERFORMING ORG REPORT NUMBER</b>	
<b>9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b>				<b>10. SPONSOR/MONITOR'S ACRONYM(S)</b>	
				<b>11. SPONSOR/MONITOR'S REPORT NUMBER(S)</b>	
<b>12. DISTRIBUTION / AVAILABILITY STATEMENT</b> Approved for Public Release; Distribution is Unlimited					
<b>13. SUPPLEMENTARY NOTES</b>					
<b>14. ABSTRACT</b> Hybrid warfare is a central theme of the North Korean regime's military strategy. It seeks to combine conventional and unconventional capabilities, backed by nuclear capabilities, to swiftly win an armed-conflict before substantial reinforcements can arrive in South Korea. Taking lessons from Hezbollah's hybrid warfare in Lebanon in 2006 and Russia's hybrid warfare in Ukraine in 2014, North Korea is likely to utilize hybrid warfare in future conflicts with increased complexity, due to its ties with Russia and Hezbollah, capabilities, and intention. Meanwhile, Multi-Domain Operations (MDO), the US Army's future war concept, seek to deter and defeat future adversaries such as Russia, China, Iran, and North Korea by optimizing combat power in multiple domains. This thesis examines if the MDO concept can be a viable future war concept for the ROK military in countering North Korean hybrid warfare. The thesis concludes that the MDO concept is both suitable and feasible, but not acceptable, mainly due to excessive budget demands, thus making it not fully viable; however, the ROK should continue pursuing the integration of operations across multiple domains.					
<b>15. SUBJECT TERMS</b> Multi-Domain Operations, Hybrid Warfare, Republic of Korea military, Viability of a concept					
<b>16. SECURITY CLASSIFICATION OF:</b>			<b>17. LIMITATION OF ABSTRACT</b>	<b>18. NUMBER OF PAGES</b>	<b>19a. NAME OF RESPONSIBLE PERSON</b>
<b>a. REPORT</b>	<b>b. ABSTRACT</b>	<b>c. THIS PAGE</b>			<b>19b. PHONE NUMBER (include area code)</b>
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MASTER OF MILITARY ART AND SCIENCE

THESIS APPROVAL PAGE

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

## ABSTRACT

THE MULTI-DOMAIN OPERATION'S VIABILITY AS A FUTURE WAR CONCEPT OF THE REPUBLIC OF KOREA MILITARY: CAN IT COUNTER NORTH KOREAN HYBRID WARFARE? by Major Daesu Kang, 127 pages

Hybrid warfare is a central theme of the North Korean regime's military strategy. It seeks to combine conventional and unconventional capabilities, backed by nuclear capabilities, to swiftly win an armed-conflict before substantial reinforcements can arrive in South Korea. Taking lessons from Hezbollah's hybrid warfare in Lebanon in 2006 and Russia's hybrid warfare in Ukraine in 2014, North Korea is likely to utilize hybrid warfare in future conflicts with increased complexity, due to its ties with Russia and Hezbollah, capabilities, and intention.

Meanwhile, Multi-Domain Operations (MDO), the US Army's future war concept, seek to deter and defeat future adversaries such as Russia, China, Iran, and North Korea by optimizing combat power in multiple domains. This thesis examines if the MDO concept can be a viable future war concept for the ROK military in countering North Korean hybrid warfare. The thesis concludes that the MDO concept is both suitable and feasible, but not acceptable, mainly due to excessive budget demands, thus making it not fully viable; however, the ROK should continue pursuing the integration of operations across multiple domains.

## ACKNOWLEDGMENTS

First, I would like to express my gratitude to my wife, Eunju Lee, for being extremely supportive while I wrote this thesis. She not only endured much without complaint, but also encouraged me to delve more deeply into the subject, so I could become more knowledgeable about the subject. Without her support, I could not have finished the work. I owe much of my accomplishment to her.

I am also deeply thankful for my MMAS thesis committee, Mr. Joseph Donalbain, Dr. John Modinger, and LTC Michael Thorpe, for their consistent advice on the structure, logic, and direction of the thesis. They never hesitated to take significant portions of their time to discuss the thesis. I also would like to recognize the Art of War scholars, who, under the guidance of Dr. Dean Nowowiejski, the Ike Skelton Chair of the Command and General Staff College (CGSC), provided me with many insights on how the thesis could be better structured and revised.

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## ACRONYMS

A2/AD	Anti-Access and Anti-Denial
AFC	Army Futures Command
AI	Artificial Intelligence
AMD	Air and Missile Defense
AN	Army Network
AO	Area of Operation
AR	Augmented Reality
ASOC	Air Support Operation Centers
BCTP	Battle Command Training Program
CBRN	Chemical, Biological, Radiological, and Nuclear
CFC	Combined Forces Command
CFT	Cross Functional Team
COP	Common Operating Pictures
COTP	Conditions-based OPLAN Transition Plan
COVID-19	Corona Virus Disease 2019
CRD	Concepts and Requirements Division
DPRK	Democratic People's Republic of Korea
EAB	Echelons Above Brigade
EMS	Electro-Magnetic Spectrum
EMP	Electromagnetic Pulse
FAS	Feasibility, Acceptability, Suitability
FB	Forward Boundary
FVL	Future Vertical Lift



FYDP	Future Years Defense Program
GCC	Ground Component Command
GDP	Gross Domestic Product
GOC	Ground Operations Command
ICBM	Inter-Continental Ballistic Missile
ISR	Intelligence, Surveillance, and Reconnaissance
JADC2	Joint All Domain Command and Control
JCS	Joint Chiefs of Staff
KCTC	Korea Combat Training Center
KR/FE	Key Resolve/Foal Eagle
KTO	Korea Theater of Operation
LSCO	Large-Scale Combat Operation
LVC	Live, Virtual, Constructive
LRPF	Long-Range Precision Fires
L-SAM	Long-range Surface to Air Missile
MCTP	Mission Command Training Program
MDB	Multi-Domain Battle
MDO	Multi-Domain Operations
MDTF	Multi-Domain Task Force
MLRS	Multi Launching Rocket System
MND	Ministry of National Defense
NCO	Non-Commissioned Officer
NGCV	Next Generation Combat Vehicle
NTC	National Training Center
OPCON	Operational Control

R&D	Research and Development
RDT&E	Research, Development, Test, and Evaluation
ROK	Republic of Korea
SCM	Security Consultative Meeting
SL	Soldier Lethality
SOF	Special Operations Force
STE	Synthetic Training Environment
THAAD	Terminal High Altitude Area Defense
TRADOC	Training & Doctrine Command
UFG	<i>Ulchi</i> Freedom Guardian
VR	Virtual Reality
WMD	Weapons of Mass Destruction

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## CHAPTER 1

### INTRODUCTION

Hybrid warfare will be a critical challenge to the United States and its allies in the twenty-first century, a challenge openly recognized by the US defense establishment.

—Williamson Murray and Peter R. Mansoor, *Hybrid Warfare  
Fighting Complex Opponents from the Ancient World to the Present*

#### Background

##### North Korean Hybrid Warfare

##### Why is North Korean hybrid warfare a problem?

In 2006, Israel launched an attack into Lebanese territory. This event, later known as the Second Lebanon War, was in response to a few hostile actions executed by Hezbollah, including rocket fires into Israeli territory and the abduction of two Israeli soldiers. To counter the Israeli forces, Hezbollah used hybrid warfare, incorporating both conventional tactics, such as taking defensive positions with ground forces, and unconventional tactics, including insurgent and psychological tactics. With the international and domestic pressure to end the war, Israel signed an UN-mediated cease-fire agreement without a significant military defeat; Hezbollah seemingly achieved, in their term, “the Divine Victory” by utilizing hybrid warfare.<sup>1</sup>

In 2014, Russia annexed the Crimean Peninsula and sought to exert its influence in Eastern Ukraine during the Donbass War through the employment of hybrid warfare. Russia used hybrid warfare to achieve its political purpose—using a propaganda

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<sup>1</sup> John R. Davis Jr, “The Greatest Challenge to the Army Profession of 2020 and Beyond,” *Military Review* (September-October 2013): 3.

campaign to divide public opinions in Ukraine, drone technology to call for Multi Launching Rocket System (MLRS) fires, and cyber tactics to disturb Ukrainian information infrastructure—in addition to conventional tactics, such as dispatching Special Forces and mechanized units into Ukrainian territory<sup>2</sup>. In the cases of Lebanon and Russia, one can see that hybrid warfare was the primary tool in achieving the nation’s or the entity’s political purpose.

Hybrid warfare, according to Sean Monaghan, a strategic analyst in the UK Ministry of Defense (MOD), is “the challenge presented by the increasing complexity of armed conflict, where adversaries may combine types of warfare plus nonmilitary means to neutralize conventional military power.”<sup>3</sup> The utility of using hybrid warfare, according to Monaghan, is revisionist actors and adversaries can offset strong conventional military states with an array of new, more cost-effective means to achieve their political goals, as seen in Lebanon in 2006 and in Ukraine in 2014.<sup>4</sup> North Korea’s central concept of war strategy is hybrid warfare, or *Baehabjeon*; and it would fit in the category of Monaghan’s definition. The concept seeks to combine conventional and unconventional warfare to quickly overwhelm the South before US reinforcements arrive

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<sup>2</sup> Gregory F. Treverton, *Addressing Hybrid Threats* (Stockholm: Swedish Defense University, 2018), 13.

<sup>3</sup> Sean Monaghan, “Countering Hybrid Warfare – So What for the Future Joint Force,” *PRISM* 8, no. 2 (2019): 83.

<sup>4</sup> *Ibid.*, 85.

in the South.<sup>5</sup> Taking lessons from Russia and Hezbollah, North Korea is likely to utilize hybrid warfare in future conflicts with increased complexity, due to its ties to Russia and Hezbollah, capabilities, and intention. Evolving North Korean hybrid warfare will be a challenge for the ROK in preparing a future conflict.

#### North Korea's Ties to Russia and Hezbollah

North Korea's ties to Russia and Hezbollah increase the likelihood that North Korea would take lessons from their employment of hybrid warfare. It is widely known that North Korea has special ties to Russia. North Korea's military equipment, government organization, and ideology all have connections to the country. The former Soviet Union, of which Russia comprised the most substantial portion, designated Kim Il-Sung, the founding father of North Korea and ex-guerrilla commander who fought against Japan during the 1930s, to be the leader of the country following the brief trusteeship of the Soviet Union in North Korea after World War II.<sup>6</sup> The Soviet Union also approved and supported Kim Il-Sung's plan to invade South Korea during the Korean War with provision of logistics, weapons, and military advisors to North Korea.

The former Soviet Union and Russia played the most influential role in establishing and modernizing the North Korean military. Majority of weapons systems

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<sup>5</sup> 김태현, “북한의 공세적 군사전략: 지속과 변화,” 국방정책연구 제 33 권, 제 1 호 (2017 년 봄): 155.

<sup>6</sup> Tong-Hyoung Kim, “Russian-North Korean relations since the Korean War,” *AP News*, 24 April 2019, <https://www.apnews.com/24932ed50a424a12a243cc1434c71b49>.

North Korea uses today are either Russian-made or remakes of the Russian weapons.<sup>7</sup> Military strategy, tactics, and organizations are also influenced by the former Soviet Union; Kim Il-Sung is known to have adopted the Red Army's Field Manual in 1936, written by Soviet Marshall Tukhachevsky.<sup>8</sup> North Korean communist ideology was derived from that of the former Soviet Union initially, and they subsequently pursued their unique ideology with creative application to Marxism - Leninism over time.<sup>9</sup> The continued influence is an essential factor in analyzing North Korea's strategy since it is likely that the regime would at least take lessons from Russian success in hybrid warfare in Ukraine.

Official exchanges between Russia and North Korea is another factor contributing to their relationship. Though there were times when the relationship was strained after the fall of the Soviet Union, a recent summit between Russian President Vladimir Putin and North Korean leader Kim Jung-Un and frequent exchanges between Russian and North Korean officials show that both countries continue to maintain strong ties. On 25 April 2019, Putin and Kim held a summit in Russia's Pacific city of Vladivostok proclaiming, according to a North Korean newspaper, Russia and North Korea agreed on the "concrete directions and steps for further promoting mutual understanding, trust, friendship and cooperation and propelling the development of the friendly relations between the two

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<sup>7</sup> 조상진, "러시아 군사자산이 북한 군사력과 기술의 핵심," *VOA 뉴스*, 15 August 2019, <https://www.voakorea.com/korea/korea-politics/5042336>.

<sup>8</sup> 이상택, "북한 군사전략의 역사적 고찰," *군사* 112 호 (2019 년 9 월): 140.

<sup>9</sup> *Ibid.*

countries oriented toward the new century.”<sup>10</sup> With the official exchanges, especially by the leaders of both states, they were able to share security issues that both states face and the measures to address those issues.

North Korea also has maintained ties with Hezbollah, although the degree of relationship has not yet been revealed as much. The North Korean regime is known to have provided missile technologies and tunnel building technologies to Hezbollah. In 2013, in a US District Court ruling, Judge Royce Lamberth stated that North Korea and Iran were two countries liable for aiding Hezbollah in their launching of rockets into Israeli territory during the Second Lebanon War in 2006, which caused many Israeli and American civilian casualties.<sup>11</sup> Judge Lamberth assessed that North Korea provided missile technology and related equipment to Hezbollah which assisted Hezbollah’s rocket attacks on Israel.<sup>12</sup> North Korean tunnel technology, which became well known after South Korea discovered four of their secret tunnels under the Demilitarized Zone (DMZ) into South Korean territory, was also transferred to Hezbollah and Hamas. Both of the groups took advantage of the technology in fighting against Israelis by establishing tunnels so they could execute surprise attacks on the Israeli Armed forces.<sup>13</sup>

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<sup>10</sup> Leo Byrne, “North Korea, Russia to deepen ties and cooperation,” *KCNA, NK News*, 25 April 2019, <https://www.nknews.org/2019/04/north-korea-russia-to-deepen-ties-and-cooperation-kcna/>.

<sup>11</sup> Bart Marcois, “The Hezbollah Connection to North Korea,” *OpsLens*, 20 November 2017, <https://www.opslens.com/2017/11/hezbollah-connection-north-korea/>.

<sup>12</sup> *Ibid.*

<sup>13</sup> *Ibid.*



There were also considerable amounts of official exchanges between North Korea and Hezbollah. Judge Ramberth mentioned in his ruling that “Hezbollah members began traveling to North Korea for specialist instruction as early as the late 1980s; Hezbollah General-Secretary Hassan Nasrallah himself visited North Korea for training purposes during this time.” He also mentioned that many of Hezbollah’s intelligence and security chiefs were trained in North Korea, and North Korean officers were sent to Lebanon to advise and train the Hezbollah soldiers.<sup>14</sup> Because the two entities are in a similar security situation with regards to South Korea and Israel, even though North Korea is a state-actor and Hezbollah is a non-state actor, it is reasonable to assume that North Korea would closely monitor the situation of Hezbollah. Considering the relationship with Hezbollah and the positive result of the Second Lebanon War in 2006 for Hezbollah, it is logical to think that North Korea at least took lessons from Hezbollah’s operations.

#### North Korea’s Increasing Capabilities to Conduct Hybrid Warfare

North Korea already possesses the capabilities to execute hybrid warfare and continues to focus on increasing its capabilities. For a nation or an entity to conduct hybrid warfare effectively, it needs to hold both conventional capabilities (including nuclear) and unconventional capabilities. According to an analysis written by the Council on Foreign Relations (CFR), the publisher of *Foreign Affairs* magazine, North Korea’s military strength in terms of the size of its conventional forces stands at the fourth largest in the world, with more than 1.1 million active personnel, which is about 5 percent of the entire population (See figure 1).

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<sup>14</sup> Marcois.

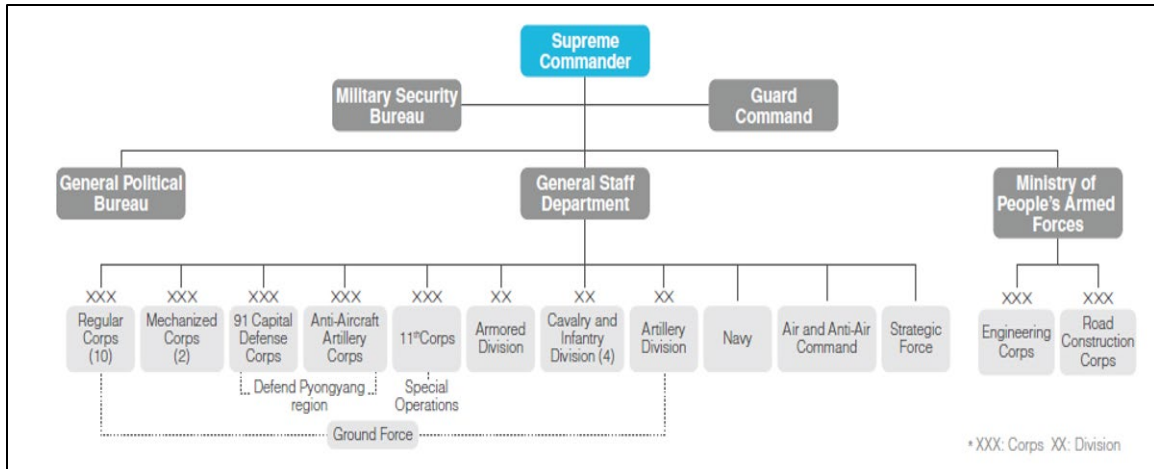


Figure 1. North Korea's Military Command Structure

Source: The Republic of Korea, Ministry of National Defense (MND), *2018 Korea Defense White Paper* (Seoul: MND, 31 December 2018), 28.

The military, under the command of the General Staff Department, also possesses, “more than 1,300 aircraft, nearly 300 helicopters, 430 combatant vessels, 250 amphibious vessels, 70 submarines, 4,300 tanks, 2,500 armored vehicles, 5,500 multiple-rocket launchers, and over 1,000 missiles of varying ranges.”<sup>15</sup> Although one might argue that the majority of North Korean military equipment is outdated and the Democratic People's Republic of Korea (DPRK) will not be able to sustain them in a war for an extended period of time, the mass concentration of conventional forces near the border between the South and the North poses a significant threat for both South Korea and the US troops stationed in the South.

<sup>15</sup> Eleanor Albert, “What Are North Korea's Military Capabilities?” Council on Foreign Relations, last updated 20 December 2019, <https://www.cfr.org/backgrounder/north-koreas-military-capabilities>.

North Korea also retains nuclear capabilities, which can be an advantageous leverage when it comes to executing hybrid warfare. Nuclear capabilities often serve as a deterrent to a possible augmentation of additional forces into the theater. The deterrent factor allows the adversary to employ hybrid warfare without external interference, as seen in the case of Russia's operation in Ukraine in 2014. The CFR report analyzes that North Korea's nuclear stockpile is estimated to be between 30 and 60 bombs; the regime seems to have succeeded in testing the Inter-Continental Ballistic Missiles (ICBMs), capable of reaching the continental United States (See figure 2).<sup>16</sup> The regime has tested nuclear bombs six times in total. On the sixth test, the report analyzed that they achieved about a yield equivalent of 35 kilotons of TNT; for comparison, the US nuclear bomb dropped on Hiroshima in 1945 yielded about 16 kilotons.<sup>17</sup> With these conventional and nuclear capabilities, North Korea not only attempts to threaten the ROK and the United States to use its forces to achieve its political gains, such as drawing international attention or stopping ROK-US combined exercises, but also will try achieving complete victory during the conflict. Just as Russia was able to exert influence into Ukraine in 2014 using hybrid warfare backed by nuclear military strength to deter external intervention, North Korea seems to have been attempting every effort to set conditions for the use of hybrid warfare on the Korean Peninsula.

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<sup>16</sup> Albert

<sup>17</sup> Ibid.

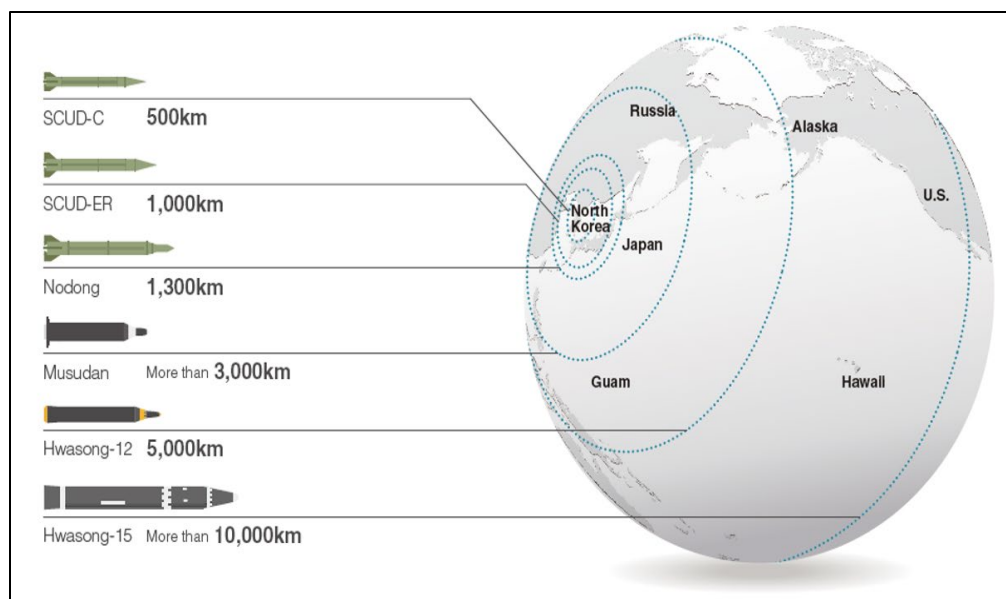


Figure 2. Ranges of North Korean Missiles

Source: The Republic of Korea, Ministry of National Defense (MND), *2018 Korea Defense White Paper* (Seoul: MND, 31 December 2018), 28.

