

THE U.S. ARMORED BRIGADE COMBAT TEAM VERSUS CURRENT
HYBRID THREAT: HOW SHOULD THE U.S. ABCT BE ORGANIZED
AND EQUIPPED TO ADDRESS THE CURRENT HYBRID THREAT

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MASTER OF MILITARY ART AND SCIENCE
General Studies

by

SERHII SOBKO, LIEUTENANT COLONEL, UKRAINIAN ARMY
Baccalaureate, Odessa Land Forces Institute, Odessa, Ukraine, 2005

Fort Leavenworth, Kansas
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Approved by:

_____, Thesis Committee Chair
Michael T. Chychota, MBA

_____, Member
Donald P. Wright, Ph.D.

_____, Member
Mark, R. Wilcox, M.A.

Accepted this 9th day of June 2017 by:

_____, Director, Graduate Degree Programs
Prisco R. Hernandez, Ph.D.

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 U.S. ARMORED BRIGADE COMBAT TEAM VERSUS CURRENT HYBRID THREAT: HOW SHOULD THE U.S. ABCT BE ORGANIZED AND EQUIPPED TO ADDRESS THE CURRENT HYBRID THREAT, LTC Serhii Sobko, 147 pages.

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The research plan used is a qualitative approach that included analysis of available documents and studying the separate but similar cases of Israel fighting Hezbollah in Lebanon in 2006 and Ukraine fighting pro-Russian separatists in Eastern Ukraine.

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ACRONYMS

ABCT	Armored Brigade Combat Team
ADRP	Army Doctrine Reference Publication
ATGM	Antitank Guided Missile
BSB	Brigade Support Battalion
BSTB	Brigade Special Troops Battalion
C2	Command and Control
C4I	Command, Control, Communications, Computers, and Intelligence
CBRN	Chemical Biological Radiological and Nuclear
COIN	Counterinsurgency
DOTM	Doctrine, Organization, Training, and Materiel
DOTMLPF	Doctrine, organization, training, materiel, leadership and education, personnel, and facilities
DVE	Driver's Vision Enhancement
EBO	Effects-Based Operations
FM	Field Manual
GPS	Global Positioning System
HIC	High-Intensity Conflict
HT	Hybrid Threat
IAF	Israel Air Forces
IDF	Israel Defense Forces
LIC	Low-Intensity Conflict
RPG	Rocket Propelled Grenade-Soviet Shoulder-Fired Antitank Grenade Launcher
SA	Situational Awareness

SOD	Systemic Operational Design
TC	Training Circular
UAF	Ukrainian Armed Forces
UAV	Unmanned Aerial Vehicle
ULO	Unified Land Operations
U.S.	United States

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CHAPTER 1

INTRODUCTION

The U.S. Army provides readily available and trained regionally aligned and globally responsive forces to prevent conflict, shape the security environment, and win wars. Army forces maintain proficiency in the fundamentals of decisive action and possess capabilities to meet specific geographic combatant command requests. Regionally aligned forces provide combatant commanders with an Army headquarters tailored to missions from tactical level to joint task force capable. The brigade combat team shapes the security environment and wins across the range of military operations.

— Field Manual 3-96, *Brigade Combat Team*, 2015

The purpose of the study is to determine whether the (United States) U.S. Armored Brigade Combat Team (ABCT) is organized correctly and equipped appropriately to address effectively the current Hybrid Threat (HT) as defined in the current U.S. Army's references, Training Circular (TC) 7-100 *Hybrid Threat* and Army Doctrine Reference Publication (ADRP) 3-0 *Operations*.