Not only does North Korea possess enough forces, means, and functions to conduct conventional warfare, it also has the capabilities to conduct unconventional warfare. Cyberattack capabilities are the best example; in fact, North Korea has one of the most detrimental hacking capabilities in the world. According to the CFR report, during the 1980s and 1990s, North Korea was at the level of merely disabling or disrupting South Korean websites. However, with recent massive investment in their capabilities, North Korea executed multiple cyberattacks on institutions such as South Korean banks (2011), military headquarters (2016), financial institutions (2016), and even foreign entities, like Sony (2014) and the Bangladeshi Central Bank account at the

Federal Reserve in New York (2016).<sup>18</sup> The North Korean regime can utilize these cyber-attack capabilities in the same way that Russia implemented them in Ukraine: by executing cyber-attacks on the Ukrainian government and controlling Ukrainian social media in an attempt to gain initiatives and achieve political objectives.

Another unconventional capability that can improve the execution of hybrid warfare is a propaganda campaign. According to a report by *The Diplomat*, North Korea operates 160 propaganda websites and maintains about 7,000 personnel engaged in propaganda activities under the North Korean Propaganda department, with 300 agents solely dedicated to performing online public opinion manipulation activities targeting the South Korean public.<sup>19</sup> These North Korean efforts in propaganda campaigns are comparable to the Russian case of public opinion manipulation in Ukraine as well as Hezbollah's case of attempting to publicize the negative effect of the Israeli attack on innocent Lebanese citizens; both of the cases are seen as successes as part of hybrid warfare. These kinds of unconventional capabilities, especially cyber and propaganda, will likely provide North Korea with more leverage to perform hybrid warfare on the Korean Peninsula, just as Russia had more leverage in Ukraine because of the substantial conventional and unconventional warfare capabilities of the Russian military at the same time.

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<sup>18</sup> Albert.

<sup>19</sup> Tae-Jun Kang, "North Korea's Influence Operations, Revealed," *The Diplomat*, 25 June 2018, <https://thediplomat.com/2018/07/north-koreas-influence-operations-revealed/>.

## North Korea's Hostile Intention

The North Korean regime demonstrates its stated intention of unifying the Korean peninsula by force and with its socialistic ideology. The first reason for suspecting the hostile intention of North Korea is the motives shown in their written documents. The North Korean Constitution and the Charter of the Workers' Party of Korea explicitly state the objective to unify the Korean Peninsula with their socialistic ideology. Chapter 1 of the North Korean Constitution states that "the DPRK is an independent socialist state representing the interests of all the Korean people," and the DPRK shall "conduct all activities under the leadership of the Workers' Party of Korea."<sup>20</sup> In the Charter of the Workers' Party of Korea, the ultimate goal is "the indoctrination of the entire society with *Juche* philosophy," which is North Korea's indigenous alternative to Marxism-Leninism with emphasis on self-reliance, and "the establishment of a communist society."<sup>21</sup> The unambiguous intention shows that North Korea is willing to seize the Korean Peninsula with whatever it takes, including forceful unification.

North Korea's intention of aggression is apparent in their newspapers and news broadcast systems as well due to the strict state control over those media sources; every piece of information the media releases is supervised by the regime's leadership. With regards to the sanctions the United States imposed on North Korea for their missile

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<sup>20</sup> Democratic People's Republic of Korea. *Korea (Democratic People's Republic of)'s Constitution of 1972 with Amendments through 1998*. Constitute Project. accessed 31 May 2019, [https://www.constituteproject.org/constitution/Peoples\\_Republic\\_of\\_Korea\\_1998.pdf?lang=en](https://www.constituteproject.org/constitution/Peoples_Republic_of_Korea_1998.pdf?lang=en).

<sup>21</sup> Sung-Yoon Lee, "North Korea's Revolutionary Unification Policy," *International Journal of Korean Studies* 18, no 2 (Fall 2014): 122.

testing, North Korea's newspaper, *Uriminzokkiri*, reported that "the US will have more to lose than gain from the sanctions." It also referred to the United States as "the hostile forces attempting to hamper its efforts to improve the lives of its people."<sup>22</sup> This is one of the numerous examples that North Korea utilizes its media to create negative sentiment against the United States. From this example, one can deduce that North Korea's intention is to alienate the United States in order for the regime to have a favorable environment to achieve its political purpose of reunification. Various examples of North Korean media criticizing the United States for intervening, training with the South Korean military, and threatening South Korea for their military might show that their intention remains firm: independent from outside influence, with a socialistic ideology, and unified with the South.

Another reason for suspecting the hostile intention of North Korea are the motives revealed by the leaders' comments and speeches. North Korean leaders, at times, published statements that expressed their wishes to unify Korea through force and with their ideology. In a 2014 New Year's address, Kim Jung-Un emphasized that "external forces must be denounced and the views of our people ourselves must be firmly adhered to."<sup>23</sup> Not many would disagree with the following interpretations: by "external forces,"

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<sup>22</sup> Vaishnavi Vaidyanathan, "North Korean Media Criticize the US For Intervening In Inter-Korean Affairs," *International Business Times*, 1 November 2018, <https://www.ibtimes.com/north-korean-media-criticize-us-intervening-inter-korean-affairs-2729228>.

<sup>23</sup> Yong-Ho Park, "South and North Korea's views on the Unification of the Korean Peninsula and Inter-Korean Relations," Korea Research Institute for Strategy, 21 January 2014, <https://www.brookings.edu/wp-content/uploads/2014/04/Park-Young-Ho-paper.pdf>.

he means the US forces in Korea; by “our people,” Kim refers to all Koreans including people in the South; by “the views,” he most likely means the socialistic ideology of North Korea. According to his comments, it is easy to determine that the leader Kim Jung-Un pursues the reunification of Korea with a socialistic ideology without US intervention. Likewise, Kim Il-Sung, Kim Jung-Il, and Kim Jung-Un, all three leaders of North Korea, in their speeches maintained a similar concept that was displayed on Kim Jung-Un’s New Year’s speech in 2014, as this concept has been ingrained in their constitution and the Charter of the Workers’ Party of Korea.

Military and party leaders’ speeches carry critical meaning when it comes to interpreting the regime’s intention. North Korean military leaders threatened South Korea by saying that they can make Seoul “a sea of fire” if they want.<sup>24</sup> This article shows the reason why North Korea concentrated much of their conventional forces including artillery units near the border between the South and the North. Yong-Ho Park, a senior research fellow of Korea Institute for National Unification, in his article “South and North Korea’s views on the Unification of the Korean Peninsula and Inter-Korean Relations,” emphasizes that North Korean military and party leaders generally desire two ways of unification: first, “unification by sheer military force,” and second, “unification by enlisting the aid of South Korean anti-government activists in revolutionizing the South” which can assist hybrid warfare.<sup>25</sup>

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<sup>24</sup> In-Chan Hwang, “N. Korea threatens to turn Seoul into a sea of fire,” *Dong-A Ilbo*, 9 August 2017, <http://www.donga.com/en/article/all/20170809/1021460/1/N-Korea-threatens-to-turn-Seoul-into-a-sea-of-fire%C2%A0>.

<sup>25</sup> Park, 6.



This view by the North Korean leaders is a reminder of Russia's hybrid warfare where Russia utilized anti-government activists to use them against the Ukrainian government. In the same way, North Korea will want pro-North Korea activists to lead the revolution when the appropriate time comes. These pieces of evidence show that statements made by the leaders, whether it be by the head of the regime or by the military or party leaders, also contribute significantly to the fact that North Korea possesses the intention to unify the two Koreas under their socialistic ideology.

#### North Korean Hybrid Warfare Summary

North Korean hybrid warfare is the central concept of its war strategy to achieve the goal of reunifying the Korean Peninsula with its socialist ideology. With lessons from Hezbollah's and Russia's successful hybrid warfare in 2006 and 2014, it is more than likely that North Korea will fully utilize hybrid warfare in a future conflict, considering its ties with both actors, evolving capabilities, and hostile intention. Without a doubt, South Korea may be the biggest victim of those threats; however, the threats are also crucial for other Asian countries and countries worldwide, because hybrid warfare on the Korean Peninsula affects the regional stability and possible cases of future hybrid warfare elsewhere. If North Korea executes another successful hybrid warfare, more hostile countries or entities will seek to employ similar warfare against neighboring countries. More North Korean detrimental weapons technologies that are prohibited by international law will be disseminated throughout the world, as was seen in the case of Hezbollah and Hamas. The quest for this research embarked on this problem of tackling North Korean hybrid warfare.

## Multi-Domain Operation Concept

The 2017 US National Security Strategy (NSS) considers China and Russia as “revisionist powers” and that they are contesting US geo-political interests by attempting to overthrow the established international order to their advantage.<sup>26</sup> The 2018 US National Defense Strategy (NDS) further emphasizes the Joint Forces’ principal role to deter and defeat revisionist powers such as China and Russia in both competition and conflict.<sup>27</sup> The Multi-Domain Operation (MDO) concept, the US Army operating concept, was created in this strategic context to describe how the Army can contribute to the Joint Forces in achieving those strategic objectives.<sup>28</sup> MDO recognizes four trends in operational environment: first, adversaries are investing “to contest the United States in all domains;” second, realizing the United States has advantage in the close fight, adversaries have “adopted strategies that employ multiple layers and types of stand-off;” third, knowing the vulnerabilities of high threshold for conflict, adversaries have “leveraged innovative use of the competition space to achieve objectives;” and finally, these trends have “diluted US operational deterrence.”<sup>29</sup>

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<sup>26</sup> US President, *National Security Strategy of the United States of America* (Washington, DC: The White House, December 2017), 27.

<sup>27</sup> US Department of Defense (DoD), *Summary of the 2018 National Defense Strategy of the United States of America* (Washington, DC: DoD, 2018), 2.

<sup>28</sup> US Army Training and Doctrine Command (TRADOC), TRADOC Pamphlet 525-3-1, *The US Army in Multi-Domain Operations 2028* (Fort Eustis, VA: TRADOC, 6 December 2018), 3.

<sup>29</sup> Eric J. Wesley and Robert H. Simpson, “Expanding the Battlefield – An Important Fundamental of Multi-Domain Operations,” *Land Warfare Paper 131*, Association of the United States Army, April 2020, 2.

Given the operational environment, TRADOC Pamphlet (TP) 525-3-1, *The US*

*Army in Multi-Domain Operations 2028*, describes the MDO concept's central idea:

Army forces, as an element of the Joint Force, conduct Multi-Domain Operations to prevail in competition; when necessary, Army forces penetrate and dis-integrate enemy anti-access and area denial systems and exploit the resultant freedom of maneuver to achieve strategic objectives (win) and force a return to competition on favorable terms (See figure 3).<sup>30</sup>

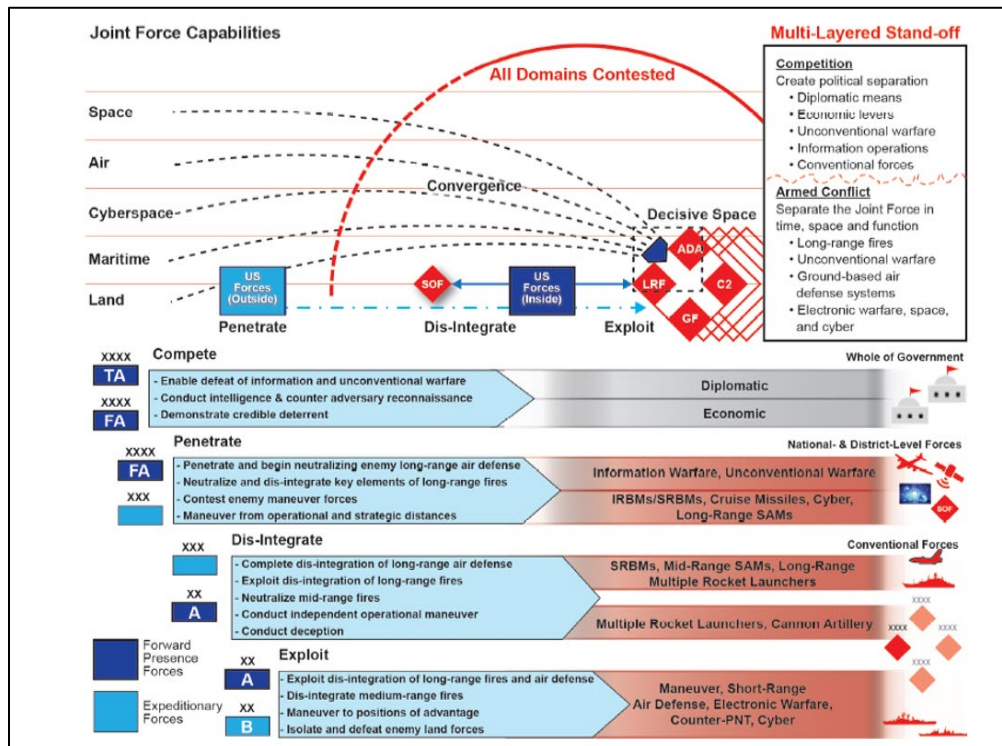


Figure 3. MDO Solutions

Source: US Army Training and Doctrine Command (TRADOC), TRADOC Pamphlet 525-3-1, *The US Army in Multi-Domain Operations 2028* (Fort Eustis, VA: TRADOC, 6 December 2018), 26.

<sup>30</sup> TRADOC Pamphlet 525-3-1, iii.

As seen in the central idea, the MDO concept provides two main options to the political leaders: first, “expanding the competition space,” which would force the adversaries to recalculate their intentions; and second, “enabling a rapid response” that can deny an adversary’s *fait accompli* attack, meaning irreversibly accomplished attack, and achieve a position of advantage to return to competition.<sup>31</sup> The MDO concept attempts to accomplish given tasks with three tenets of calibrated force structure: calibrated force structure, multi-domain formations, and convergence.<sup>32</sup> Calibrated force structure has to do with the position and maneuverability of the forces over strategic distance; multi-domain formation is about capabilities necessary to operate across multiple domains; and convergence is about integrating capabilities in all domains.<sup>33</sup>

TP 525-3-8, *US Army Concept: Multi-Domain Combined Arms Operations at Echelons Above Brigade 2025-2045*, is nested and congruent with the Multi-Domain Operations concept.<sup>34</sup> The document describes how future Army forces, especially Echelons Above Brigade (EAB), operate throughout the competition continuum, structure for effective future operations, and identify capabilities and capacities at each echelon necessary to meet the requirements for land forces in a future conflict.<sup>35</sup> TP 525-

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<sup>31</sup> Wesley and Simpson, 3.

<sup>32</sup> TRADOC Pamphlet 525-3-1, vii.

<sup>33</sup> Ibid.

<sup>34</sup> U.S. Army Training and Doctrine Command (TRADOC), TRADOC Pamphlet 525-3-8, *US Army Concept: Multi-Domain Combined Arms Operations at Echelons Above Brigade 2025-2045* (Fort Eustis, VA: TRADOC, 6 December 2018), 5.

<sup>35</sup> Ibid.

3-8 proposes that EAB formations need to possess capabilities to “gain and maintain contact; persistently compete; posture; converge multi-domain-effects; exploit the initiative; and consolidate gains” to provide essential linkages to the joint forces.<sup>36</sup> The document also states that EAB formations must include uniquely tailored theater armies, threat-focused field armies, versatile corps, and tactically-focused divisions.<sup>37</sup>

Four initial reasons were taken into consideration for choosing MDO concept to counter North Korean hybrid warfare. First, North Korean hybrid warfare capabilities inherently possesses multiple domain aspects. As discussed in the previous section, North Korean conventional forces have capabilities across the land, air, and sea. North Korea is also known to have one of the most destructive cyber operational capabilities in the world. The regime also possesses nuclear and ballistic missile capabilities, which could extend to the space domain with limited means. Second, Russia’s military intervention in Ukraine in 2014, which is widely considered to be hybrid warfare, was one of the catalysts that prompted the US transition to Large-Scale Combat Operation (LSCO) doctrine and the MDO concept. Field Manual (FM) 3-0, *Operations*, mentions Russian military intervention in Ukraine in 2014 as an example of why US military professionals need to be prepared to execute LSCO.<sup>38</sup> Third, the concept emphasizes deterrence during the competition and winning during the conflict. These two distinctions are also applicable on the Korean peninsula because North Korea poses similar types of threats

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<sup>36</sup> TRADOC Pamphlet 525-3-8, iv.

<sup>37</sup> Ibid.

<sup>38</sup> Wesley and Simpson, 2.

below the threshold of armed conflict, as well as wartime threats. Lastly, applying the MDO concept, the future operational concept for the US Army, to the ROK military may increase the interoperability and effectiveness of the ROK-US alliance by having aligned concepts.

### Primary and Secondary Research Questions

The primary research question for the thesis is: Is the MDO concept viable to the ROK military in countering North Korean hybrid warfare?

The following secondary research questions need to be sufficiently analyzed to effectively assess a logical answer to the primary research question:

1. Is the MDO concept suitable to the ROK military in countering North Korean hybrid warfare?
2. Is the MDO concept feasible to the ROK military in countering North Korean hybrid warfare?
3. Is the MDO concept acceptable to the ROK military in countering North Korean hybrid warfare?
4. Are there any risks to the ROK military in applying the MDO concept, caused by an imbalance of suitability, feasibility, and acceptability?

### Key Definitions

#### Hybrid Warfare

There are numerous definitions regarding hybrid challenges among scholars: hybrid tactics, gray-zone tactics, competition short of war, hybrid warfare, etc. In his article “Countering Hybrid Warfare – So What for the Future Joint Force,” Sean

Monaghan, a strategic analyst of the UK Ministry of Defense, argues that those unclear definitions of hybrid challenges prevent today’s decision-makers from coming up with sound counter-strategies against hybrid challenges.<sup>39</sup> He further argues that distinguishing hybrid warfare from hybrid threats is crucial to effectively counter the hybrid challenges that are expected to grow significantly in the future. This thesis will use his definition of hybrid warfare and hybrid threat since his article offers a comprehensive and precise analysis of the language involved in discussing hybrid challenges (See figure 4).

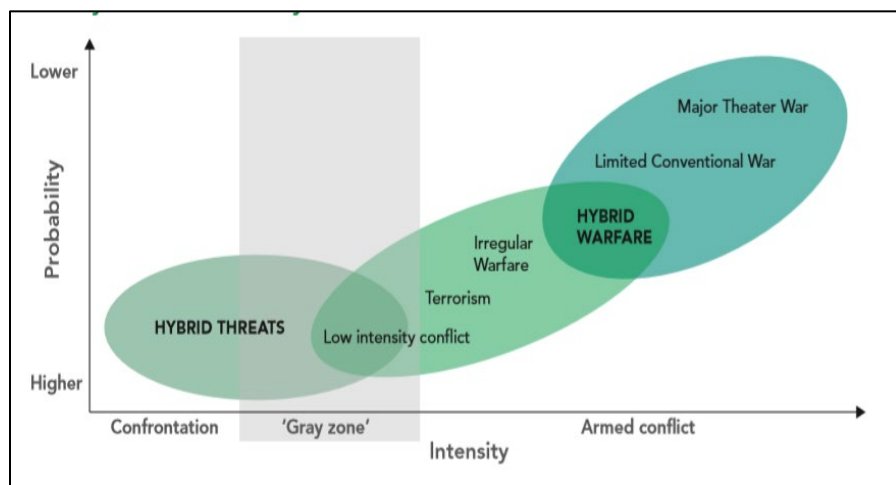


Figure 4. Hybrid Threats and Hybrid Warfare Shown on a Continuum of Conflict

Source: Sean Monaghan, “Countering Hybrid Warfare—So What for the Future Joint Force,” *PRISM* 8, no. 2 (2019): 83.

Hybrid warfare, the focus of this thesis, refers to “the challenge presented by the increasing complexity of armed conflict, where adversaries may combine types of

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<sup>39</sup> Monaghan, 83.

warfare plus nonmilitary means to neutralize conventional military power. “<sup>40</sup> On the other hand, hybrid threats combine “a wide range of nonviolent means to target vulnerabilities across the whole of society to undermine the functioning, unity, or will of their targets, while degrading and subverting the status quo.<sup>41</sup>” Hybrid warfare falls under the category of armed conflict, whereas hybrid threats falls under the category of both confrontation and gray zone<sup>42</sup> (see figure 4).

Therefore, North Korean hybrid threats are the combination of activities that North Korea executes below the level of armed conflict to target vulnerabilities of South Korean society in achieving their political objectives. Moreover, North Korean hybrid warfare is the likely characteristics of how North Korea will fight against South Korea and US combined forces in the event of armed conflict. This thesis will focus on countering North Korean hybrid warfare.

#### MDO Concept

US Army TP 525-3-1, *US Army Multi-Domain Operations in 2028*, defines MDO as “the rapid and continuous integration of all domains of warfare to deter and prevail as we compete short of armed conflict. If deterrence fails, Army formations, operating as part of the Joint Force, penetrate and dis-integrate enemy anti-access and area denial systems; exploit the resulting freedom of maneuver to defeat enemy systems, formations, and objectives and to achieve our strategic objectives; and consolidate gains to force a

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<sup>40</sup> Monaghan, 87.

<sup>41</sup> Ibid.

<sup>42</sup> Ibid.



return to competition on terms more favorable to the United States, our allies and partners.<sup>43</sup> Thus, in this thesis, MDO concept refers to Joint Forces' way of deterring an adversary's threats during the competition phase, as well as the way of penetrating, disintegrating, and exploiting the adversary during the conflict phase with tenets of calibrated force posture, multi-domain formation, and convergence.

### Viability

According to the Cambridge Dictionary, viability means the “degree of chance that something will succeed.”<sup>44</sup> Then, what does it mean for a future war concept to be successful? In his article, “Toward a Theory of Strategy: Art Lykke and the Army War College Strategy Model,” Harry R. Yarger writes that any strategy can be “examined for suitability, feasibility, and acceptability, and an assessment made of the proper balance among the parts.”<sup>45</sup> Thus, a viable future war concept, in this thesis, means a concept that is suitable, feasible, acceptable, and balanced with all components of ends, ways, and means.

Yarger defines suitability as the probability of accomplishing the effect desired if the concept is attained; feasibility as the possibility of applying the concept with means available; and acceptability as justifiability of the cost for applying the concept against

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<sup>43</sup> TRADOC Pamphlet 525-3-1, iii.

<sup>44</sup> Cambridge Dictionary, “Viability,” accessed 5 November 2019, <https://dictionary.cambridge.org/dictionary/english/viability>.

<sup>45</sup> Harry R. Yarger, “Toward a Theory of Strategy: Art Lykke and the Army War College Strategy Model,” in *US Army War College Guide to National Security Issues, Vol. I* (Carlisle, PA: Strategic Studies Institute, 2012), 7.

the benefits of effects desired.<sup>46</sup> He also defines ends as objectives that are to be accomplished; ways as concepts that suggest how the ends are to be accomplished by the employment of resources; and means as specific resources used in applying the concepts to accomplish the objectives. This thesis will use Yarger's definition of suitability, feasibility, acceptability, ends, ways, and means.

### Assumptions

Assumptions for the thesis are as follows:

1. North Korea currently poses hybrid threats to both the United States and South Korea and will likely pursue hybrid warfare backed by nuclear capabilities when in armed conflict with both the United States and South Korea in order to achieve their political objectives.

2. The US Army continues to pursue the MDO concept as a future operating concept for all Army units, including US forces in Korea, and the concept will be accepted at the joint level in the near future as the joint operating concept.

3. ROK-US combined forces command structure will be maintained especially during conflict. ROK-US Operational Control transition process will continue as planned.

4. The ROK military is in the process of developing a new future war concept, and this research will inform the process on what to consider.

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<sup>46</sup> Yarger, 7.

### Scope and Limitations

The focus of this thesis is limited to whether applying the MDO concept to the ROK military could counter the hybrid warfare threat; this includes deterrence during competition and defeat during armed conflict. Thus, the thesis will not discuss whether the MDO concept could counter the hybrid threats North Korea poses to advance their political objectives. Also, the discussion of countering North Korean hybrid warfare will be focused mainly on using the military as the instrument of national power to narrow the scope of the research. The use of a nuclear weapon by North Korea will be limited to deterrence in support of hybrid warfare instead of direct use against US and ROK forces.

### Thesis Structure

Chapter 1 describes the potential challenges the Republic of Korea would face with increasing North Korean hybrid warfare threats; the chapter also discusses what the MDO concept is about and why one should consider MDO to counter the threat. It lays out research questions as well as key definitions, assumptions, scope, and limitations for the research. Chapter 2 surveys existing literature on North Korean hybrid warfare threats and the MDO concept. It also serves to identify possible gaps in literature that need to be filled, possibly with this research effort among others. It also discusses the literature on elements of successful future war concepts in a strategic context. The chapter ends with the literature on Feasibility, Acceptability, Suitability (FAS) analysis, providing context to the research methodology of the thesis. Chapter 3 describes the methodology the thesis will employ to answer the primary research question of “Is the MDO concept viable to the ROK military in countering North Korean hybrid warfare?” Chapter 4 look into each of the secondary research questions. The aggregate of the analysis will support the

answer to the primary research question. Finally, Chapter 5 delivers a conclusion with possible counter-arguments, recommendations for decision-makers, and suggestions of further research related to this topic.

## CHAPTER 2

### LITERATURE REVIEW

Twenty years of COIN operations have diminished the collective knowledge and ability to converse professionally about large-scale combat. In fact, one of the purposes of MDO is to drive the Army to the professional dialogue about large-scale combat that used to be second nature to Soldiers.

—Lieutenant General Eric J. Wesley and Colonel(R) Robert H. Simpson  
*Expanding the Battlefield: An Important  
Fundamental of Multi-Domain Operations*

#### North Korean Hybrid Warfare

Although there are various articles related to North Korean hybrid warfare, the scholarly literature generally does not go further than describing the threat; moreover, there seem to be a wide range of definitions as to what the hybrid warfare is.

Sico van der Meer in “The North Korean Tradition of Hybrid Provocation” contends that the North Korean hybrid threat is not as new as it may seem and that North Korea has been utilizing the hybrid strategy for many decades already “to provoke, hurt and bully its perceived enemies, while at the same time mitigating escalation to the level of actual warfare.”<sup>47</sup> He also maintains that the North Korean hybrid strategy and the means used have “continuously adapted to the ever-changing circumstances,” and therefore, requires “continuous flexibility.” The author also claims that the threat is particularly aimed at the United States and South Korea. Van Der Meer refers to North

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<sup>47</sup> Sico van der Meer, “The North Korean Tradition of ‘Hybrid’ Provocations,” in *Hybrid Conflict: The Roles of Russia, North Korea and China* (Hague: The Clingendael Institute, May 2018), 15.

Korea's hybrid threat as more provocations during peacetime that can achieve the regime's political objectives than threats during conflicts.

Namhoon Cho, in "Hybrid Warfare on the Korean Peninsula," states North Korea chooses to utilize hybrid warfare strategy for four reasons: first, geographic proximity of North and South Korea; second, South Korea's vulnerabilities in economy and society; third, South Koreans' divided opinions on political and security issues; and fourth, the US military's presence in South Korea.<sup>48</sup> He also asserts that South Korea is currently not ready to counter the ever-growing threats. Cho emphasizes more on North Korea's cyber and propaganda capability, which manipulates South Korea's public opinion, rather than the regime's kinetic threat.

In "Exploring North Korea's Asymmetric Military Strategy," Mirk Tasic maintains North Korea pursues hybrid warfare to "obstruct an adversary's ability to further or achieve its political ends (e. g., South Korean and allied ability to conduct war or surgical strike, the positioning of the terminal high-altitude area defense system within South Korea, the imposition and maintenance of effective economic sanctions), and to mobilize others in support of its position and efforts."<sup>49</sup> The author goes on to say the experts have not directed much focus on incorporating measures to counter hybrid warfare because of the secrecy of the North Korean regime, thus discouraging experts

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<sup>48</sup> Nam-hoon Cho, "Hybrid Warfare on the Korean Peninsula," in *Hybrid Conflict: The Roles of Russia, North Korea and China* (Hague: The Clingendael Institute, May 2018), 20.

<sup>49</sup> Mirko Tasic, "Exploring North Korea's Asymmetric Military Strategy," *Naval War College Review* 72, no. 4 (Autumn 2019): 62.

from taking any significant measures to counter the threat.<sup>50</sup> However, he also insists that the focus of the 21st century warfare plan against North Korea should be on the hybrid nature of the North Korea threat because hybrid warfare is the only way that North Korea can maximize its effort against great powers to gain their objectives.<sup>51</sup> Tasic describes the North Korean hybrid threat as something that could stand more toward the conflict side than a threat during peacetime.

Although the extent of the threat seems fairly wide, the literature on North Korean hybrid warfare have a few common themes: first, North Korea uses hybrid warfare as a means to achieve their political objectives; second, the composition of the North Korean hybrid threat is a mixture of conventional forces with unconventional means such as cyber units, propaganda elements, and Weapons of Mass Destructions (WMDs), including nuclear weapons; and third, North Korea, by utilizing hybrid warfare, attempts to achieve a surprise effect that cannot be dealt quickly, because doing so requires the unilateral agreement of multiple actors in the global environment where consensus plays an important role.

### Multi-Domain Operations

With regard to MDO, originally called Multi-Domain Battle (MDB), there are few published documents. Among what does exist is Jose L. Liy's "Multi-Domain Battle: A Necessary Adaptation of US Military Doctrine." In it, Liy maintains the principles of the Multi-Domain battle help the US military operate in the new environment with new

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<sup>50</sup> Tasic, 63.

<sup>51</sup> Ibid.

threats and technologies.<sup>52</sup> The author goes on to say it is “not enough to acknowledge that these new developments need to be adopted,” but the crucial thing is that “each of these new capabilities is given enough autonomy to fully realize their potential under the MDB concept, rather than merely aggregating them into current formations.<sup>53</sup>” The essence of MDB (now termed MDO), according to Liy, is that “these new domains and technologies must be able to pursue their objectives, and these objectives must converge with the efforts of the rest of the joint force” by applying the three tenets of calibrated force posture, multi-domain formations, and convergence.<sup>54</sup>

Jack Watling and Daniel Roper, in “European Allies in US Multi-Domain Operations,” maintain the MDO concept has “a large number of dependencies upon allies embedded” within the concept ranging “from the permissions required to maintain a calibrated force posture, to critical expertise in order to effectively compete below the threshold of armed conflict.”<sup>55</sup> Thus, more cooperation and discussion between the United States and Allies is needed to make the concept more compatible. The study also emphasizes the necessity for the United States to increase support in combined training in the multi-domain environment as the training will have significant impact on the

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<sup>52</sup> Jose L. Liy, “Multi-Domain Battle: A Necessary Adaptation of US Military Doctrine” (Monograph, School of Advanced Military Studies, US Army Command and General Staff College, 2018), 41.

<sup>53</sup> *Ibid.*

<sup>54</sup> *Ibid.*

<sup>55</sup> Jack Watling and Daniel Roper, “European Allies in US Multi-Domain Operations,” Royal United Services Institute for Defence and Security Studies, October 2019, vi.



capabilities.<sup>56</sup> The study also raises a question of countering Chinese threats in the MDO concept, as many European countries do not consider China a threat.<sup>57</sup>

There are pieces of literature that validate the existence and variation of North Korean hybrid warfare, as well as hybrid threats. Some studies tested validity of the MDO concept in the US military while another study examined compatibility of the concept with the European allies. However, apparent gaps exist in the current literature concerning two matters: first, an effective way to counter North Korean hybrid warfare of evolving nature; and second, the viability of applying the MDO concept in the ROK military, or any non-western country within a strategic context. Thus, this paper will research the viability of applying the MDO concept to the ROK military to counter North Korean hybrid warfare to fill the existing gap in the literature.

#### Feasibility, Acceptability, Suitability (FAS) Analysis

In “Toward a Theory of Strategy: Art Lykke and the Army War College Strategy Model,” Harry Yarger argues strategy is all about “how (way or concept) leadership will use the power (means or resources) available to the state to exercise control over sets of circumstances and geographic locations to achieve objectives (ends) that support state interests.”<sup>58</sup> He goes on to argue that a valid strategy “must have an appropriate balance of objectives, concepts, and resources, or its success is at greater risk”<sup>59</sup> and that “any

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<sup>56</sup> Watling and Roper, vi.

<sup>57</sup> Ibid.

<sup>58</sup> Yarger, 2.

<sup>59</sup> Ibid., 5.

strategy can be examined for suitability, feasibility, and acceptability, and an assessment made of the proper balance among the component parts. (See figure 5)<sup>60</sup>

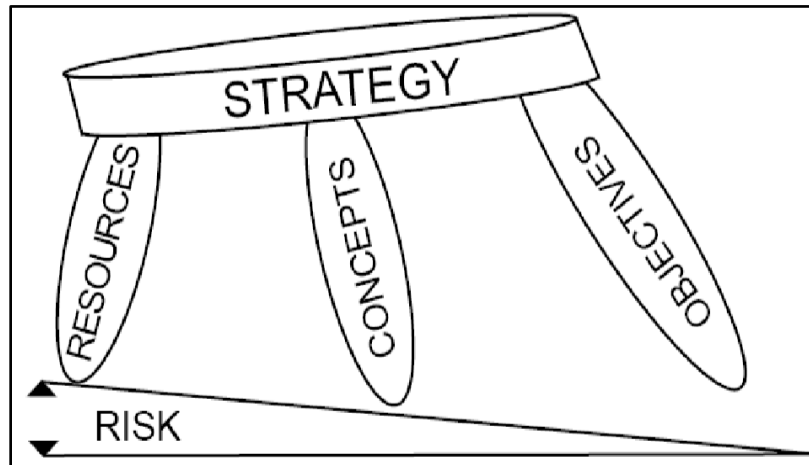


Figure 5. The Lykke Model

*Source:* Harry R. Yarger, “Toward a Theory of Strategy: Art Lykke and the Army War College Strategy Model,” in *US Army War College Guide to National Security Issues, Vol. I* (Carlisle, PA: Strategic Studies Institute, 2012), 5.

Robert Leonhard, in “Dialectic Strategy,” held that FAS terms “fit neatly along the lines among the strategic components”<sup>61</sup> and the terms can be defined as “describing the relationships among the components.”<sup>62</sup> According to Leonhard, FAS can be described as such: feasibility is “the relationship between the means and ways;”

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<sup>60</sup> Yarger, 5.

<sup>61</sup> Robert Leonhard, “Dialectic Strategy” (Monograph, School of Advanced Military Studies, U.S. Army Command and General Staff College, 1993), 17.

<sup>62</sup> *Ibid.*

acceptability is “the relationship between ends and means;” and suitability is “the relationship between the ways and ends. (See figure 6)”<sup>63</sup>

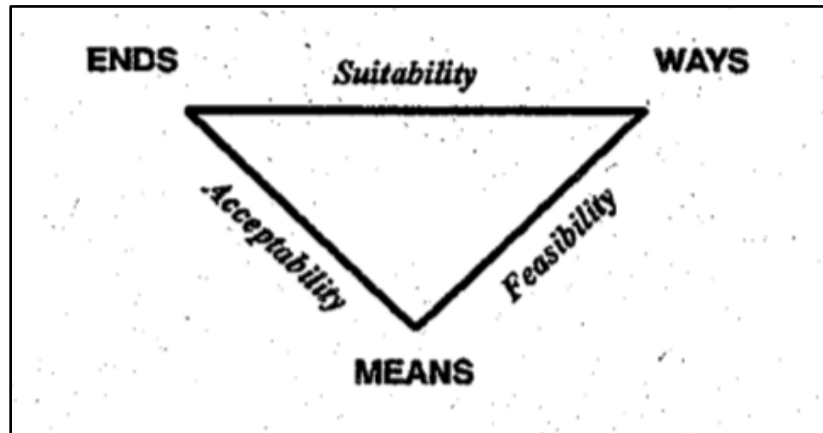


Figure 6. The Relationships

*Source:* Robert Leonhard, “Dialectic Strategy” (Monograph, School of Advanced Military Studies, U.S. Army Command and General Staff College, 1993), 17.

One can infer from these two articles that a strategy needs to be evaluated against feasibility, suitability, acceptability lenses (as well as risk) to determine its overall viability and chances for success. Risk also needs to be evaluated because each component of FAS cannot examine the overall balance of the ends, ways, and means.

#### Future War Concept Viability in Military History

Correlli Barnett, in *The Sword-bearers*, said “War is the great auditor of institutions.”<sup>64</sup> If this is true, institutions such as a nation’s military would be tested and

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<sup>63</sup> Leonhard, 17.

<sup>64</sup> Correlli Barnett, *The Sword-bearer* (Hatchett, UK: Hodder & Stoughton General Division, 1986), 95.

tried during a war, and the war would reveal if the military was effective in achieving the strategic ends for the nation. In order to examine the viability of a particular future war concept, one needs to look back at military history and see what aspects of future war concepts contributed to the successful conduct of war. The *Blitzkrieg* concept of Germany used during 1939-1940, the Deep Operations concept that the Soviet Union employed during 1944-1945, and the Air-Land Battle concept used by the United States during 1991 can be categorized as future war concepts that contributed to the successful conduct of the wars with relatively fewer disagreements.

#### Blitzkrieg: France, 1940

*Blitzkrieg*, meaning “lightning war,” refers to a type of operation in which combined armored units and dive-bombers break the enemy front line and penetrate the deep area, followed by infantry units seizing the objectives.<sup>65</sup> Some literature criticizes the concept, especially its lack of concern for the sustainment and intelligence aspects, thus making the concept not fully viable for the German military leading to its eventual defeat of World War II. However, the *Blitzkrieg* concept has been a topic of study by numerous institutions around the world for its utility as a maneuver warfare concept, and analyzing what was not fitting can generate valuable lessons for formulating future war concept.

One characteristic of the concept applying to the German military in 1940 in France was that the concept was suitable for the strategic end. Shimon Naveh, in *In*

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<sup>65</sup> Thomas B. Gukeisen, “The Operational Art of Blitzkrieg: Its Strengths and Weaknesses in Systems Perspective” (Monograph, School of Advanced Military Studies, U.S. Army Command and General Staff College, 26 May 2005), 3.

*Pursuit of Military Excellence*, states the strategic aim in 1940 was “to break up the opposing alliance and inflict a complete defeat on the French armed forces.”<sup>66</sup> In his view, the concept was perfect for achieving Hitler’s strategic aim: thus, a quick and decisive combined arms maneuver into France’s territory to annihilate their military was one aspect that made the concept successful.<sup>67</sup> Another aspect, however, feasibility, was the one that the German military lacked to win the war in applying the *Blitzkrieg* concept.

James Corum, in his book, *The Roots of Blitzkrieg*, argues that “the panzer division was effective precisely because it was a combined-arms force that used all of its weapons, not just the tanks, with maximum effectiveness.”<sup>68</sup> He also further states that “the explanation for the dramatic German victory in 1940 can be found in two factors: superior tactics and superior training.”<sup>69</sup> John Mosier, in *The Blitzkrieg Myth*, agrees with the German capability by mentioning that “Germany possessed a much larger cadre of experienced officers and noncommissioned officers than did its opponents;” however, he also argues the lack of logistical calculation and lack of focus in intelligence led the German military to lose World War II.<sup>70</sup> All these factors of technology, organization, mission command tactics, and proficient cadre could have made the *Blitzkrieg* concept

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<sup>66</sup> Shimon Naveh, *In Pursuit of Military Excellence* (London: Frank Cass Publishers, 1997), 126.

<sup>67</sup> *Ibid.*, 122.

<sup>68</sup> James Corum, *The Roots of Blitzkrieg* (Lawrence: University Press of Kansas, 1992), 202.

<sup>69</sup> *Ibid.*, 203.

<sup>70</sup> John Mosier, *The Blitzkrieg Myth* (New York: Perennial, 2003), 284.

feasible; however, lack of logistical and intelligence concern made the concept unfeasible. The *Blitzkrieg* concept was acceptable to Nazi Germany at that time because Hitler, the ultimate decision-maker at the time, would gamble on implementing the *Blitzkrieg* concept with quick, decisive war with France even though there was a risk of losing the war.

#### Deep Operations: Eastern Europe, 1944-1945

The Deep Operation concept was created by previous Soviet thinkers but finalized and updated by Georggi Isserson in 1936. The concept sought to break the enemy front with breaching forces first, followed by subsequent shock forces attacking simultaneously throughout enemy defense's depth; then, the breakthrough development echelon would attack the enemy's operational depth while long-range air assets would prevent the enemy from committing their strategic and operational reserves.<sup>71</sup> This concept, according to Naveh, represented "the most advanced compilation of ideas ever attained in the history of modern military thought" before Air-Land doctrine in the early 1980s.<sup>72</sup> The fruition of the concept came to realization in 1944-1945 in a series of successful Soviet offensives against Germany, including Operation Bagration in 1944, culminating in seizing Berlin in 1945.<sup>73</sup>

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<sup>71</sup> Richard Harrison, *Architect of Soviet Victory in World War II* (Jefferson, NC: McFarland, 2010), 123.

<sup>72</sup> Naveh, 236.