The U.S. combat forces can expect to encounter HTs throughout the entire range of military operations; from Peace Operations across the spectrum of conflict to Total War. Today's operational environment can be characterized as a composite of regular and irregular, legal and illegal, moral and immoral, and backhanded or deceitful. A possible, and probable, enemy also would be a formless and extremely adaptable formation, staying away from U.S. overwhelming strengths and seeking to strike at weaknesses in the forces.¹ For example, modern technological innovation, such as Global Positioning System (GPS) satellites, have reinforced U.S. forces capabilities, but at the same time, the

¹ Joint Irregular Warfare Center, *Irregular Adversaries and Hybrid Threats* (Ft Leavenworth, KS: Combined Arms Center, 2011), 33.

satellites have induced new vulnerabilities. With the help of GPS technology, the United States Army has improved navigation and targeting systems, but at the same time, these improved systems are susceptible to jamming and deception, which seriously degrades successful mission accomplishment. The crux of the issue is that a HT may employ a variety of equipment and methods to influence opponents.² This high level and variety of capabilities requires the associated development of adaptable and balanced capabilities that enables U.S. forces to confront this HT.³

Recent world conflicts and military operations show that the HT is increasingly common. The current fighting in Ukraine is a vivid example of how the Ukrainian Armed Forces (UAF) fight against an enemy consisting of a combination of regular and irregular forces with the inclusion of criminal elements.⁴ This conflict has seriously stressed the Ukrainian Army and forced the Ukrainian Army to make substantial changes in order to be effective.⁵ The U.S. Army may face similar significant challenges combating and defeating a similar, if not identical, HT.

In recent decades, the United States have prepared for and fought mainly in counterinsurgency (COIN) operations, defeating opponents who did not have the

² Ibid., 28.

³ Ibid., 33.

⁴ Public Policy Portal, “Capabilities of Pro-Russian Separatists,” accessed December 12, 2016, <http://www.depo.ua/ukr/war/anatomya-putinskih-gibridiv-yak-voyuyut-okupanti-na-donbasi-17072016100000>.

⁵ Vyacheslav Shramovych, “How Ukrainian Army has Changed?” *BBC Ukrainian*, accessed 21 April 2017, <http://www.bbc.com/ukrainian/features-39620362>.

sophisticated capabilities that a current HT would employ.⁶ That is why objectively assessing the readiness of the U.S. Army's ABCT to wage war against a hybrid adversary is extremely important. The problem is insufficient assessment of the U.S. Army's ABCT organization and equipment in order to answer the question of whether the U.S. Army can successfully counter the HT or whether the U.S. Army still needs to learn more, adapt, and change.

Research Question

The primary research question is: How should the U.S. ABCT be organized and equipped to address the current HT?

To answer the primary question, seven secondary questions were used. The questions are:

1. What is a HT?
2. What are the common characteristics of the HT facing the armies of Ukraine and Israel?
3. What changes have the armies of Ukraine and Israel made in terms of organization and equipment to address effectively the associated HT?
4. What capabilities does a U.S. Army unit need to counter the HT?
5. What is the organization of a U.S. Army ABCT?
6. What equipment does the ABCT have?

⁶ Joint Irregular Warfare Center, *Irregular Adversaries and Hybrid Threats*, 2.

7. What changes, as indicated by the threat facing the armies of Ukraine and Israel, does the U.S. ABCT need to make in terms of organization and equipment to address effectively the current associated HT?

I intend to answer my research questions by following the qualitative analysis method and focus on analyzing available documents while studying the separate but similar cases of Israel fighting Hezbollah in Lebanon and Ukraine fighting Russia in Crimea and Eastern Ukraine. Of special note, I will analyze the observations of Lieutenant-General Zabrodskiy, currently Commanding General of Highly Mobile Airborne force of Ukraine. He was the 95th Airborne Brigade commander in 2014 in the UAF during the major operations against the pro-Russian separatists.⁷

Assumptions

These relevant conditions will remain the same for the foreseeable future:

The ABCT's organizations and equipment will not change significantly.

Near future technological innovations will not significantly alter either the HT's capabilities or U.S. Army vulnerabilities.

Definition of Terms the Reader must know to Understand this Paper

Military terms that would not be understood by a general reader include:

Guerrilla: Is "a combat participant in guerrilla warfare."⁸

⁷ Dr. Phillip A. Karber, "Lessons Learned from the Russo-Ukrainian War: Personal Observations" (Historical Lessons Learned Workshop Sponsored by John Hopkins Applied Physics Laboratory and U.S. Army Capabilities Center (ARCIC), 6 July 2015), 35.

⁸ Department of the Army, TC 7-100, *Hybrid Threat* (Washington, DC: Government Printing Office, November 2010), 2-5.