<sup>73</sup> Michael Krause and R. Cody Phillips, *Historical Perspectives of the Operational Art* (Washington, DC: Center of Military History, US Army, 2010), 260-265.

One aspect of the Deep Operation concept that made it viable for the Soviet Union in 1944-1945 was that the concept was suitable for the Soviet Union's strategic aims. In the book, *The Evolution of Operational Art*, Olsen and Crevelde maintain "Svechin provided the political-strategic concept of war," which was adopted by Stalin, and that "strategy would guide operational art. The brushstrokes Soviet commanders applied were the gift of deep operations."<sup>74</sup> With Stalin's strategic direction, the commanders of the Red Army knew how to apply the operational concept to achieve strategic objectives.<sup>75</sup> Another reason why the concept was applicable to the Soviet Union at that time was that the Red Army possessed features that made the concept feasible. Olsen and Crevelde go on to say Soviet leaders "only controlled the most critical details, and in some other operations they provided models but left the local commanders to execute the work after providing the instruments."<sup>76</sup> Moreover, Harrison held that "by the beginning of 1942, the Soviet industry had recovered sufficiently to begin supplying the army with a growing number of tanks and other armored vehicles."<sup>77</sup> This enabled the massive formation of armored forces that would act as a breakthrough or shock force in the Deep-Operations concept. The last aspect of the concept in the Soviet military at that time is that the Red Army was willing to take the cost of creating multiple shock

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<sup>74</sup> John Olsen and Martin van Crevelde, *The Evolution of Operational Art –From Napoleon to the Present* (New York: Oxford University Press, 2011), 91.

<sup>75</sup> Ibid.

<sup>76</sup> Ibid.

<sup>77</sup> Harrison, 280.

forces with armored vehicles taking away from the infantry's centric formation: this made the Deep-Operation concept acceptable to the Soviet Union in 1944-1945.

#### Air-Land Battle: Kuwait and Iraq, 1991

According to Naveh, the Air-Land Battle concept was considered to be “one of the most advanced compilation of ideas ever attained in the history of modern military thought.”<sup>78</sup> The concept emphasizes the importance of targeting second echelon forces just as much as the importance of fighting the close-in fight with front-line forces.<sup>79</sup> The essence of the concept is “to fight these simultaneous battles, all of the armed services must work in close cooperation and harmony with each other. If we are to find, to delay, to disrupt and to kill the total enemy force, we will need the combined efforts of the Air-Army team.”<sup>80</sup> The Air-Land Battle concept reached its peak when the United States and its allies defeated the Iraqi military during the Gulf War in 1991. In *Blitzkrieg to Desert Storm*, Robert Citino referred to Desert Storm as “the most successful campaign in US military history.”<sup>81</sup>

One of the aspects that made the Air-Land Battle concept viable to the US military in 1991 was the concept was suitable for the strategic aims. FM100-5 in 1986, which indoctrinated the Air-Land Battle concept, emphasized the importance of

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<sup>78</sup> Naveh, 236.

<sup>79</sup> Ibid., 304.

<sup>80</sup> Ibid.

<sup>81</sup> Robert Citino, *Blitzkrieg to Desert Storm –The Evolution of Operational Warfare* (Lawrence: University Press of Kansas, 2004), 288.



operational art to achieve a strategic aim: “Operational art is the employment of military forces to attain strategic goals in a theater of war or a theater of operations through the design, organization, and conduct of campaigns and major operations.”<sup>82</sup> That is, the operational concept of Air-Land Battle was well suited to the strategic goal of removing Iraqi forces from Kuwait. Another aspect has to do with the feasibility of the concept to US military: “air supremacy, precision-guided munitions, deep-attack helicopters, long-range rocket artillery, space-age intelligence assets, and newly introduced global positioning systems,” in addition to armored units, allowed the US military to employ the concept successfully.<sup>83</sup> Lastly, the Air-Land Battle concept was acceptable to the military and political leaders during the time. Instead of paying the price of blood in the Vicksburg Campaign, the Meuse-Argonne Offensive, and the Normandy Breakout, “American leaders proved creative enough to overcome their shortcomings” in 1991 quickly.<sup>84</sup> The cost-benefit analysis of the Air-Land Battle concept favored the US military during the time.

#### Viable Future War Concepts Summary

The future war concepts of Deep Operations, and Air-Land Battle were viable for the Soviet Union and the United States, respectively, during the periods. The *Blitzkrieg* concept, however, was not fully viable for Germany, and this unviability led the country into the final defeat of World War II. Thus, lessons that can be generally drawn from the

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<sup>82</sup> Naveh, 306.

<sup>83</sup> Krause and Phillips, 465.

<sup>84</sup> *Ibid.*, 474.

viability of the future war concepts are as such: suitability with a national defense strategy, national military strategy, and national way of war; feasibility with current capabilities as well as future developing capabilities; and acceptability with cost and benefit of employing the concept and the perceived willingness of military or political leaders.

## CHAPTER 3

### RESEARCH METHODOLOGY

The primary research question is: Is the MDO concept viable to the ROK military in countering North Korean hybrid warfare? The research methodology to answer this question is mainly qualitative with little quantitative assessments. The methodology will examine whether the MDO concept, as applied to the ROK military, holds significant promise in effectively countering North Korean hybrid warfare. This thesis will use the combination of Lykke and Leonhard models (See figure 7) discussed in Chapter 2 to examine the viability of the MDO concept in countering hybrid warfare.

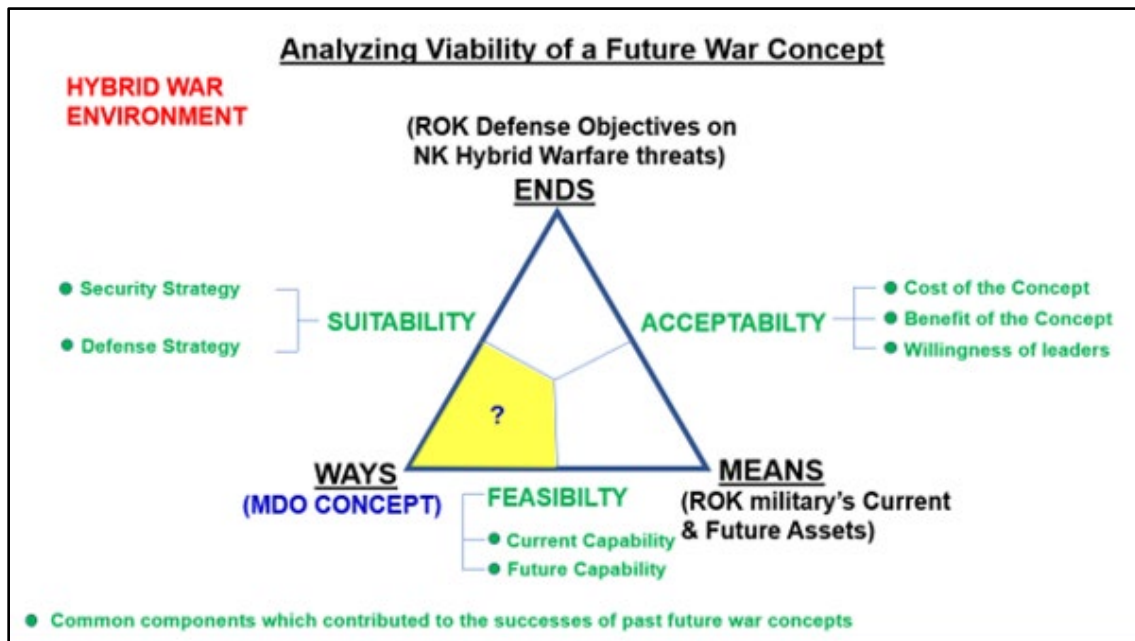


Figure 7. Analyzing Viability of a Future War Concept

Source: Robert Leonhard, "Dialectic Strategy" (Monograph, School of Advanced Military Studies, U.S. Army Command and General Staff College, 1993), 17.

### Organization of the Research Process

As described in Figure 7, in examining the primary research question in a strategic context of ends, ways, and means, the thesis will: limit the “ends” with strategic objectives related to countering North Korean hybrid warfare; consider “means” as the ROK military’s current and future capabilities, especially organization, training, materiel, personnel, and leadership; and consider the MDO concept as “ways” of the ROK’s larger strategy. Then the thesis would examine the overall viability of the concept by looking at each component of FAS: suitability, as the relationship between ends and ways; feasibility, as the relationship between ways and means; acceptability, as the relationship between ends and means. Finally, examining risks would identify any unbalance between ends, ways, and means, thereby confirming whether or not the concept is viable to the ROK.

### Evaluation Criteria

Overall viability of the MDO to the ROK military will be evaluated with four criteria: suitability, feasibility, acceptability, and risk. The MDO concept has to be suitable, feasible, acceptable to the ROK military and risks need to be mitigatable to be fully viable.

#### Suitability

The first test has to do with suitability. This part of the thesis will examine whether the MDO concept, as applied to the ROK military, will be suitable for defense and military strategy. The intent of the test is to examine if the MDO concept significantly contributes to the ROK military strategy regarding North Korean hybrid

warfare threats. It is hard to quantify the level of suitability in detail, so the result will be in the form of suitable, partially suitable, or unsuitable for each of the components of suitability, as well as overall suitability.

### Feasibility

For the feasibility test, the thesis will examine if the ROK military possesses the capability the MDO concept requires or if the future capabilities the ROK military is planning currently will provide enough capabilities to employ the MDO. Those capabilities include ground, air, naval, marine, cyber, and space. Those capabilities also include the industrial capacity to acquire necessary weapons and equipment, the strength of the officer and NCO corps to operationalize new concepts, and train the military. Finally, feasibility will be discussed in terms of feasible, partially feasible, or unfeasible, as well as overall feasibility.

### Acceptability

For the acceptability test, the thesis will utilize cost-benefit analysis, plus the perceived willingness of ROK political and military leaders, as well as voters, to accept the concept. The analysis will be conveyed utilizing the same method as above: acceptable, partially acceptable, or unacceptable, as well as the overall acceptability.

### Risk

For risk tests, the thesis will examine whether ends, ways, and means are in balance with each other when the MDO concept is applied as ways, ROK strategic guidance is understood as the ends, and current and future ROK capabilities as the means.

The result will also be in the form of no risk, partial risk, or high risk for each of the components of risk, as well as the overall risk.

### Threats to Validity

In conducting the research, the biggest threats to validity in this thesis would be hasty generalization and confirmation bias. Hasty generalization can occur in this research if the thesis only looks at one case to draw elements of successful future war concept or one model that provides strategic lens. In order to prevent the hasty generalization, the thesis discusses three cases of future war concepts to identify elements of a viable future war concept in Chapter 2: Blitzkrieg as a non-viable future war concept, and Deep Operation concept and Air-Land Battle concept as viable future war concepts. Also, combining the Lykke model and Leonhard model enables the thesis to examine not only suitability, feasibility, and acceptability of the concept but also enables it to examine risks. Confirmation bias can occur in this research if the author has pre-existing belief on the MDO concept or hybrid warfare, or if there is any result that the author wants to have at the end of the research. To prevent the confirmation bias, the thesis will discuss the counter-argument in Chapter 5, by looking counter-arguments for each of the subsidiary research questions as well as the primary research question.

### Chapter Conclusion

This research will answer the primary research question by using the combination model of Lykke and Leonhard models. The MDO concept, as ways, will be examined in a strategic context with limited objectives to counter North Korean hybrid warfare as ends and the ROK military's current and future capabilities as means. The evaluation

criteria are suitability, feasibility, acceptability, and risk, all of which describe the relationship between ends, ways, and means, as well as the degree of balance among the three components. The thesis will attempt to avoid the threats to validity by drawing elements of viable future war concepts from three different cases, combining two different strategic models, and examining counter-arguments against answers to the subsidiary and primary research questions.

## CHAPTER 4

### ANALYSIS

#### Is the MDO concept suitable to the ROK military to counter hybrid warfare?

As the analysis of the viable future war concepts of Deep Operations, *Blitzkrieg*, and Air-Land Battle in the literature review section reveals, the first aspect that any military needs is formulating a viable future war concept that is coherent with its national strategic ends. *The US Army in Multi-Domain Operations in 2028* explains that the MDO concept describes how the Army contributes to the larger Joint Force in achieving the National Defense Strategy of deterring and defeating near-peer threats and other threats.<sup>85</sup> Thus, to examine the suitability of the MDO concept to the ROK military, one must carefully analyze if the concept can be coherent with the South Korean national level strategic ends. Accordingly, the thesis will focus on three types of strategies: national security strategy, national defense strategy, and national military strategy.

#### The MDO's Suitability with the ROK National Security Strategy

In 2017, with the inception of the current ROK government, five goals of governance had been established in *The 100 Dae Guk Jeong Gwa Je*, or *The One Hundred Policy Tasks*, that the government published: “A government committed to its citizens, an economy centered on the coprosperity of all, a nation that ensures the

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<sup>85</sup> TRADOC Pamphlet 525-3-1, vi.



wellbeing of its citizens, balanced development across the nation, and a peaceful and prosperous Korean Peninsula.”<sup>86</sup> (See figure 8)



Figure 8. Goals of Governance

Source: The Republic of Korea, Ministry of National Defense (MND), *2018 Korea Defense White Paper* (Seoul: MND, 31 December 2018), 38.

These goals, if combined, would enable the government to achieve the national vision of “A Nation of the People, a Just Republic of Korea.”<sup>87</sup> Of these five goals, the goal of “a peaceful and prosperous Korean Peninsula” directly guides and relates to ROK national security strategy.

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<sup>86</sup> 대한민국 정부, *100 대 국정과제* (서울: 대한민국 정부, 2017 년 8 월), 3.

<sup>87</sup> 대한민국 정부, 3.

Each of the governance goals is matched with different strategies that the ROK government formulated to achieve the goals. To be specific, to achieve the goal of “a peaceful and prosperous Korean Peninsula,” the ROK government devised three related strategies: first, strong security and responsible defense; second, mutual cooperation and denuclearization; and third, taking diplomatic initiatives for international cooperation.<sup>88</sup> Of the three strategies, “strong security and responsible defense” best relates to ROK security strategy in countering North Korean military threats, including hybrid warfare threats. The strategy then consists of five policy tasks that are part of the overall *One Hundred Policy Tasks*: “strengthening capabilities to counter North Korean asymmetric threats” (task number 85); “early wartime operational control transition based on strong ROK-US alliance” (task number 86); “robust push for defense reform and increased civil control over the military” (task number 87); “promoting defense industries in accordance with the fourth industrial revolution” (task number 88); and “improving working conditions and human rights for the soldiers” (task number 89).<sup>89</sup> Except for task number 89, policy tasks 85 through 88 are either directly or indirectly related to countering North Korean hybrid warfare threats. Thus, analyzing whether the MDO concept can contribute to each of the tasks will help determine the suitability of the MDO concept to the ROK national security strategy.

First, the MDO concept can directly contribute to accomplishing task number 85, “strengthening capabilities to counter North Korean asymmetric threats.” Task number

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<sup>88</sup> 대한민국 정부, 10.

<sup>89</sup> Ibid.

85 identifies the North Korean asymmetric threats as their nuclear weapons, short to long-range missiles, WMDs, and cyber capabilities;<sup>90</sup> as discussed in the previous chapters, these are considered part of North Korean hybrid warfare capabilities. In order to counter the threats, task number 85 plans to establish a strategic strike system called “3 *Chook*,” which means three pillars: Kill-chain, Korea Air and Missile Defense (KAMD), and the Korea Massive Punishment and Retaliation (KMPR).<sup>91</sup> This 3 *Chook* system would mainly counter any North Korean missile with nuclear warheads or others that can create mass casualties within South Korea. First, Kill Chain would allow early detection of any North Korean missile launching and pre-emptive strike. Then, KAMD would intercept North Korean missiles coming into the ROK territory. Finally, KMPR will provide ROK leaders the option to retaliate with stealth fighters or special forces.<sup>92</sup> Task number 85 also calls for expanding the current Nuclear & WMD center in ROK Joint Chiefs of Staff (JCS) to Strategic Command in order to increase capabilities to counter the threats. The task also plans to strengthen the role of the cybersecurity center in the National Security Bureau in the Blue House to enhance cyber capability.<sup>93</sup> By executing these plans, task number 85 expects to deter the North Korean asymmetric threats and promptly react when deterrence fails.

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<sup>90</sup> 대한민국 정부, 107.

<sup>91</sup> Ibid.

<sup>92</sup> Ji-hye Jun, “3 military systems to counter N. Korea: Kill Chain, KAMD, KMPR,” *Korea Times*, 1 November 2016, [http://www.koreatimes.co.kr/www/news/nation/2016/11/205\\_217259.html](http://www.koreatimes.co.kr/www/news/nation/2016/11/205_217259.html).

<sup>93</sup> 대한민국 정부, 107.

The MDO concept not only provides the conceptual frameworks to counter the above-mentioned asymmetric threats but also further expands the ways to deter the threat. The concept first focuses on deterring the near-peers' threat of armed conflict by competition, which includes activities such as conducting intelligence and countering adversary reconnaissance, enabling defeat of the adversary's information and unconventional warfare, and demonstrating credible deterrent.<sup>94</sup> All of the above activities for the competition can support task number 85. Conducting intelligence and counter adversary reconnaissance would thoroughly analyze North Korean asymmetric threat systems and create uncertainty for the North Korean military in achieving its objectives through any type of provocations. Enabling defeat of the adversary's information and unconventional warfare would counter any North Korean military actions related to cyber, propaganda, or spy activities that can disrupt the ROK system. Demonstrating credible deterrent would be most influential in preventing North Korea from executing asymmetric attacks as it demonstrates its "ability to immediately deny a fait accompli attack," "ability to penetrate anti-access and area denial systems," "ability to conduct strategic and operational maneuver," and "ability to support MDO."<sup>95</sup> The MDO concept also expands to provide options to penetrate, disintegrate, and exploit when the deterrence fails.<sup>96</sup> Therefore, the MDO concept can directly contribute to achieving task number 85 concerning countering North Korean asymmetric threats.

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<sup>94</sup> TRADOC Pamphlet 525-3-1, 28-30.

<sup>95</sup> Ibid.

<sup>96</sup> Ibid., 32.

Second, the MDO concept can directly contribute to accomplishing task number 86, “early wartime operational control transition based on strong ROK-US alliance.” The wartime Operational Control (OPCON) transfer is being executed through the conditions-based OPCON Transition Plan (COTP) that the ROK and the United States agreed to at the 46th Security Consultative Meeting (SCM) in 2014.<sup>97</sup> Three conditions need to be met to fully implement the OPCON under the 2014 agreement: “The ROK should acquire key military capabilities to lead their combined defense posture, the ROK should also be capable of effectively countering North Korean ballistic nuclear missiles, and the security environment on and around the Korean Peninsula should be conducive to an OPCON transfer.”<sup>98</sup> Thus, meeting these three conditions early would expedite the process of the OPCON transfer. Task number 86, therefore, seeks to establish a modified and capable Combined Forces Command (CFC) structure commanded by a ROK four-star general from the current CFC commanded by a US four-star general; to increase the essential capability of ROK military to counter North Korean threats; and to conduct combined exercises to confirm the capabilities of the new command structure. By executing these plans, task number 86 expects to achieve the responsible defense as well as strengthening of ROK-US alliance.

Although the MDO concept focuses primarily on near-peer threats such as Russia and China, the nature of the threat resembles that of North Korea. According to the MDO

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<sup>97</sup> Sukjoon Yoon, “6 Myths About OPCON Transfer And the US-South Korea Alliance,” *The Diplomat*, 25 September 2019, <https://thediplomat.com/2019/09/6-myths-about-opcon-transfer-and-the-us-south-korea-alliance>.

<sup>98</sup> Ibid.

concept, Russia's main capabilities in armed conflict include "long-range fires system, mid-range and short-range systems, unconventional warfare capabilities, information warfare capabilities, and national- and district-level capabilities."<sup>99</sup> North Korea possesses all the capabilities mentioned above and is expected to utilize them to conduct effective hybrid warfare to counter ROK-US combined forces during armed conflict. Therefore, the application of the MDO concept would make the ROK military more capable of countering the threat, which can satisfy the conditions for the OPCON transfer. Also, the application of the MDO concept would increase the interoperability of the ROK-US combined forces, which is significant for the ROK general to command the entire CFC organization. The MDO concept assumes that allies "will develop and sustain sufficient interoperability to conduct combined operations that deter and defeat adversaries."<sup>100</sup> The concept also maintains that the effect of deterrence will maximize when the adversaries see the combined forces' interoperability to conduct MDO.<sup>101</sup> By applying the MDO concept, the ROK military can not only increase the capabilities to counter North Korean threats but also enhance the interoperability, which will support setting the conditions for the OPCON transfer.

Third, the MDO concept can indirectly contribute to accomplishing both task number 87, "robust push for defense reform and increased civil control over military" and task number 88, "promoting defense industries under the fourth industrial revolution."

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<sup>99</sup> TRADOC Pamphlet 525-3-1, 12-13.

<sup>100</sup> *Ibid.*, A-1.

<sup>101</sup> *Ibid.*, 30.