Guerrilla Warfare: Is “military and paramilitary operations conducted in an enemy-held or hostile territory by irregular, predominantly indigenous forces.”⁹

Hybrid Threat (HT): “is the diverse and dynamic combination of regular forces, irregular forces, and/or criminal elements all unified to achieve mutually benefitting effects.”¹⁰

Insurgency: Is “the organized use of subversion and violence by a group or movement that seeks to overthrow or force the change of a governing authority.”¹¹

Irregular Warfare: Is a “violent struggle among state and non-state actors for legitimacy and influence over the relevant population(s). Irregular warfare favors indirect and asymmetric approaches, though it may employ the full range of military and other capabilities, in order to erode an adversary’s power, influence, and will.”¹²

Terrorist: Is “an individual who commits an act or acts of violence or threatens violence in pursuit of political, religious, or ideological objectives.”¹³

Unconventional Adversaries: Enemy Combatant as “in general, a person engaged in hostilities against the United States or its coalition partners during an armed conflict”¹⁴ who does not adhere to conventional doctrine.

⁹ Ibid.

¹⁰ Department of the Army, TC 7-100, *Hybrid Threat*, V.

¹¹ Ibid., 2-5.

¹² U.S. Army TRADOC, TRADOC G2 Handbook No 1.08, *Irregular Forces* (Fort Leavenworth, KS: Government Printing Office, December 2010), xi.

¹³ Department of the Army. TC 7-100, *Hybrid Threat*, 2-6.

¹⁴ Ibid., 2-3.

This study will limit the analysis to the Israel-Hezbollah Conflict and the Ukraine-Russia Conflict and how the parameters of those conflicts inform an assessment of the effectiveness of the organization and equipment of the current U.S. Army ABCT as described in Table of Organization and Equipment (TO&E)

Limitations

Availability and Access to Information—Data

The phenomenon of hybrid war is not a revolutionary concept.¹⁵ From ancient and recent history, there are many examples of conflicts pitting a HT against a conventional army.¹⁶ However, with the passage of time and the development of modern technology the concepts and capabilities of a hybrid enemy have evolved and therefore become more dangerous and even more difficult to detect.¹⁷ Today, libraries and databases have a multiplicity of sources relating to the modern hybrid wars. A relatively sufficient quantity of open access information can be found concerning the conflict between Israel and Hezbollah. However, there is little information in open sources about the composition of IDF's brigades. Much less information can be found concerning the conflict in eastern Ukraine with the Russians and the Russian proxy organizations. This relative lack of information is due primarily to the fact that the conflict started recently and is still ongoing. Much more information can be found in different Ukrainian military sources, but unfortunately the sources are classified for internal Ukrainian use only. This study

¹⁵ U.S. Army TRADOC, Handbook No 1.08, *Irregular Forces*, 1-6.

¹⁶ Department of the Army. TC 7-100, *Hybrid Threat*, 1-1.

¹⁷ *Ibid.*, 1-2.

will be carried out using only readily available, unclassified public (open) access sources. Additionally, the key limitation of this study is that analysis of the U.S. ABCT relies solely on doctrinal references, because there is a lack of information in open sources in terms of the ABCT's combat experience and training in the National Training Centers.

Possible Investigator bias due to previous Experience with the Model

The researcher has direct experience during his army career. Before attending the U.S. Command and General Staff College, he served in an infantry unit fighting against a HT in Eastern Ukraine. His service in the Ukrainian Army from 2014 to 2016 enabled him to observe and analyze the Russian sponsored HT on a daily and extremely personal perspective. Nevertheless, the use of data based on personal experience will be minimized.

Scope and Delimitations

This research is focused on the study of the organization and equipment of the U.S. ABCT. In order to study the experience of warfare against HTs, two significant case studies will be reviewed. One deals with the conflict between Hezbollah and Israel Defense Forces (IDF) in Israel and Lebanon. The second deals with the conflict between Ukraine and Russia in eastern Ukraine. Focus areas include: the organizational and readiness states of Israeli and Ukrainian units (armored and mechanized) during the conflicts (organization and equipment) and the characteristics of the HTs (Hezbollah, separatists supported by Russia and Russian troops). This research is based on unclassified information in order to present an analysis useful to the largest number of

people. In order to present the resulting findings, the information and research cutoff date for this research is 1 March 2017.