The central theme for task number 87 is the Defense Reform 2.0, which is set to maintain the momentum of defense reforms in a rapidly changing security environment surrounding the ROK.<sup>102</sup> The Defense Reform 2.0 seeks to optimize the defense organizations, defense management, military culture, and defense industry according to the changing security environment.<sup>103</sup> Some of the examples of tasks within the Defense Reform 2.0 are: modifying the command structure of the military, downsizing the number of enlisted while increasing the number of officers and NCOs, and decreasing the conscription period down to 18 months.<sup>104</sup> Task number 88 has to do with developing defense Research & Development (R&D) capabilities to acquire weapons systems that use cutting-edge fourth industrial technology. By completing task number 87 and task number 88, the government expects to optimize the military to take on the responsible defense of the nation in a changing security environment and pursue and apply new technology in the defense industry that can contribute to overall military strength, as well as increasing the industrial capacity of the nation.<sup>105</sup>

Although the MDO concept is not directly related to task number 87, mainly focused on the ROK Defense Reform 2.0, there are aspects of MDO that can support the approach of the reform. After publishing the MDB in 2017, TRADOC complied with the lessons learned from the fielded force and reflected those lessons in the MDO concept in

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<sup>102</sup> 대한민국 정부, 18.

<sup>103</sup> Ibid., 22.

<sup>104</sup> Ibid., 109.

<sup>105</sup> Ibid., 109-110.

2018.<sup>106</sup> Among the lessons were the use of non-kinetic forces “in setting the conditions for successful kinetic operations by creating a relative advantage, particularly when force ratios favor an adversary.”<sup>107</sup> This is just an example of the MDO concept attempting to become as effective as possible so that the Joint Force can face the adversary with a more significant force and still win. This shows how the MDO concept could be compatible with the Defense Reform 2.0, because the approach of reform is essentially making the ROK forces as effective as possible to face more substantial challenges with the optimal number of soldiers and with the utilization of the high-level technology. Aspects of the MDO concept also supports task number 88, “promoting defense industries under the fourth industrial revolution.” The concept requires the Joint Forces to possess various types of abilities to conduct the MDO; for example, command and control ability that can synchronize in all domains, precision logistics ability, ability to conduct space and cyber operations, and the ability to attract, retain, and make maximum use of highly qualified soldiers.<sup>108</sup> These requirements, once the concept is applied, will influence the defense industry to develop those materiel and equipment to fulfill the requirement.

Based on the contents in the MDO publication, the concept can directly support task number 85 “strengthening capabilities to counter North Korean asymmetric threats,” as well as task number 86 “early wartime operational control transition based on strong ROK-US alliance.” The concept not only provides the framework to counter the North

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<sup>106</sup> TRADOC Pamphlet 525-3-1, F-1~F-2.

<sup>107</sup> *Ibid.*, F-2.

<sup>108</sup> *Ibid.*



Korean asymmetric threats but also expands by giving more options for deterrence and winning the war to the national-level decision-makers. While not as direct, aspects of the MDO concept can also contribute to achieving task number 87, “robust push for defense reform and increased civil control over military” and task number 88, “promoting defense industries under the fourth industrial revolution.” The MDO concepts approach is generally aligned with what task number 87 and task number 88 pursue, especially the concept of optimizing the force efficiency to counter larger forces and using technology to the maximum effect. The application of the MDO concept, therefore, seems suitable for the overall ROK national security strategy, especially in achieving “the strong security and responsible defense” strategy, which will eventually contribute to the goal of “a peaceful and prosperous Korean Peninsula,” one of the five governance goals as laid out in *The 100 Dae Guk Jeong Gwa Je.*<sup>109</sup>

#### The MDO’s Suitability with the ROK National Defense Strategy

Although examining the entire defense strategy of the ROK is limited due to classified portions of the document, some features of the strategy are published through the ROK Ministry of National Defense White Paper. The defense white paper lays out six tenets of national defense policy that guides and provides directions for overall defense strategy: first, “establishing a robust national defense posture against omnidirectional security threats;” second, “developing a mutually complementary and robust ROK-US Alliance, and promoting exchanges and cooperation for national defense;” third,

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<sup>109</sup> 대한민국 정부, 3.

“building a strong force that supports peace on the Korean Peninsula by firmly implementing defense reform;” fourth, “establishing a transparent and efficient national defense operation system;” fifth, “instilling a high-morale military culture that accompanies the people and invokes public trust;” and sixth, “building a foundation for peace establishment through inter-Korean military confidence building and arms control.”<sup>110</sup> Among the six tenets, countering North Korean hybrid warfare would be closely related to the first three tenets; the other three have more to do with defense management, public trust, and arms control, which are not necessarily directly involved in countering the threats. Thus, this section will focus on analyzing if the MDO concept can support the first three tenets of the ROK defense policy.

First, the MDO concept can directly support the tenet of “establishing a robust national defense posture against omnidirectional security.” By omnidirectional, the paper means that the military should be able to counter mainly North Korea but also potential threats from any of the surrounding countries.<sup>111</sup> Omnidirectional also means that the nature of the North Korean military has expanded to cyber and space (such as ballistic missiles) domains, and the ROK Armed Forces should be able to counter them. Section three of the white paper describes North Korean military strategy as “guerrilla warfare, hybrid warfare, and blitzkrieg.”<sup>112</sup> The paper goes on to explain that North Korea “has also selectively enhanced the performance of its conventional weapons and built up

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<sup>110</sup> The Republic of Korea (ROK), Ministry of National Defense (MND), *2018 Korea Defense White Paper* (Seoul: MND, 31 December 2018), 44.

<sup>111</sup> *Ibid.*

<sup>112</sup> *Ibid.*, 27.

asymmetrical capabilities such as nuclear weapons, WMDs, missiles, long-range artilleries, submarines, special operation forces, and cyber units.”<sup>113</sup> These aspects pose an omnidirectional security challenge to the ROK forces, and overcoming this challenge becomes the first tenet of the defense policy.

The MDO concept attempts to solve the problem of multiple adversaries. The concept mainly focuses on countering China and Russia but also includes Iran, North Korea, and other threats as possible future threats. The concept requires the Joint Force to “employ MDO adapted for the unique cultural, geographic, and military context against these and other future threats.”<sup>114</sup> The adaptability of the concept to counter multiple adversaries, though not necessarily at the same time, is one of the key features in the concept, which aligns with omnidirectional security challenges that the ROK defense strategy tries to solve. In addition to the multiple adversary problem, the concept also attempts to solve the problem of the all-domain nature of the threats. The concept perceives that the emerging operational environments are shaped by several key characteristics, one of which is that “adversaries are contesting all domains, the EMS, and the information environment.”<sup>115</sup> North Korea can use these all-domain capabilities to conduct hybrid warfare in case of armed conflict. Thus, the approach that the MDO concept takes toward multi-adversaries and all-domain challenges aligns with the concept of omnidirectional security challenge within the ROK defense strategy.

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<sup>113</sup> ROK MND, *2018 Korea Defense White Paper*, 27.

<sup>114</sup> TRADOC Pamphlet 525-3-1, 15.

<sup>115</sup> *Ibid.*, 6.

Second, the MDO concept can indirectly support the tenet of “developing a mutually complementary and robust ROK-US Alliance, and promoting exchanges and cooperation for national defense.” This tenet pursues the ROK Armed Forces to be leading the combined forces in defense of the ROK under the smooth transition of wartime OPCON, as well as maintaining a mutually complementary relationship with the US forces and shaping a more favorable strategic environment for the ROK through exchanges and cooperation with surrounding countries.<sup>116</sup> Regarding the continuation of the strong alliance between the ROK and the United States, the defense ministry attempts to strengthen the relationship based on “mutual trust and shared values of freedom, democracy, human rights, and lawful order.”<sup>117</sup> The ministry also expects to maintain the combined posture by conducting various combined exercises. As far as the defense burden-sharing is concerned, the ROK is willing to share the burden for the United States Forces Korea (USFK)’s stationing in Korea to ensure a stable stationing environment. The last part of the tenet, “exchanges and cooperation for national defense,” means exchanges and cooperation with neighboring countries as well as with key countries around the world.<sup>118</sup>

The MDO concept requires the Joint Forces to “develop or improve capabilities to contribute cross-domain options” by “preparing the operational environment by building

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<sup>116</sup> ROK MND, *2018 Korea Defense White Paper*, 45.

<sup>117</sup> *Ibid.*, 172.

<sup>118</sup> *Ibid.*, 189.

partner capacity and interoperability.”<sup>119</sup> In other words, “building partner capacity and interoperability” is required for US forces to effectively implement the MDO concept, especially in maximizing the cross-domain synergy. This aspect of the MDO will undoubtedly be beneficial for both the ROK and the United States. It will contribute to the robust ROK-US alliance, as well as mutually complementary relationship that the first defense policy tenet pursues. The application of the MDO concept would increase the level of deterrence against the omnidirectional threat for the ROK, and it would also increase the cross-domain synergy for US forces. This logic would benefit the ROK regarding the defense burden-sharing of the two countries as well. The application of the MDO concept by the ROK will not only enhance the capability of the ROK countering North Korean threats but also increase the capability of the US forces in Korea by building partner capacity and interoperability, which would eventually contribute to maximizing cross-domain synergy. This part would definitely count as the ROK sharing more of the defense burden by contributing to the interoperability, which otherwise would have increased the burden for the United States. The last part of the tenet may cause some friction for the ROK in applying the MDO concept. The ROK defense strategy seeks exchanges and cooperation with neighboring countries, such as China. Considering that the MDO concept for the US forces focuses on China as a threat, this could be a limitation; however, as long as the ROK applies aspects of the MDO concept that are related to the ROK strategic ends instead of blindly adopting the whole concept, this should not become a problem.

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<sup>119</sup> TRADOC Pamphlet 525-3-1, 47.

Third, the MDO concept can also indirectly support the tenet of “building a strong force that supports peace on the Korean Peninsula by firmly implementing defense reform.” Although one of the ROK government’s policy tasks touches on the issue of the Defense Reform 2.0, the defense strategy expands the concept of implementing the reform further. The goal of the Defense Reform 2.0 is “to build a strong military that supports the peace and prosperity of the ROK with force.”<sup>120</sup> The defense reform seeks to improve the military in four main areas: military system, defense management, garrison culture, and defense industry.<sup>121</sup> The military system divides into six categories: recognition of threats, strategic concept, command structure, unit structure, force structure, and personnel structure.<sup>122</sup> Of particular note is that the recognition of threat in the Defense Reform 2.0 calls for a change from conventional forces and the nuclear-focused threat to capabilities-based threat and omnidirectional threat. This change takes North Korea’s emerging use of cyber, space (ballistic missiles), and electromagnetic pulse, which enables North Korea to conduct hybrid warfare in case of armed conflict, into consideration as future threats. The strategic concept of the reform also calls for a change from a threat-based defensive concept to an adaptable strategy to counter

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<sup>120</sup> ROK MND, *2018 Korea Defense White Paper*, 50.

<sup>121</sup> *Ibid.*, 22.

<sup>122</sup> *Ibid.*

omnidirectional threats.<sup>123</sup> The force structure of the reform pursues capability and high-tech-based structure.<sup>124</sup>

The MDO concept focuses primarily on the adversary's capabilities rather than their temporary threats, although the concept considers the recent trends of the threat. For instance, the concept explains how Russian military capabilities are used to deny the US forces in competition and in armed-conflict. In competition, Russia mainly utilizes national- and district-level capabilities such as Intelligence, Surveillance, and Reconnaissance (ISR), Special Operations Forces (SOF), unconventional warfare, information warfare, and conventional forces; in armed-conflict, Russia is expected to utilize long-, mid-, and short-range systems, unconventional warfare, information warfare, and national- and district-level capabilities.<sup>125</sup> Thus, the concept attempts to overcome those layered stand-off capabilities of the adversaries by applying tenets of "calibrated force structure, multi-domain formations, and convergence."<sup>126</sup> North Korea possesses all the above-mentioned capabilities with less scale. Hence, the application of the MDO concept would allow the ROK to achieve overcoming the omnidirectional capability-based threat of North Korea. The concept also emphasizes the importance of adaptability. The convergence tenet of the MDO requires "a dynamic mix of different

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<sup>123</sup> ROK MND, *2018 Korea Defense White Paper*, 22.

<sup>124</sup> *Ibid.*

<sup>125</sup> TRADOC Pamphlet 525-3-1, 13.

<sup>126</sup> *Ibid.*, v.

types of forces that adapt and change as dictated by the strategic environment.”<sup>127</sup> In addition to the discussion on the adaptability of the MDO concept on the other threats in the second tenet analysis, the adaptability required in the convergence tenet shows the alignment with the adaptability that the ROK defense policy’s third tenet pursues. Thus, although the concept does not relate to some parts of the Defense Reform 2.0, it can indirectly support the tenet because of its alignment with the tenet with regard to overcoming capability-based threats and possessing adaptability.

#### Suitability Summary

The MDO concept is suitable for the ROK military in countering North Korean hybrid warfare threats. The concept can either directly or indirectly support achieving the four ROK policy tasks that are part of the national security strategy in countering the threat. The application of the concept to the ROK military would also reinforce the national defense policy tenets. The strategic objectives of the MDO section of the concept discuss three ways that a multi-domain capable Joint Force can win and defeat the adversary: first, “effective competition that deters escalation and defeats adversaries’ destabilization efforts;” second, “deny enemy objectives within days and achieve an operational position of relative advantage within weeks that leads to an acceptable, sustainable political outcome;” and third, “defeat the enemy in a protracted war.”<sup>128</sup> This way of countering an adversary exactly aligns with the ROK strategy of deterrence first and to win the war if deterrence fails. Also, the adaptability of the concept allows the

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<sup>127</sup> TRADOC Pamphlet 525-3-1, 17.

<sup>128</sup> *Ibid.*, 24.



ROK to prepare for the omnidirectional threat that the ROK attempts to overcome. The only possible concern is that the MDO concept primarily focuses on the threat of Russia and China, and the ROK wanting cooperation with surrounding countries may make unwanted friction; thus, the ROK needs to be mindful of the wording or contents of the concept when rewriting in a way that there is no misperception for unnecessary friction.

Is the MDO concept feasible for the ROK military to counter hybrid warfare?

Feasibility, in this thesis, is defined as the possibility of applying the concept with the means available.<sup>129</sup> The viable future war concepts in military history, as discussed in the literature review chapter, commonly possessed the respective military's feasibility to carry out the concepts in wars. The means of superior training, a large cadre of experienced officers and NCOs, weapons, and equipment enabled the German military to conduct the *Blitzkrieg* concept in 1940; however, the lack of focus in logistics and intelligence led to the eventual defeat of World War 2, thereby making the concept unfeasible.<sup>130</sup> The Soviet military during 1944-1945 successfully conducted the Deep Operation concept that allowed using the means, such as its large formation of tanks, armored vehicles, trucks for the sustainment, and flexibility given to subordinate commanders to execute their own judgment within higher guidance.<sup>131</sup> Also, the capabilities of air-superiority, long-range artillery, a large armored formation, deep-attack helicopters, and space intel-assets during the Gulf War empowered the United States in

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<sup>129</sup> Yarger, 7.

<sup>130</sup> Mosier, 284.

<sup>131</sup> Olsen and Crevel, 91.

the application of the Air-Land Battle concept.<sup>132</sup> It is, therefore, essential to examine if the MDO concept is feasible for the ROK military to prove the overall viability by analyzing the current and future capabilities of the ROK military to conduct the concept.

The MDO concept states its key required capabilities in fourteen different sentences. These descriptions include capabilities such as the “ability to calibrate force posture geographically and across all the Army components to defeat Chinese and Russian offensive operations” and “the ability to build partners’ capacities and capabilities,” which are not necessarily related to the ROK military in countering North Korean hybrid warfare.<sup>133</sup> The analysis of the feasibility must, therefore, limit the scope of the capabilities to the ones that are related to countering hybrid warfare and the ones that made the future war concepts feasible in the past. Taking these considerations, the required capabilities of the MDO concept to be feasible for the ROK military can be categorized into five main areas: organization, training, materiel, personnel, and leadership. Analyzing the ROK’s current and future capabilities of these five main areas will help determine whether or not the concept is feasible for the military.

### Organization

During a press brief explaining the Army Futures and Concepts Center ‘s recent work on “AimPoint Force,” a new structure alignment to meet the MDO concept’s organization requirement, its director, LTG Eric Wesley, emphasized the importance of continuing building EAB units for effective implementation of the MDO concept in near-

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<sup>132</sup> Krause and Philips, 465.

<sup>133</sup> TRADOC Pamphlet 525-3-1, B-1 - B-2.

peer competition.<sup>134</sup> In TP 525-3-8, EAB formations are “the orchestrators of multi-domain combined arms operation,” and the EAB must include “uniquely tailored theater armies,” “threat-focused field armies,” “versatile corps,” and “tactically focused divisions.”<sup>135</sup> Thus, the focus of the discussion on the organization as part of the feasibility needs to be on the EAB level: division, corps, and Army level (field army) units. The only exception would be the theater army because the organization does not need to be separate from the field army for the ROK military, considering the non-expeditionary nature of the military.

According to the MDO concept, threat-focused field armies are needed to “provide credible deterrence, execute multi-domain competition against near-peer threats, and enable a rapid transition to, and execution of, Large-Scale Ground Combat Operation (LSGCO).”<sup>136</sup> Field armies in the MDO concept must be capable of “gaining and maintaining contact across all domains, converging multi-domain capabilities, and transitioning across the competition continuum to maintain the initiative.”<sup>137</sup> Field armies also need to be able to operate as Land Component Command (LCC), to shape deep fire area, and to command multinational corps and enablers in the Area of Responsibility

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<sup>134</sup> Army New Service, “US Army Futures and Concepts Center evaluates new force structure,” 24 April 2020, <https://www.defencetalk.com/us-army-futures-and-concepts-center-evaluates-new-force-structure-75266>.

<sup>135</sup> TRADOC Pamphlet 525-3-8, iv.

<sup>136</sup> *Ibid.*, 52.

<sup>137</sup> *Ibid.*, 53.

(AOR).<sup>138</sup> Unlike the US Army, whose focus has been on counter-insurgency operations with modular BCT-centric units for the past decade, the ROK Army has always maintained traditional organizations to prepare for LSGCO with North Korea.

The ROK created a Ground Operations Command (GOC) combining two field armies of the 1st ROK Army and the 3rd ROK Army in 2019, in addition to the pre-existing 2nd Operational Command, which is mainly focused on rear-area operations. With eight corps (seven regional and one mechanized corps) under the command, an intelligence brigade that includes drone units, fire brigades with deep area target capabilities, and a sustainment command, all performing the role of Ground Component Command (GCC) during the war with some US units under the command, the ROK GOC can fulfill much of the MDO concept requirements for the field army.<sup>139</sup> There are some gaps, however, which are spotted through published documents, between the current capability of the ROK GOC and the MDO concept's requirement for the field army: for example, a command and control system to effectively coordinate and control joint and multinational assets, longer precision fires to shape the operational deep area, and cyber/space capabilities.<sup>140</sup> The fact that the ROK already possesses the army level units capable of performing some aspects of MDO show the positive feasibility of the concept application at the army level with possible future complements to the capabilities gaps.

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<sup>138</sup> TRADOC Pamphlet 525-3-8, 52.

<sup>139</sup> 송진현, “지상작전사령부 창설에 따른 지상군 발전방안 연구,” *군사연구* 제 147 집 (2019년 5월): 20.

<sup>140</sup> *Ibid.*, 21.

The corps, in the MDO concept, is “the linchpin of EAB versatility and agility.”<sup>141</sup> The echelon needs to have “assigned military intelligence, multi-domain reconnaissance and security, fires (artillery and air defense), maneuver support, space, cyberspace, information environment operations, Electronic Warfare (EW), sustainment, and aviation formations” as key capabilities.<sup>142</sup> Also, the future corps capabilities should be able to “conduct deep operations physically, temporally, virtually, and cognitively, and enable subordinate tactical formations to dominate the close fight.”<sup>143</sup> The corps, in essence, “shapes the deep maneuver and close areas, executes operational deep fires, and coordinates deep cross-domain maneuver.”<sup>144</sup>

There are currently eight corps in the ROK Army under the GOC. Each of the ROK corps has multiple divisions, a fire brigade, an engineer brigade, an information battalion with Unmanned Aerial Vehicles (UAVs), a special mission unit, a security regiment, a Chemical, Biological, Radiological, and Nuclear (CBRN) battalion, a sustainment brigade, a signal unit, an air-defense unit, and an aviation brigade.<sup>145</sup> The corps also have an Air Support Operation Center (ASOC) that coordinates air assets within corps AOs to strike deep area targets. With all of these units and future capabilities, the ROK corps can perform independent operations to shape the deep

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<sup>141</sup> TRADOC Pamphlet 525-3-8, 53.

<sup>142</sup> Ibid., 54.

<sup>143</sup> Ibid.

<sup>144</sup> Ibid.