Significance of Study

For the last 10 years, the U.S. armed forces have been mainly concentrated on COIN operations.¹⁸ Recent events in Ukraine demonstrate that the United States must prepare to participate in a new type of warfare, so-called hybrid wars, which include a wide range of direct combat operations and covert operations carried out by the armed forces, guerrilla (non-military) formations and incorporating the effect of different civilian components.¹⁹ This research is significant to the military profession because the research evaluates the ability of the U.S. ABCT to counter the HT. This research also describes common characteristics of the current HT which is also valuable for U.S. officers. The research results could be used to improve military practices and effectiveness of the ABCT, for example changing or improving organizational structure and equipment. Knowing the answer to the research questions, military organizations are better able to prepare for countering a potential HT.

On a personal level, soon after the completion of this research project I likely will serve in a key leadership role in a mechanized formation conducting missions against the Russian sponsored HT in Donbas, Ukraine. Individually this topic will inform me and prepare me effectively for this assignment.

¹⁸ Joint Irregular Warfare Center, *Irregular Adversaries and Hybrid Threats*, 2.

¹⁹ Ibid., 21.

Summary and Conclusions

This chapter provided an introduction to and the background of the problem of assessing the U.S. Army's ABCT organization and equipment to successfully counter the HT. This problem is important because in the recent past, the United States has trained to fight and has fought against mainly opponents lacking the sophisticated capabilities that a current HT may use.²⁰ Therefore, objectively assessing the readiness of the U.S. Army's ABCT to wage war against a current, advanced hybrid adversary is important. The primary research question is: How should the U.S. ABCT be organized and equipped to address the current HT? Understanding the current knowledge on the subject is essential and will be presented in next part of the thesis. Chapter 2 is a review of literature relating to the primary and secondary research questions for this research.

²⁰ Joint Irregular Warfare Center, *Irregular Adversaries and Hybrid Threats*, 2.

CHAPTER 2

LITERATURE REVIEW

Increasingly, the dominant mode of conflict in the world will not be force-on-force state sponsored military engagements guided by traditional principles of warfare. Increasingly, ‘conflict’ will be something vaguer, something more interdisciplinary, something having more to do with psychology and identity than having to do with military forces. To be very clear: the form warfare takes still could extend into state-on-state conflict, but the form of warfare could also include terrorism, insurgency, information war, and much more.

— Michael J. Mazarr, “Extremism, Terror
and the Future of Conflict”

Introduction

The purpose of the study is to determine whether the U.S. ABCT is organized correctly and equipped appropriately to address effectively the current HT as defined in the current U.S. Army’s references, TC 7-100 *Hybrid Threat* and ADRP 3-0 *Operations*.

The purpose of chapter 2 is to summarize and evaluate briefly the extant literature on the topic. In addition, this part of the study identifies patterns and detects gaps in the current literature, which this research will attempt to fill.

This chapter includes four sections. The first section reviews the U.S. Army doctrine that considers all aspects relating the HT and the U.S. ABCT characteristics, capabilities, and its employment. The second section recapitulates the literature that defines and describes the HT and hybrid warfare, outlines the strategy, operations, and tactics of the HT, and discusses the manner in which such threats may organize and operate to fight U.S. forces. The third section sums up the studies that were carried out to explore the relatively recent experience of Israel in fighting against Hezbollah and to learn the role of IDF armored units in defeating the HT. The fourth section examines and

assesses the literature, which provides data analysis on the Ukrainian-Russian conflict in the Donbas region, Eastern Ukraine.