<sup>145</sup> 송진현, 13.

maneuver and close areas and execute operational deep fires. There are also gaps between the ROK corps' capabilities and the MDO concept requirements for the corps: for example, joint command and control system, embedded long-range fire capability to target corps' deep area, cyber/space capability to counter North Korean attacks, and cross-domain maneuver capability independently. The corps level unit comparison shows that the ROK corps can perform what the MDO concept requires corps to do, for the most part, when some future capabilities are added to the formation.

The MDO concept requires “tactically focused divisions to shape, dominate, and win the close fight.”<sup>146</sup> The future division capability requirements include “assigned reconnaissance and security, aviation, fires, maneuver enhancement, and sustainment formations, as well as subordinate brigade combat teams.”<sup>147</sup> The divisions in the future should “converge cross-domain capabilities, shape the deep maneuver and close area, and plan, prepare, execute, and assess deep maneuver.”<sup>148</sup> The ROK divisions already possess much of these types of capabilities that the MDO concept describes. A regular ROK infantry division has three maneuver regiments that could be task-organized into the US equivalent of BCTs, a reconnaissance battalion, a division artillery regiment, an engineer battalion, and various types of supporting units to include an aviation battalion. The ROK Army plans to create drone-robot units from corps down to battalion level to

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<sup>146</sup> TRADOC Pamphlet 525-3-8, 54.

<sup>147</sup> Ibid.

<sup>148</sup> Ibid., 55.

do reconnaissance, EW, and strike.<sup>149</sup> A ROK Army division, therefore, can certainly shape the deep maneuver and close area, and plan, prepare, execute, and assess deep maneuver. If cyber/space assets and improvement on joint command and control systems can be realized in the future, the feasibility of the concept application at the ROK division level is very high.

Overall, the main organizations required for the MDO concept is traditional EABs like divisions, corps, and armies with capabilities to exercise their combat power coordinated with joint forces in multi-domain environment. Large-scale ground combat has been the primary focus for the ROK military for a long time, and their current organization seems to be feasible to carry out the MDO concept with new future capabilities added to each echelon. Therefore, it is logical to say that it is feasible for the ROK Army organization to apply the concept if the ROK invests in those capability gaps in each echelon with the concept requirements. However, the ROK Army EAB formations need to have more flexibility to accommodate space, cyber, electromagnetic, information, and joint services elements in the formation to make it fit the multi-domain environment.

### Training

The creation of the National Training Center (NTC) after the Vietnam War is considered one of the critical factors that contributed to the victory of the US military in

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<sup>149</sup> 송진현, 21.

the Gulf War in 1991.<sup>150</sup> NTC enabled various units to prepare for the next war properly, and its success was due to “the effect of its real-world, real-time, no-nonsense combat simulation on how the Army prepared for war.”<sup>151</sup> As such, training plays a crucial role, especially when a military is preparing for a new concept. Benchmarking the NTC model, the ROK also created the Korea Combat Training Center (KCTC) in 2005 and looks to expand the training unit size from battalion-level to brigade-level. Just as training programs such as NTC prepared US units for the Air-Land Battle concept that was crucial in devising Operation Desert Storm, if the ROK is to apply the MDO concept, one must ensure that the ROK can train its troops to effectively counter North Korean hybrid warfare using the concept.

In “US Army Concept: Multi-Domain Combined Arms Operations at Echelons Above Brigade 2025-2045,” the MDO concept requires the Army to have a Synthetic Training Environment (STE) to better train units and soldiers in a multi-domain environment.<sup>152</sup> The STE is a virtual, constructive, gaming training system that the US Army is currently developing and will feature any type of terrain in the world, any platform capabilities, and interface software that will enable units to train soldiers.<sup>153</sup> The

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<sup>150</sup> Robert H. Scales, *Certain Victory: The US Army in the Gulf War* (Washington, DC: Office of the Chief of Staff United States Army, 1993), 20.

<sup>151</sup> *Ibid.*, 21.

<sup>152</sup> TRADOC Pamphlet 525-3-8, 64.

<sup>153</sup> Synthetic Training Environment Cross Functional Team, “Synthetic Training Environment,” US Army, last updated 26 March 2018, [https://www.army.mil/standto/archive\\_2018-03-26](https://www.army.mil/standto/archive_2018-03-26).



STE will provide a virtual training platform that will increase the capability of individual soldiers and units to operate in a multi-domain environment.

The ROK Army is taking steps to incorporate Virtual Reality (VR) and Augmented Reality (AR) into training its troops. In 2018, Korea Military Academy developed a soldier training system with VR technology as well as a tactical decision-making system with AR technology.<sup>154</sup> In 2019, Korea's Electronic and Telecommunications Research Institute (ETRI) demonstrated its VR training simulation product that it began developing in coordination with the Ministry of National Defense (MDN) in 2013.<sup>155</sup> ETRI has also applied Artificial Intelligence (AI) technology, for example, to recognize the soldiers' movements and will display appropriate equipment in the 360-degree screen. Different types of units, ranging from Air Force squadrons to Army Special Forces in the ROK military these days have their own type of virtual training system; however, these training systems have not yet reached the level where units can conduct combined or joint training virtually. Given the current training system and future plans for development, the ROK military can certainly develop the STE-type training system in the future.

Another aspect of training that the MDO concept requires is combined training and exercises to increase interoperability, which will eventually contribute to a deterrence

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<sup>154</sup> 박광수, “훈련도 실제처럼... 육군, VR·AR 기반 훈련체계 첫 선,” *중앙일보*, 30 August 2018, <https://news.joins.com/article/22926803>.

<sup>155</sup> 류준영, “군부대 배치될 VR 전투훈련 “피 대신 땀이,” *머니투데이*, 10 June 2018, <https://news.mt.co.kr/mtview.php?no=2019060712575995807>.

effect against the adversary and consolidation of gains.<sup>156</sup> In 2019, the US Army conducted a pilot program when it formed a Multi-Domain Task Force (MDTF) in the Indo-Pacific Command (INDO-PACOM) area with multi-national and joint partners during various exercises in the region.<sup>157</sup> The exercises with the MDTF highlighted the “need for a common operating picture to create synergistic effects with not only the other services but also allied nations.”<sup>158</sup> The joint and multinational exercises and training are a crucial factor for a military to succeed in implementing a future war concept.

The ROK already possesses joint and multinational exercise platforms. Although there have been some changes to the exercises recently, the ROK and United States have been conducting operational-level combined and joint exercises three times a year: Key Resolve (KR) and Foal Eagle (FE) from March to April and the *Ulchi* Freedom Guardian (UFG) in August, which also involve multi-national partner participation.<sup>159</sup> Annually, the ROK hosts hundreds of combined small unit trainings. The exercises certainly have not been able to incorporate multi-domain aspects into account fully, so there is room for improvement of the exercises when it comes to conducting in a multi-domain environment. Incorporating MDTF into the Foal Eagle exercise or sending a task force to

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<sup>156</sup> TRADOC Pamphlet 525-3-1, B-2.

<sup>157</sup> Sean Kimmons, “Army to build three Multi-Domain Task Forces using lessons from the pilot,” *Army News*, 15 October 2019, [https://www.army.mil/article/228393/army\\_to\\_build\\_three\\_multi\\_domain\\_task\\_forces\\_using\\_lessons\\_from\\_pilot](https://www.army.mil/article/228393/army_to_build_three_multi_domain_task_forces_using_lessons_from_pilot).

<sup>158</sup> *Ibid.*

<sup>159</sup> The International Institute for Strategic Studies, *The Military Balance* (New York: Routledge, February 2020), 244.

joint exercises in INDO-PACOM along with the US MDTF may be some of those options. Overall, it is feasible for the ROK to conduct exercises in a multi-domain environment with joint and multi-national partners if the country decides to.

The MDO concept of 2018 had been revised from that of the 2017 Multi-Domain Battle (MDB). The 2018 version includes the lessons learned section that the Army took from MDTF pilot program. Among them, a lesson related to the training specifies a requirement for the application of the concept: “training and evaluating Soldiers and leaders in executing MDO will require state of the art real-time wargame simulation capabilities that include other Service, interagency, and multinational partner capabilities.”<sup>160</sup> US Army Mission Command Training Program (MCTP) is the proper organization to realize those requirements. The MCTP trains commanders and staffs of units mainly at the division-and-above level through warfighter exercises.<sup>161</sup> The MCTP not only focuses on tactical level training, but also includes joint context, unified action partners, multi-national, space, and cyber elements into the training.<sup>162</sup> As the MDO concept transition into doctrine, the MCTP will incorporate more of those aspects into the trainings as it bases the training standards on doctrines.

The ROK Army currently has an organization called the Battle Command Training Program (BCTP) which was created in 1993 to increase the capability of commanders and staffs of corps or division level units to conduct operational process

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<sup>160</sup> TRADOC Pamphlet 525-3-1, F-2.

<sup>161</sup> Mission Command Training Program (MCTP), “MCTP Overview” (PowerPoint Presentation, 21 January 2020 ), slide 8.

<sup>162</sup> Ibid., slide 10.

under realistic war situations.<sup>163</sup> Every year, the BCTP trains about 16-20 corps and division headquarters and also supports the ROK-US combined exercises. Their assessment is very much focused on the commanders' and staffs' operational processes using wargaming that formulates a realistic scenario against North Korean war threats and also assesses the unit's mission command application during the battle command system. The program does not yet incorporate cyber, space, or joint elements; however, they are currently making progress in developing a Live, Virtual, Constructive (LVC) system that can link the command system not only to the wargame but also to the actual training units, in increasing the interoperability with the US wargame to effectively conduct the combined exercises.<sup>164</sup> This is, therefore, achievable for the ROK military using the currently existing platform to incorporate cyber, space, or joint elements in the system and train for the MDO in the future.

In summary, the ROK military can create a training environment for the force to apply the MDO concept and fulfill those requirements related to countering North Korean hybrid warfare. Although there needs to be modifications or improvements to existing systems, the ROK already possesses combat training centers such as KCTC and BCTP, conducts combined and joint exercises that can be utilized as training in a multi-domain environment, and develops training systems that the future force can use to train

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<sup>163</sup>이주형, “실전같은 훈련... 최상의 전투지휘 능력 키운다,” *The Korea Defense Daily*, 26 January 2015, [http://kookbang.dema.mil.kr/newsWeb/20150127/5/BBSMSTR\\_000000010023/view.do](http://kookbang.dema.mil.kr/newsWeb/20150127/5/BBSMSTR_000000010023/view.do).

<sup>164</sup> 김관용, “軍위게임 모델, 28 년만에 교체...韓 주도 연합연습 체계도 구축,” *eDaily*, 24 April 2019, <https://www.edaily.co.kr/news/read?newsId=03926166622459400>.

effectively using systems such as VR- or AR-enabled training systems. These systems altogether can contribute to the overall training of the future force of the ROK.

### Materiel

Possession of new materiel or technology does not guarantee success in the future war; for example, in 1940, France's possession of more tanks than Germany did not help France defeat the Germans. But it is common knowledge that a military that lacks necessary equipment or technology cannot possibly win against an adversary who already possesses such equipment or technology and knows how to use them, which is why many nations strive to develop up-to-date military technology and equipment. The MDO concept requires various capabilities that necessitate certain materiel acquisition or development. Among these, materiel that is crucial to countering hybrid warfare can be separated into three categories: first, a command and control system that enables commanders and staffs to “visualize and command a battle in all domains, the EMS, and the information environment;” second, weapons and equipment that “can converge capabilities to attack specific vulnerabilities” of the adversary; and third, systems that provide protection and sustainability to the forces so that the forces “can persist in a difficult operational environment” and “are able to conduct independent maneuver and employ cross-domain fires.”<sup>165</sup>

The most important aspects of the command and control system that the MDO concept requires are visualization of the battlefield and the ability to command units in all

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<sup>165</sup> TRADOC Pamphlet 525-3-1, B-2.

domains.<sup>166</sup> The US Army, in an attempt to close the gap between the current and the future command and control capabilities, is now developing the Army Network as part of the Army's six modernization priorities that will drive the materiel development for the MDO concept.<sup>167</sup> The Army's line of effort has four priorities for the network. The first line of effort is "to provide ensured network transport in a contested environment against a peer adversary and dominate cyber electromagnetic activities," which will include a handheld manpack, small form fit radio, and tactical network technology modernization in service program.<sup>168</sup> The second line of effort is "to create a common operating environment," including a joint blue force tracking system, data services on tactical radios, and an interface from the command post to the dismounted soldier.<sup>169</sup> The third line of effort is "joint interoperability and coalition accessible" to ensure the Army's ability to communicate with joint and coalition partners.<sup>170</sup> The last line of effort is "command post mobility and survivability" for the modern and survivable command posts.<sup>171</sup>

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<sup>166</sup> TRADOC Pamphlet 525-3-1, B-2.

<sup>167</sup> U.S. Army, *2019 Army Modernization Strategy: Investing in the Future* (Washington, DC: US Army, 2019), 5.

<sup>168</sup> Mark Pomerleau and Mike Gruss, "Army budget request adds \$1.5B for network modernization," *C4ISRNET*, 18 April 2019, <https://www.c4isrnet.com/it-networks/2019/04/18/army-budget-request-adds-15b-for-network-modernization>.

<sup>169</sup> *Ibid.*

<sup>170</sup> *Ibid.*

<sup>171</sup> *Ibid.*

The network modernization is one of the priorities in *Army Vision 2030*, the ROK Army modernization strategy document, to effectively enable communications between command elements and all future fighting platforms, including units, drones, and robots.<sup>172</sup> The first line of effort is to diversify communication nodes from only having ground communications nodes to extending them to air and space level nodes by utilizing aircraft, drones, and military satellites.<sup>173</sup> In this way, the connection to units and any type of fighting platform will be diversified, thus allowing future units and platforms maneuverability in the Korea Theater of Operation (KTO). The second line of effort is to build a mobile and Internet of Things (IoT) system that can be used in tactical units with “Tactical Multi-Function Terminal (TMFT)” and will connect to various levels of commands with AI, IoT technology.<sup>174</sup> This will enable each unit to effectively command and control their assets against North Korean hybrid warfare, as well as possess the flexibility to respond to any type of disaster or non-military threats. The third line of effort is to develop a Common Operating Picture (COP) system that can be shared from battalion level to Army level.<sup>175</sup> The initiative will ensure the visualization of the battlefield to each level of commanders and staff, thereby increasing the common understanding throughout the units. The fourth line of effort is to develop an aggregate

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<sup>172</sup> 김상윤, “모든 미래 전투프랫폼, 하나의 네트워크로 연결,” *Korea Defense Daily*, 27 March 2019, [http://kookbang.dema.mil.kr/newsWeb/20190328/14/BBSMSTR\\_000000010023/view.do](http://kookbang.dema.mil.kr/newsWeb/20190328/14/BBSMSTR_000000010023/view.do).

<sup>173</sup> Ibid.

<sup>174</sup> Ibid.

<sup>175</sup> Ibid.

database and AI system, which will assist the commanders and staff in identifying threats and prioritizing the targets at the respective unit level.<sup>176</sup> The fifth line of effort is to develop the counter-cyber capability to protect the network.<sup>177</sup> The last line of effort is to develop a network management system to increase the efficiency of managing the transfer of information.<sup>178</sup> The ROK defense budget reflects these efforts by setting about 344,300,000,000won (0.6 percent) of the 2020 defense budget purely in surveillance and network system.<sup>179</sup> With other budgets in the R&D of AI and the Cyber sector, a large part of the budget supports this effort. These efforts surely look feasible in applying the MDO concept; however, the ROK Army needs to add more focus on the interoperability between services, multi-national partners, and protecting networks in a contested environment to fully employ the concept which are not impossible tasks.

The second capability of MDO directly relating to countering hybrid warfare is the weapons and equipment that “can converge capabilities to attack specific vulnerabilities” of the adversary.<sup>180</sup> These include materiel that enable units to maneuver and employ fires in a multi-domain environment such as Long-Range Precision Fire (LRPF), Next Generation Combat Vehicle (NGCV), Future Vertical Lift (FVL), and

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<sup>176</sup> 김상윤, “모든 미래 전투플랫폼, 하나의 네트워크로 연결.

<sup>177</sup> Ibid.

<sup>178</sup> Ibid.

<sup>179</sup> 유용원, “2020 년 국방예산, 정부안과 동일한 50 조 1,527 억원으로 확정,” *조선일보*, 11 December 2019, [http://bemil.chosun.com/nbrd/bbs/view.html?b\\_bbs\\_id=10067&pn=1&num=1257&fb](http://bemil.chosun.com/nbrd/bbs/view.html?b_bbs_id=10067&pn=1&num=1257&fb).

<sup>180</sup> TRADOC Pamphlet 525-3-1, B-2.



Soldier Lethality (SL). To achieve the MDO capable force, the US Army aims to develop those maneuver and fire systems as part of the six modernization priorities. Long-range precision fires are employed to neutralize the adversary's Anti-Access/Anti-Denial (A2/AD) system, thereby shaping conditions for maneuver units. Next-generation combat vehicles would provide ground forces options to maneuver in the multi-domain environment with protection and will reinforce the firepower. Soldier lethality ensures individual soldiers to have enhanced weapon precision, night vision, and communication capabilities.<sup>181</sup> These projects are being developed by Cross-Functional Teams (CFTs), which consist of experts and practitioners from various backgrounds, and the Army Futures Command (AFC) ensures the unity of effort for those teams to be properly supported by funds and other resources.<sup>182</sup>

The ROK military focuses heavily on developing the Nuclear-WMD response system to counter North Korean missile strikes against South Korea. Among them, the strategic strike system capable of “the real-time detection and engagement of enemy launchers and missiles” consists of surveillance assets as well as strike assets such as the F-35 and missiles.<sup>183</sup> The ROK continues to invest in these systems and utilize them to counter North Korean provocations as well as to neutralize their A2/AD systems when called on to conduct a counter-offensive. According to Army Vision 2030, the Army is developing *Baekdoosan Tiger* system, which includes warrior platform, next-generation

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<sup>181</sup> *2019 Army Modernization Strategy*, 6.

<sup>182</sup> *Ibid.*, 3.

<sup>183</sup> *The Military Balance 2020*, 246.

motorized armored vehicle, and drone-bot units to enhance individual combat, maneuverability, and surveillance capabilities.<sup>184</sup> The ROK Army has picked one battalion in the 25<sup>th</sup> Infantry Division to conduct a pilot program. It will continue conducting training using the *Baekdoosan Tiger* system in KCTC to assess the effectiveness until 2020, then will further enhance the system and finally field the system to operational units.<sup>185</sup> The ROK is incrementally setting defense budgets to realize these projects, and it looks as though the military possesses aspects that are compatible with what the MDO concept requires for the ground forces. However, there is a gap between what the ROK military attempts to achieve in the near future and the MDO requirements: the missiles that the ROK possesses now are not hypersonic missiles which would enable a much faster impact on North Korean targets.

The last aspect of materiel that the MDO concept requires is the system that provides protection and sustainability to the forces so that the forces “can persist in a difficult operational environment” and “are able to conduct independent maneuver and employ cross-domain fires.”<sup>186</sup> The examples of this system to become the MDO capable force, according to the 2019 Army Modernization Strategy, include FVL and Air and Missile Defense (AMD).<sup>187</sup> The FVL platforms and technology enable forces to extend their operational reach deep into the adversary’s area, and it also provides forces options

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<sup>184</sup> 김상윤, “육군비전 2030,” *국방저널* 통권 544 호 (2019 년 4 월호): 12.

<sup>185</sup> Ibid.

<sup>186</sup> TRADOC Pamphlet 525-3-1, B-2.

<sup>187</sup> *2019 Army Modernization Strategy*, 6.

to maneuver in a multi-domain environment.<sup>188</sup> In addition to lethality, reach, autonomy, agility, and protection, the FVL also pursues to apply unmanned systems, thereby maximizing the effectiveness of supporting maneuver forces in the MDO.<sup>189</sup> The Air and Missile Defense system will protect the homeland, the deployed forces, and the allies from adversary's air or missile attacks.<sup>190</sup> The system eventually aims to protect the forces from adversary's ballistic and indirect fire capabilities since the adversaries are heavily investing in those capabilities, including hypersonic weapons.<sup>191</sup>

The ROK military, as part of the Nuclear-WMD response system, pursues to perfect the Korean Missile Defense system. With the current Patriot missiles, indigenous Medium-range Surface to Air Missile (M-SAM), Cheongung, and THADD battery, the ROK military already possesses air-defense systems.<sup>192</sup> Also, the military is looking to develop indigenous Long-range Surface to Air Missile (L-SAM) by the end of 2024 and planning to acquire *Green Pine* early-warning radars to extend the range. These projects, when complete, will enable the military to have a “multilayered missile defense structure.”<sup>193</sup> As far as the vertical lifting capability is concerned, the ROK military recently developed and fielded *Surion*, the Korean Multi-purpose Helicopter, which

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<sup>188</sup> *2019 Army Modernization Strategy*, 6.

<sup>189</sup> US Army, “Future Vertical Lift,” last updated 7 February 2018, [https://www.army.mil/standto/archive\\_2018-02-07](https://www.army.mil/standto/archive_2018-02-07).

<sup>190</sup> *2019 Army Modernization Strategy*, 6.

<sup>191</sup> *Ibid.*

<sup>192</sup> *The Military Balance 2020*, 246.

<sup>193</sup> *Ibid.*

would enable prompt transport of units with limited protection and lethality.<sup>194</sup> The ROK military surely possesses the capability to support the maneuverability and protection in applying the MDO concept, but not to the point where the air defense system can counter all types of units against North Korean missiles, which are numerous as well as diverse in their models. Also, the *Surion* does not adequately provide a platform for lethality, protection, or unmanned capability.

Overall, the materiel that the ROK military has now and pursues in the future seems to satisfy most of the requirements that the MDO concept suggests: the concept is feasible to the ROK military as far as the materiel is concerned. There are gaps, however, between the ROK's current and future capabilities and those requirements: resilience of the network system that can work in the contested environment, interoperability of the network with other services and multinational partners, prompt missile systems such as hypersonic missiles, more protection and lethality in vertical lift capability, and multi-layered air-defense system that can protect more units. The ROK possesses technology and capabilities to enable these projects; it is a matter of choice.

#### Personnel and Leadership

Having the best organization, training, and materiel are all in vain if the personnel who compromise the organization and leaders who manage the organization fail to live up to the standards that the organization is called to do. There are numerous examples in military history, where units and organizations failed because of inadequate or

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<sup>194</sup> Global Security, "Surion–Korean Helicopter Program," accessed 6 December 2019, <https://www.globalsecurity.org/military/world/rok/khp.htm>.

incompetent leaders and members. This is one of the obvious reasons why one must heavily invest in acquiring, retaining, and developing the personnel as well as the leaders. The MDO, due to its unique environment, requires higher standards for personnel and leaders to successfully employ the concept in a contested multi-domain environment against near-peer adversaries. To evaluate whether the MDO concept is feasible to the ROK military, one must look at if the ROK's current and future personnel and leader capabilities match that of the MDO concept requirement.

The MDO's requirements on personnel and leaders are three-fold: first, leaders and soldiers who "continue to operate effectively in austere environments and conditions;" second, leaders and soldiers who are "high-quality, physically fit, mentally tough Soldiers who have the skills and expertise to conduct the MDO; and third, leaders who "create and foster conditions favorable to mission command so that ever disparate formations and capabilities are ready to act upon the mutual recognition of an opportunity or in response to a battlefield development."<sup>195</sup> To meet the requirement of the concept, the US Army devised the Army People Strategy under the Army Modernization Strategy. The end state for the Army People Strategy is to develop Army forces by 2028 that are ready, professional, diverse, and integrated.<sup>196</sup> The lines of effort to achieve this end-state are to acquire, develop, employ, and retain talent. These lines of efforts are enabled by using the 21<sup>st</sup> Century talent management system, which optimizes the matching between

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<sup>195</sup> TRADOC Pamphlet 525-3-1, B-2.

<sup>196</sup> The U.S. Army, *The Army People Strategy* (Washington, DC: US Army, October 2019), 5.

positions and talents of the soldiers, quality of life, Army culture, and resources and authorities.<sup>197</sup>

The ROK Army's efforts, described explicitly in the Army Vision 2030, concerning the personnel and leadership are two-fold: acquiring, developing, and retaining the right Non-Commissioned Officers (NCOs) and establishing the core values of the Army. Unlike the voluntary US Army, the ROK Army is an army with hundreds of thousands of conscripts plus voluntary officers and NCOs. Due mainly to a decreasing birth rate, the ROK Army is facing a daunting challenge of decreasing conscripts each year. To tackle the challenge, the Army looks to attract more NCOs who are capable and devoted to the mission. The Army approaches the strategy by providing more job security, education opportunities, talent management systems, and enhancing the work environment.<sup>198</sup> The Army is also developing the core values that the entire Army can share to make the Army a value-based warrior community.<sup>199</sup> The Army values used to be loyalty, responsibility, respect, courage, and creativity in 2002; however, society and soldiers have changed much since then. The need for the change in the Army values was raised to keep up with the rate of change in the operational environment to be simpler and encompass various meanings. With the ROK Army's effort in acquiring, developing, and

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<sup>197</sup> *The Army People Strategy*, 5.

<sup>198</sup> 김상윤, “육군 부사관, ‘전사’로 거듭나기,” *국방일보*, 25 April 2019, <http://pdf.dema.mil.kr/pdf/pdfData/2019/20190425/B201904250701.pdf>.

<sup>199</sup> 김상윤, “핵심가치 재정립...진정한 전사공동체로 재탄생,” *국방일보*, 8 May 2019, [http://kookbang.dema.mil.kr/newsWeb/20190509/14/BBSMSTR\\_000000010023/view.do](http://kookbang.dema.mil.kr/newsWeb/20190509/14/BBSMSTR_000000010023/view.do).

retaining the right personnel and leaders, there needs to be more focus on the mission command approach, mainly when developing and retaining the leaders because the MDO concept inherently necessitates the mission command approach to command and control.

### Feasibility Summary

Through analyzing the five elements of organization, training, materiel, personnel, and leadership, all of which were crucial for the feasibility of a future war concept, it is certainly feasible for the ROK military to apply the MDO concept in countering North Korean hybrid warfare with current and future planned capabilities. There are, however, gaps that need to be addressed to make it completely possible in its application. For the organization, while maintaining the current EAB formations, the ROK Army needs to be able to accommodate space, cyber, electromagnetic, information element to counter the North Korean hybrid warfare down to at least Corps level. For training, the ROK Army needs: to make the VR/AR training system in a more combined and joint manner than leaving at separate training; to conduct BCTP training with joint, multi-national partners with cyber, space elements; and conduct exercises with a multi-domain task force or with the multi-domain environment. For materiel, the ROK military needs: resilience of the network system that can work in the contested environment; interoperability of the network with other services and multinational partners; a prompt missile system such as hypersonic missiles, more protection and lethality in vertical lift capability, and multi-layered air-defense system that can protect more units. For personnel and leadership, the ROK needs to instill a culture that enables the mission command approach to the command and control.

Is the MDO concept acceptable to the ROK military to counter hybrid warfare?

Acceptability is defined as justifiability of the cost for applying the concept against the benefits of desired effects.<sup>200</sup> *Blitzkrieg* concept during 1940 was more than acceptable to Hitler, and his military leaders since the benefits of applying the concept, such as avoiding a protracted war, far exceeded the costs, such as creating Panzer Group Kleist and German air force *Luftwaffe*.<sup>201</sup> Similarly, the Deep Operation concept, which was devised by Tuhachevski and Isserson who were purged in the 1930s, was brought back to the Soviet military in 1944-45 because the benefits of defeating Germans as well as creating favorable post-WWII conditions far exceeded the cost of building army mobile groups and heavy investment in the logistics systems.<sup>202</sup> In the case of Air-Land Battle, the benefits of overcoming the scars of Vietnam and reassuring the American influence on the world surpassed the cost of introducing the Big Five and various modernization efforts needed to fulfill the concept.<sup>203</sup> Thus, an in-depth analysis of comparing benefits and costs is necessary to determine whether the MDO concept is acceptable to the ROK military as far as North Korean hybrid warfare is concerned.

#### The Cost of MDO Application

The cost estimation of applying the MDO concept can vary significantly, depending on the extent of what to include as far as required capabilities are concerned.

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<sup>200</sup> Yarger, 7.

<sup>201</sup> Krause and Phillips, 170.

<sup>202</sup> *Ibid.*, 308.

<sup>203</sup> *Ibid.*, 473.



The MDO concept states fourteen types of capabilities are required to be able to execute the concept properly.<sup>204</sup> Nevertheless, not all of those capabilities are measurable in terms of cost. For example, the capability to have “necessary authorities and permissions to operate in competition and rapidly transition to conflict effectively,” which is the sixth required capability, does not provide any clue on how much money or resources the capability needs for implementation.<sup>205</sup> Although it may not be all-encompassing, the materiel, such as the Army’s six modernization priorities, is one of the objective measures to estimate the cost of concept application, because those priorities are what the Army says it needs to fulfill the MDO concept. In “The Army’s Modernization Strategy: Congressional Oversight Considerations,” Andrew Feickert, a specialist in military ground forces, and Brendan W. McGarry, an analyst in US defense budget, stated that the Army needs the six priorities “to not only provide a technological improvement over legacy systems but also support the Army’s operational concept – in this case Multi-Domain Operations (MDO).”<sup>206</sup> Thus, analysis of the cost of the six priorities needs to be the center of discussion regarding the cost of the concept application, since the six priorities will take up the most expensive portion of the application and are the most tangible aspects in the MDO to counter hybrid warfare threats.

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<sup>204</sup> TRADOC Pamphlet 525-3-1, B-1.

<sup>205</sup> Ibid.

<sup>206</sup> Andrew Feickert and Brendan W. McGarry, *The Army’s Modernization Strategy: Congressional Oversight Considerations*, Congressional Research Service, 7 February 2020), 5.

Feickert and McGarry’s congressional report analyzes the Army’s modernization strategy of fulfilling the MDO concept by looking at appropriateness, achievability, and affordability of the strategy.<sup>207</sup> Of particular concern in the report is the budget for the six priorities in the Army strategy concerning achievability and affordability (See figure 9). The report mentions that there are 31 modernization initiatives, not all of which are programs of record, to support the six priorities in making an MDO-capable force.<sup>208</sup>

- **Long Range Precision Fires:**
  - Strategic Long Range Cannon (SLRC).
  - Precision Strike Missile (PrSM).
  - Extended Range Cannon Artillery (ERCA).
- **Next Generation Combat Vehicle: (NGCV):**
  - Optionally Manned Fighting Vehicle (OMFV).
  - Robotic Combat Vehicle (RCV): 3 variants.
  - Armored Multi-Purpose Vehicle (AMPV).
  - Mobile Protected Firepower (MPF).
  - Decisive Lethality Platform (DLP).
- **Future Vertical Lift:**
  - Future Attack Reconnaissance Aircraft (FARA).
  - Future Attack Unmanned System (FUAS).
  - Future Long Range Assault Aircraft.
- **Air And Missile Defense:**
  - Maneuver Short-Range Air defense (M-SHORAD).
  - Indirect Fire Protection Capability (IFPC).
- **Soldier Lethality:**
  - Next Generation Squad Weapons – Automatic Rifle (NGSW-AR).
  - Next Generation Squad Weapons – Rifle (NGSW-R).

Figure 9. Examples of the Initiatives Grouped by Modernization Priority

Sources: Andrew Feickert and Brendan W. McGarry, *The Army’s Modernization Strategy: Congressional Oversight Considerations*, Congressional Research Service, 7 February 2020), 7.

<sup>207</sup> Feickert and McGarry, summary page.

<sup>208</sup> Ibid., 7.

To field the MDO-capable force with six priorities by 2035, the Army projected “\$57.3 billion in research, development, test, and evaluation (RDT&E) and procurement funding for programs related to its six modernization priorities over the Future Years Defense Program (FYDP) from FY2020 to FY2024.”<sup>209</sup> Also, the Army’s budget request for FY2020 regarding the six priorities is about \$8.9 billion.<sup>210</sup> These figures will only grow in the coming years, as it is natural that the Army would realign the funding ratio between the legacy programs and the modernization programs in a way that funding for the latter increases as the target year for the modernization nears. One must be reminded that the modernization budget of \$57.3 billion for the five year-span from FY2020 to FY2024, which is destined to only grow in the future, does not include other service modernization requirement costs, opportunity costs, or joint projects such as the Joint All Domain Command and Control (JADC2) system. Thus, when projected for 15 years from FY2020 to FY2035, with the 2020 FYDP (five-year budget) of \$57.3 billion, the pure total cost of the concept application needs to multiply 2020 FYDP by three and would be \$171.9 billion. This is the bare-minimum cost of application for the Army MDO concept until 2035, as the concept is in the process of constant evolution, and there is no joint MDO concept formulated yet.

### The Benefit of MDO Application

The first obvious benefit of the MDO application is the maximized deterrent effect, especially against North Korean hybrid warfare. North Korea’s war strategy of a

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<sup>209</sup> Feickert and McGarry, summary page.

<sup>210</sup> Ibid.

quick win against the South by utilizing hybrid warfare with disinformation, propaganda, cyber, Electro-Magnetic Pulse (EMP) bombs, and conventional capabilities cannot easily be mobilized if the ROK possesses the capabilities to penetrate, dis-integrate, and exploit the North Korean military with tenets of calibrated force posture, multi-domain formations, and convergence in case of armed conflict. Having the pre-dominance over all domains of the Korea Theater of Operations (KTO) by achieving the future capabilities will certainly put the ROK in a better position than North Korea, and this will contribute to deterring North Korean aggression.

The second benefit has to do with the enhancement of the interoperability between joint partners as well as multi-national partners, such as US troops in Korea. Previous joint operations focus heavily on the deconfliction of the operations within each services' boundaries. In his article, Jin-Hyun Song discusses how the establishment of the Forward Boundary (FB) line limits the fires and intelligence projection of the Army and Air Force and should thus be reconsidered as a coordination line with the advancement of technology and capabilities.<sup>211</sup> With the application of the MDO, this kind of service deconfliction-focused nature of operations will more than likely shift to service integration, especially if the tenet of convergence is properly applied. The enhancement of interoperability with multi-national partners, especially with the US military, is also a significant benefit to the ROK as the War-time Operational Control transition is underway in the near future. Without the interoperability in the application of the concept, the effectiveness of the ROK-US combined forces will diminish, and this may

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<sup>211</sup> 송진현, 24.

give North Korea a false signal that the alliance became weaker. By applying the concept, the effectiveness of the combined and joint operations will increase.

The third benefit of the concept application is that the ROK military can be adaptable to counter not only North Korean threats but also other unexpected external threats. In an address to West Point cadets in February 2011, then-Secretary of Defense Robert Gates emphasized the unpredictability of the next war by saying, “when it comes to predicting the nature and location of our next military engagements, since Vietnam, our record has been perfect. We have never once gotten it right.”<sup>212</sup> The nature of the next conflict with North Korea is not predictable, nor is the next opponent in the future. Thus, it is imperative that the ROK military develop the future war concept that provides maximum adaptability. The MDO concept, with targeting adversaries like great powers such as China and Russia, as well as other threats like Iran, North Korea, and unknown future threats, provides such adaptability and scalability both in competition and in an armed conflict.<sup>213</sup> Thus, the benefit of the concept application, if properly applied, will be adaptability and scalability to counter unknown future threats.

The fourth benefit of the concept application is the possible advancement of the defense industry. The MDO concept inherently requires various capabilities that do not exist at the moment: for example, capabilities to “visualize and command a battle in all domains, the Electro-Magnetic Spectrum (EMS), and the information environment and shift capabilities rapidly between domains and organizations to mass combat power

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<sup>212</sup> Feickert and McGarry, 5.

<sup>213</sup> TRADOC Pamphlet 525-3-1, 15.

against Chinese and Russian vulnerabilities;” the capabilities to “provide to the Joint Force Commander multi-domain formations and systems that can converge capabilities to attack specific vulnerabilities in Chinese and Russian multi-layered, mutually reinforcing military forces and systems;” and the resilient multi-domain formations with “systems, leaders, and Soldiers that are durable, can persist in a difficult operational environment.”<sup>214</sup> These requirements will inevitably force the defense industry into developing weapons and systems that necessitate the use of the most up-to-date technology such as AI, VR/AR, hypersonic, big-data, etc.

### The Cost & Benefit Analysis

Now one must compare the cost with the benefit and analyze if the benefit of the concept application exceeds the cost to prove the acceptability; however, the cost of the concept application, which is predominantly quantitative, cannot easily be compared with the benefits, which is largely qualitative. Going back to the definition of acceptability can provide clues on how to conduct the cost and benefit analysis in this case properly.

Yarger defined acceptability by asking the following question: “Are the consequences of cost justified by the importance of the effect desired?”<sup>215</sup> In other words, if one can justify the cost of the MDO concept application over the importance of the effect desired, the result would be considered acceptable. To justify the cost in this sense, the cost needs to be put into the context of the ROK defense budget, and the benefits need to be examined with the willingness of the decision-makers.

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<sup>214</sup> TRADOC Pamphlet 525-3-1, B-2.

<sup>215</sup> Yarger, 7.

The previously calculated total cost of the MDO concept application amounts to \$171.9. To place the amount in the ROK defense budget's context, one must first decide what the target year should be. Both the ROK Defense Reform 2.0 and the Army Vision 2030 set the target year as 2030, so setting 2030 as the reference would be logical. To simplify the annual cost, \$171.9 billion can be divided into the 10-year span from 2021 to 2030, which makes the minimum annual cost of \$17.19 billion to apply the MDO concept. The 2020 ROK defense budget is set at \$42.2 billion, 2.68 percent of the nation's GDP, making it the ninth largest country in the world in terms of the defense budget, just after Japan and Russia.<sup>216</sup> The total \$42.2 billion defense budget is divided into two main parts. First, the force improvement program, which consists of various R&D projects, procurement of future systems, and future weapons, and takes up about \$14.05 billion (33.3 percent). The second, force maintenance, which consists of personnel expenses, welfare, logistics support, etc., takes up about \$28.15 billion (66.7 percent).<sup>217</sup> Thus, to apply the MDO concept, the ROK would have to either purely add the cost of \$17.19 billion on top of the annual budget or replace the existing force improvement program with the MDO capabilities.

The first option of adding \$17.19 billion on top of the annual budget of \$42.2 billion would make the new total \$59.39, which is about a 40 percent increase from 2020. This amount will increase the GDP make-up of the budget from 2.68 percent to 3.77

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<sup>216</sup> The ROK Ministry of National Defense (MND), "Defense Budget," accessed 15 January 20, [http://mnd.go.kr/mbshome/mbs/mndEN/subview.jsp?id=mndEN\\_030900000000](http://mnd.go.kr/mbshome/mbs/mndEN/subview.jsp?id=mndEN_030900000000).

<sup>217</sup> Ibid.

percent. Considering the fact that the average defense budget increase each year from 2016 to 2020 was 6 percent and that the average GDP make-up of the defense budget for the five years was at 2.48 percent, the 40 percent increase and the 3.77 percent of the GDP make-up would likely sound too extreme for any national-level decision-makers.<sup>218</sup> The second option of replacing the existing force improvement program with MDO capabilities might also be difficult to persuade the decision-makers since it would be at the cost of losing previously pursued acquisitions. Meanwhile, although the benefits of the MDO concept application, such as deterrent effect, interoperability, adaptability, and advancing the defense industry are significant, the implementation of the concept is not the only way to get those benefits. If the MDO concept was the only way to assure those four benefits, the cost is justifiable because losing those four benefits then could mean war on the Korean Peninsula on the negative term. Therefore, the benefit of the concept application does not seem to justify fully the high cost.

#### The Acceptability Summary

Applying the MDO concept, as it is written in the Training and Doctrine Command (TRADOC) pamphlet, to the ROK military is not acceptable in countering North Korean hybrid warfare. Based primarily on the Army's six-modernization related 2020-2024 FYDP budget request, the total cost of the MDO concept application by 2035 can be calculated at a minimum of \$171.9 billion, even without considering other services' modernization budgets, joint command and control system budget, and other opportunity costs. Meanwhile, there are also major benefits for the ROK military to adopt

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<sup>218</sup> ROK MND "Defense Budget."



the MDO concept such as maximizing the deterrent effect against North Korean hybrid warfare, optimizing interoperability with joint and multi-national partners including US forces in Korea, increasing the adaptability and scalability of the joint force, and advancing defense industry capacities. While the benefits are absolutely crucial to achieving security and prosperity on the Korean Peninsula, which is one of the governance goals of the ROK, the cost of the concept application exceeds more than an acceptable range of the defense budget. Also, the MDO concept is not the only option for the ROK to generate those benefits. Thus, the overall acceptability is considered very low based on the cost-benefit analysis.

Are there any risks for the ROK military in applying the MDO concept?

Risk describes “the gap between what is to be achieved and the concepts and resources available to achieve the objective.”<sup>219</sup> Risk exists in any type of strategy since it is not possible to be 100 percent sufficient in resources and concepts to support the objectives; therefore, having a balance between the ends, ways, and means, thereby minimizing the risk, is critical in formulating a sound strategy.<sup>220</sup> An example of the importance of considering risk when formulating a future war concept can be found in the Soviet operations during 1944-45. With the Soviet strategic goals of defeating Germans and creating favorable post-war conditions and the means of Soviet military capabilities, applying the Deep Operation concept as “the way” initially posed many risks, one of which is related to overstretching line of communication. In mitigating the risks, Stalin,

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<sup>219</sup> Yarger, 6.

<sup>220</sup> Ibid.

advised by Khrulev, created the Soviet Armed Forces Rear Services, which controlled “vast logistic resources in the form of transport, supply stockpiles, and key services, as well as being able to speak with the authority of a deputy Commissar of Defense.”<sup>221</sup> The *Blitzkrieg* concept during 1940 and the Air-Land Battle concept during 1991 also posed several risks for the respective countries to apply as part of “the way;” however, the risks of the concept application were not unmitigable — both Germany and the United States had taken actions to minimize the risks of the concept application and succeeded in the war. Examining whether there are risks with the MDO concept application, therefore, is an important factor in deciding whether the concept is viable for the ROK.

The first risk of applying the MDO concept to the ROK military is unnecessary friction with other neighboring countries, such as China and Russia. Although the ROK aims to primarily counter North Korean hybrid warfare threats with the MDO concept, the US Army MDO concept explicitly seeks to “deter and defeat Chinese and Russian aggression in both competition and conflict.”<sup>222</sup> Thus, adopting the concept as it is might signal to China and Russia that the ROK is willing to be part of the US actions of neutralizing Chinese or Russian A2/AD systems against those countries, and it might create unnecessary friction with them. Nevertheless, it is possible to mitigate the risks by not blindly adopting the concept but optimizing in the Korean context, for operating in the multi-domain itself is not a new theme, and many countries, including the ROK, are

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<sup>221</sup> Krause and Philips, 297.

<sup>222</sup> TRADOC Pamphlet 525-3-1, vi.

already pursuing the effective operations in a multi-domain environment. Thus, formatting and reasoning within the concept need to mitigate the risk.

The second risk has to do with one of the baseline assumptions of the concept that “the Army will adjust to fiscal constraints and have resources sufficient to preserve the balance of readiness, force structure, and modernization.”<sup>223</sup> The MDO concept heavily relies on materiel or systems, such as LRPF, NGCV, FVL, AMD, SL, and Army network, which are not currently developed and need constant financial support to conduct R&D. When uncertainties occur, such as the COVID-19 pandemic that might impose budget limitations, the whole concept of MDO cannot be implemented, because the technologies and materiel essential for the concept cannot be fielded due to budget constraints. Furthermore, some of the technology may not be realized in the foreseeable future. In this case, the concept application can face significant limitations. The risk can be mitigated by maintaining the priorities among the initiatives so that when budget limitations arise, those with high priorities can continue to be processed.

The third risk is about the over-reliance on technology. It is important to note that “the units that become most effective at maximizing the capabilities of technological enablers can also become the most at-risk by their loss.”<sup>224</sup> For example, the MDO concept requires a network system that can be used by not only Army units but also joint and multi-national partners so that the cross-domain synergy can be maximized in the window of superiority. This type of network system, while enabling those types of

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<sup>223</sup> TRADOC Pamphlet 525-3-1, A-1.

<sup>224</sup> TRADOC Pamphlet 525-3-8, 73.

synergy effects, is also vulnerable to an adversary's concentrated attack or technical failure. Those communications failures are critical impediments in conducting the operations in a multi-domain environment, and they can even lead to friendly forces' defeats. To mitigate the risk, technologies and materiel need to be made strong enough to withstand such external attacks, and all units need to be able to apply the mission command approach throughout the operational process.

### Risk Summary

The MDO concept, as "ways," needs to be put into the strategic context of the ROK to examine the viability of the concept to the ROK military. The risk in this context seeks to find any imbalance between the strategic objectives of strong security and responsible defense, the ways of the MDO concept, and the means of the ROK military's current and future capabilities. The main three risks are unnecessary friction with neighboring countries, possible inconsistency in budget support, and the over-reliance on technologies. These risks, however, can be partially mitigated by applying the concept using the ROK's unique operational context and terms, setting priorities, adding sufficient protection measures in the materiel, and applying mission command approach for all units. By considering and taking mitigating measures on these risks, the concept application can be more realistic and valid.

## CHAPTER 5

### CONCLUSIONS AND RECOMMENDATIONS

#### Is the MDO concept viable for the ROK military to counter hybrid warfare?

In examining the MDO concept's viability for the ROK military to counter hybrid warfare, this study analyzed whether the concept soundly fits into the ROK's strategic context of ends, ways, and means. If the MDO is a viable future war concept to the ROK, the concept as "ways" should be able to contribute to making a valid security strategy for the ROK. The focused threat of North Korean hybrid warfare, in this study, narrowed the scope of security objectives and the range of resources to prevent this study from becoming too broad. Answering this primary research question first required answering the four subsidiary questions of suitability, feasibility, acceptability, and risk. Overall, in answering the primary question, adopting the MDO concept described in *The US Army in Multi-Domain Operations 2028* and *US Army Concept: Multi-Domain Combined Arms Operations at Echelons Above Brigade 2025-2045*, is not fully viable to the ROK military in countering North Korean hybrid warfare, mainly because of the low acceptability caused by excessive cost of some weapons systems that the ROK does not necessarily need to pursue its strategic objectives.

The future war concept of the MDO is suitable to the ROK military because the concept, in many ways, addresses the challenges that the ROK describes in its National Security Strategy and National Defense Strategy regarding North Korean hybrid warfare. Regarding the ROK National Security Strategy, the MDO concept can directly or indirectly contribute to accomplishing five of *One Hundred Policy Tasks* related to countering North Korean hybrid warfare: "strengthening capabilities to counter North

Korean asymmetric threats” (task number 85); “early wartime operational control transition based on strong ROK-US alliance” (task number 86); “robust push for defense industries under the fourth industrial revolution” (task number 87); “promoting defense industries under the fourth industrial revolution” (task number 88); and “improving working conditions and human rights for the soldiers” (task number 89).<sup>225</sup> Regarding the ROK Defense Strategy, the MDO concept can also support the six tenets of the national defense policy: countering “omnidirectional security threats,” “a mutually complementary and robust ROK-US alliance,” “firmly implementing defense reform,” “establishing a transparent and efficient national operation system,” “instilling a high morale culture,” and “building a foundation for a peace establishment.”<sup>226</sup>

The MDO concept is also feasible for the ROK military. The thesis discussed the five main focused areas of feasibility: organization, training, materiel, personnel, and leadership. As far as the organization is concerned, the ROK Army already has the EAB construct from army-level units to division-level units that the MDO concept requires, due to its constant focus on the LSCO against the North Korean military. Also, units of different domains already exist, so combining them to formulate a MDTF is possible if the decision-makers decide on it. As for the training, the ROK also has training platforms, such as KCTC, BCTP, VR/AR training systems, and joint and combined exercises that can be adjusted and extended to train in MDO. In terms of materiel, the ROK possesses materiel or the technology to develop materiel that can fulfill the

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<sup>225</sup> 대한민국 정부, 3.

<sup>226</sup> ROK MND, *2018 Korea Defense White Paper*, 44.

capabilities the MDO requires as the ROK envisions in the Army Vision 2030. Those capabilities are: a command and control system that enables commanders and staffs to “visualize and command a battle in all domains, the EMS, and the information environment;” weapons and equipment that “can converge capabilities to attack specific vulnerabilities” of the adversary; and systems that provide protection and sustainability to the forces so that the forces “can persist in a difficult operational environment” and “are able to conduct independent maneuver and employ cross-domain fires.”<sup>227</sup> For the personnel and leadership, the ROK maintains a high level of leadership and personnel quality, and it also pursues further development of its personnel and leaders, as stated in the Army Vision 2030.

The MDO concept, however, is not acceptable to the ROK military due to the mismatch in the cost-benefit analysis. The concept necessitates the development of the Army’s six modernization priorities: LRPF, NGCV, FVL, Army network, AMD, SL.<sup>228</sup> The Congressional Research Service’s report on the Army Modernization Strategy states that the Army needs those six priorities in order to become a fully MDO-capable force by 2035.<sup>229</sup> The total budget to acquire those six priorities is not publicly announced; however, one can deduce the total amount from the US Army 2020-2024 FYDP of \$57.3 billion for the six priorities, which can be calculated as the minimum total of \$171.9

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<sup>227</sup> TRADOC Pamphlet 525-3-1, B-2.

<sup>228</sup> *Ibid.*, B-1.

<sup>229</sup> Feickert and McGarry, 1.

billion for the 15 years until 2035.<sup>230</sup> This budget, even without considering the inevitable increase, other services modernization budget related to the MDO, joint command and control system budget, and other opportunity costs, already exceeds the acceptable range of the ROK defense budgets when calculated into the annual budget until 2030, the target year for the Defense Reform 2.0 and Army Vision 2030. The benefits of the MDO application, such as maximizing the deterrent effect against North Korean hybrid warfare; optimizing interoperability with joint and multi-national partners, including the US forces in Korea; increasing the adaptability and scalability of the joint force; and advancing defense industry capacities can be achieved through other means as well. This cost-benefit analysis altogether makes the acceptability of the concept too low to apply to the ROK military as it is.

There are some risks, as any imbalance between the ends, ways, and means of a strategy, in applying the MDO concept to the ROK military. Those risks are three-fold: first, unnecessary friction with neighboring countries, because the US MDO concept specifically intends to counter China and Russia's capabilities while the ROK is primarily focused on the North Korean ones; second, possible inconsistency in budget support, which can strand the required capabilities for the development process thereby leading to failure in the MDO concept application; and third, the over-reliance on technologies which can make the systems vulnerable to the adversary's concentrated attack. These risks, however, are not unmitigable and can be overcome if the ROK applies appropriate mitigating measures when adopting the concept.

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<sup>230</sup> Feickert and McGarry, summary page.



The MDO concept, as described in two TRADOC pamphlets, is not fully viable to the ROK military in countering North Korean hybrid warfare, and therefore, the ROK military should not adopt the concept as it is. The ROK military may not need all the capabilities that the MDO describe to “prevail in competition” and “to penetrate and dis-integrate enemy anti-access and area denial systems and exploit the resultant freedom of maneuver to achieve strategic objectives and force a return to competition on favorable terms” to achieve the strategic objectives to counter the threats.<sup>231</sup> Nevertheless, the ROK is already pursuing optimizing combat power through the synergy of multiple domains, and there are lessons and implications from the MDO concept that the ROK can take away in formulating its future war concepts. Taking those implications, which this thesis will address in the later portion, to the future war concept can significantly strengthen the capabilities to counter North Korean hybrid warfare.

### Counter Arguments

This thesis concludes that the MDO concept is suitable and feasible, but not acceptable; therefore, the concept is not fully viable to the ROK military in countering North Korean hybrid warfare. It is important to address other possible answers so that the counter-points to this thesis can be examined as well. There may be three types of counter-arguments against this thesis especially regarding the answers to subsidiary and primary questions. First, some may say that the MDO concept is not suitable to the ROK military. Second, some might argue that the MDO concept is not feasible to the ROK military. Third, some could say that the MDO concept can be acceptable to the ROK

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<sup>231</sup> TRADOC Pamphlet 525-3-1, vii.

military. Speculating about these counter-points will provide readers with a balanced view of the issue.

The first possible counter-argument is that the MDO concept is not suitable to the ROK at all, because the MDO concept was created in accordance with the US national strategy “to deter and defeat Chinese and Russian aggression in both competition and conflict.”<sup>232</sup> Before answering the counter-argument, the definition of suitability needs to be reminded. Suitability, in Yarger’s definition, is “the degree of accomplishing the effect desired when the concept is attained.”<sup>233</sup> In an analysis of suitability in the previous chapter, this thesis discussed that the MDO concept with tenets of calibrated force posture, multi-domain formations, and convergence could, directly and indirectly, contribute to aspects of the ROK National Security Strategy and the National Defense Strategy. By attaining the concept, the ROK can accomplish the effect desired as stated in both the Security Strategy and the Defense Strategy. This may be the case because the types of North Korean military capabilities largely overlap with those of Russia and China, though the scale may vary greatly. Thus, the suitability is not about the proclamation; it is about the possibility of gaining the desired effects, which makes the counter-argument an incoherent statement.

The second possible counter-argument is that the MDO concept is not feasible to the ROK military because the ROK does not have a sufficient defense budget like the United States to support necessary technological developments. The feasibility, in

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<sup>232</sup> TRADOC Pamphlet 525-3-1, vi.

<sup>233</sup> Yarger, 7.

Yarger’s definition, is “the possibility of applying the concept with means available.”<sup>234</sup> The ROK’s 2020 defense budget is at \$42.2 billion and ranked the world’s ninth largest defense budget, just after Japan and Russia.<sup>235</sup> Meanwhile, the FY2020 request for the US Army’s six modernization priorities, which take up the most expensive part of realizing the MDO concept, is \$8.9 billion, though it is presumed that the budget will go up in the future.<sup>236</sup> Also, the ROK military has organizations, training platforms, materiel, personnel, and leadership that can be extended to enable MDO application. Thus, it is possible for the ROK to apply the MDO concept with means available within the country. Therefore, investing in the MDO application is a matter of choice, rather than a possibility, which makes the counter-argument invalid.

The third possible counter-argument is that the MDO concept can be acceptable to the ROK military because the benefits of maximizing the deterrent effect against North Korean hybrid warfare, optimizing interoperability with joint and multi-national partners including the US forces in Korea, increasing the adaptability and scalability of the joint force, and advancing defense industry capacities exceeds the estimated concept application cost of \$171.9 billion by far. Yarger defines acceptability as “justifiability of the cost for applying the concept against the benefits of effects desired.”<sup>237</sup> In the acceptability analysis in Chapter 4, this thesis estimated that it would cost the ROK at

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<sup>234</sup> Yarger, 7.

<sup>235</sup> ROK MND “Defense Budget.”

<sup>236</sup> Feickert and McGarry, summary page.

<sup>237</sup> Yarger, 7.

least an additional \$17.19 billion on top of the current budget, which triggers the 40 percent increase of the budget as well as the GDP make-up ratio change from 2.68 percent to 3.77 percent. Considering the fact that the average increases each year in recent five years was 6 percent and the average GDP make-up of defense budget was 2.48 percent, one can easily understand those figures to apply the MDO concept is extreme.<sup>238</sup> Surely the four benefits of the MDO application can be more important than the cost if the MDO concept application is the only way to achieve those benefits, which it is not. Thus, the cost of applying the concept is not justifiable against the benefits of effects desired, which makes the counter-argument invalid.

Depending on the take-away from the three counter-arguments, some might conclude that the MDO concept is viable to the ROK military to counter North Korean hybrid warfare. This would mean that the MDO concept described in the two US TRADOC pamphlets is suitable, feasible, and acceptable to the ROK military and that the ROK should blindly adopt the concept without considering the strategic and operational context of the Korean Peninsula. The MDO concept, when properly applied, would certainly provide adaptability and critical advantage against any type of adversaries; however, in the case of the ROK, there are some aspects or capabilities that are not essential to meet the ROK strategic objectives. Thus, adjustments to the concept are required to reflect the ROK security context to make the concept viable to the ROK military.

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<sup>238</sup> ROK MND “Defense Budget.”

## Recommendations for Decision Makers

### The ROK

First, the ROK should continue pursuing effective operations in multiple domains to create cross-domain synergy by revising and developing doctrine, organization, training, materiel, personnel, and leadership in the ROK's own way. Although the ROK may not need capabilities to operate expeditionary forces and penetrate the A2/AD system to support the strategic objectives, all other capabilities and concepts described in the MDO concept are certainly useful to deter and defeat North Korean threats and adapt to any other unknown future threats. Also, many countries and US services other than the Army, though they may have disagreements in the MDO concept, pursue war concepts that necessitate operating in a variety of domains with a different approach.<sup>239</sup> With recent technological developments and the evolution of North Korean capabilities in different domains, it is inevitable to operate in multiple domains in future war. Mastering how to optimize combat power in different domains will be the key to winning the war.

Second, the ROK should invest in the joint/combined network system that can be compatible with different services and multi-national partners, especially the US troops in Korea and possibly the inter-agency partners, to visualize the battlefield and communicate with each other. The interoperability of services and multi-national partners is essential to achieving the maximum level of cross-synergy effect, because different services and different multi-national partners have different capabilities across the domains. The core of interoperability is the common network that can visualize and

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<sup>239</sup> Feickert and McGarry, 6.

communicate together. In addition, there need to be robust protection measures in the network, as this will undoubtedly be the target of the adversary to prevent friendly forces from conducting effective operations. This can be complicated since issues with protection, security clearance level, bandwidth, and coverage need to be resolved; however, without the compatible network, operating in multiple domains with synergy is almost impossible.

Third, the ROK should engage in combined exercises and discussions relating to operating in multiple domains. The MDO concept is not yet a joint concept in the United States, and the concept is continuously evolving. According to Air Force General John Hyten, the Vice-Chairman of the US Joint Chiefs, the US Secretary of Defense Mark Esper “ordered the four services and the Joint Staff last fall to create a new Joint Warfighting Concept for All-Domain Operations by December.”<sup>240</sup> To refine the MDO concept, the US Army has been conducting multiple joint and combined exercises with the MDTF with joint and multi-national partners such as Japanese forces in the INDO-PACOM area.<sup>241</sup> Also, no country seems to have figured out how to effectively optimize the operations in multiple domains, not to mention that there are disagreements on what to include in the domains. In this evolving stage, it is therefore essential for the ROK to

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<sup>240</sup> Colin Clark, “Gen. Hyten on the New American Way of War: All-Domain Operations,” *Breaking Defense*, 18 February 2020, <https://breakingdefense.com/2020/02/gen-hyten-on-the-new-american-way-of-war-all-domain-operations>.

<sup>241</sup> Sean Kimmons, “Army to build three Multi-Domain Task Forces using lessons from the pilot,” *Army News Service*, 15 October 2019, [https://www.army.mil/article/228393/army\\_to\\_build\\_three\\_multi\\_domain\\_task\\_forces\\_using\\_lessons\\_from\\_pilot](https://www.army.mil/article/228393/army_to_build_three_multi_domain_task_forces_using_lessons_from_pilot).

engage in those exercises and discussions with the United States and other partners so that the ROK can refine its concept, contribute to improving the interoperability, and enhance its capabilities in operating in a multi-domain environment. Experimenting with multi-domain approaches to counter the North Korean threats during regular ROK-US combined exercises can be an option as well.

### The United States

First, the United States needs to initiate a discussion on the MDO concept, or joint all-domain concept—whatever the name may be—with allies immediately after the joint war concept develops. The current MDO concept assumes that there will be “sufficient interoperability between Services, government agencies, and allies to conduct combined operations that deter and defeat adversaries.”<sup>242</sup> Also, the concept requires the capabilities “to build partners’ capacities and capabilities” to apply the MDO concept.<sup>243</sup> Thus, interoperability with allied nations is critical for the United States to operate in their respective area of operations. Nevertheless, each country has different cycles of deciding on what the future war concept would be and what materiel need to be the priority in different period. It is critical that the United States, if the country means to improve interoperability, initiates the discussion on the MDO concept among the allies, including the ROK, so that each nation may have time to adjust to their cycle of decision making. Otherwise, the assumptions and requirements in the MDO concept will not be valid.

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<sup>242</sup> TRADOC Pamphlet 525-3-1, A-1.

<sup>243</sup> Ibid., B-1.

Secondly, the United States needs to invest in a network system that is compatible with multi-national partners. Army Network, as part of the six modernization priorities, can be part of the answer to that effort. The Army Network's third line of effort is "joint interoperability and coalition accessible," so that the Army can communicate with joint and coalition partners; however, the Army did not list any budget for the third line of effort for 2020 FYDP.<sup>244</sup> The core of interoperability is the common network that can visualize and communicate together. Without the compatible network, operating in multiple domains with synergy is almost impossible. It is, therefore, important that the United States invests in this network if the country is to improve its interoperability.

Third, the United States should extend the multi-domain exercises to include allies and coalition nations that have the possibility of fighting together in a future war based on the threat priorities. At this evolving stage of the multi-domain approach to operations, it is critical to experiment with multiple scenarios and take lessons to improve the capabilities and interoperability. Exercises focused on China and Russia are surely priorities for the United States; however, exercises focused on other threats mentioned in the MDO concept, such as Iran and North Korea, are equally important because countries do not always get the war they want. Experimenting with the multi-domain approach to counter North Korean threats during regular ROK-US combined exercises can be an option as well. Using these kinds of exercises, various lessons can be learned and applied to the future development of the concept and doctrines.

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<sup>244</sup> Pomerleau and Gruss, 1.



### Possible Future Studies

One possible future study is about countering hybrid threats. This thesis mainly focused on the MDO concept viability in countering North Korean hybrid warfare, which refers to “the challenge presented by the increasing complexity of armed conflict, where adversaries may combine types of warfare plus nonmilitary means to neutralize conventional military power.”<sup>245</sup> This is the center of the North Korean military strategy during armed-conflict, as discussed in Chapter 1. North Korea also poses hybrid threats, meaning “a wide range of nonviolent means to target vulnerabilities across the whole of society to undermine the functioning, unity, or will of their targets, while degrading and subverting the status quo,” although the scale may be different from that of Russia or China.<sup>246</sup> Therefore, it would be meaningful to examine the viability of the MDO concept to counter hybrid threats below the threshold of armed conflict.

Another area of possible future study will be testing the viability of any future war concept to a particular country using a similar methodology as this thesis. This thesis mainly examines the viability of the MDO concept to the ROK military in countering North Korean hybrid warfare; however, the methodology of exploring the future war concept can be applied to any future war concepts against any country. That is possible because the framework of suitability, feasibility, acceptability, and risk can fundamentally test any type of concept as ways against given ends and means of countries in the respective strategic situations.

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<sup>245</sup> Monaghan, 87

<sup>246</sup> Ibid.

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