U.S. Army Doctrine Summary

In order to establish the foundational doctrinal construct, the study is based on the following key doctrinal references:

ADRP 3-0 Operations

Field Manual (FM) 3-96 Brigade Combat Team

TC 7-100 Hybrid Threat

TC 7-100.4 Hybrid Threat Force Structure Organization Guide

U.S. Army TRADOC G2 Handbook No. 1.08 Irregular Forces

ADRP 3-0, Operations (November 2016) is the central document, that “shapes all Army doctrine and influences the Army’s organization, training, material, leadership, education, and soldier concerns.”²¹ *ADRP 3-0* guides the Army’s forces contribution to unified action. This publication discusses operations with consideration of foundations, tenets, and doctrine of Unified Land Operations (ULO), which serves as the primary framework for all operations. *ADRP 3-0* provides a general view on the nature of warfare and a common guidance for resolving military problems and discusses how the Army conducts military operations across numerous domains. It should also be noted that *ADRP 3-0* discusses the interactions of operations with operational environments and gives an overview of the threats that exist within an operational environment, including

²¹ Department of the Army, *Army Doctrine Reference Publication (ADRP) 3-0, Operations* (Washington, DC: Government Printing Office, November 2016), v.

the HT. ADRP 3-0 is comprehensive and provides adequate understanding. This publication is important because the primary research question is directly related to the U.S. ABCT capabilities against a current hybrid threat while conducting ULO.

The U.S. ABCT is one of the objects of the research. FM 3-96, *Brigade Combat Team* (October 2015) describes relationships, organizational roles and functions, and responsibilities within the ABCT. This manual discusses the tactics and employment of brigade forces during the conduct of decisive action across the range of military operations. FM 3-96 focuses on tasks associated with the offense, the defense, and stability operations. FM 3-96 is comprehensive, however, not complete. This publication does not outline capabilities and limitations of the different Brigade Combat Teams. In the study, this publication will facilitate the analysis of the ABCT capabilities to address the HT across an operational environment.

Training Circular 7-100 *Hybrid Threat* (November 2010) describes a category of threats and actions that do not fall under the definition of conventional and unconventional war. This publication focuses on HTs that are simultaneous combinations of various types of activities by enemies and adversaries that change and adapt over time.²² TC 7-100 “summarizes the manner in which future threats operationally organize to fight the U.S.”²³ In addition, it also considers the strategy, operations, tactics, and organizations of the HT, which represents such forces in training exercises.²⁴ This

²² Department of the Army, TC 7-100, *Hybrid Threat*, v.

²³ Ibid.

²⁴ Ibid.

training circular does not explain in detail a HT's tactics during more traditional, major offensive and defensive actions against regular military forces. The expanded, detailed examples of HT tactics represented in chapter 5 of TC 7-100, does not explain how HT utilizes armored units. Thus, this publication presents a somewhat incomplete view of the HT, presenting it as consisting mainly of light units.

Training Circular 7-100.4 *Hybrid Threat Force Structure Organization Guide* (June 2015) describes the HT for the purpose of training U.S. forces for future potential combat operations. This publication focuses on Threat doctrine regarding organization (HT force structure on strategic, operational, and tactical level) and training-related issues from a U.S. perspective. TC 7-100.4 is a confusing document with an abundance of too detailed, unnecessary, and overwhelming information and a multitude of contradictions. For example, the title of publication is *Hybrid Threat Force Structure Organization Guide*, but later the title used is *Threat Force Structure Organization Guide*. This training circular is a singular one in a series designed to be used for training and, as such, is not descriptive of an actual HT. This TC outlines what could constitute a HT and, as such, covers the entire spectrum of conventional and irregular capabilities. Some capabilities such as naval, airborne, aerial, or space are more suited to conventional forces, not what we typically think as hybrid. The manual also shows unclear structures at the tactical level. For example, in chapter 2, maneuver brigades and battalions do not have artillery and mortar units. The opposite is true in chapter 3. In addition, the worldwide equipment guide represented in chapter 4 is very poor, lacking completeness and details necessary for understanding. In conclusion, TC 7-100.4 should be edited and updated to reflect the most recent information available concerning the HT.

United States Army TRADOC G2 Handbook No. 1.08 *Irregular Forces*

(December 2010) discusses the diverse capabilities of irregular forces such as operational reach, operational design and models, training, recruitment, leadership, weapons, material support, ideology in the complex conditions of modern warfare. This handbook is complete and comprehensive in terms of understanding Irregular Forces.

Training Circular 7-100, TC 7-100.4, and U.S. Army TRADOC G2 Handbook No. 1.08 are useful for the research because they provide a better situational awareness (SA) knowledge, understanding of current irregular forces and HT, and the way the HT will fight today and in near future. In summary, HTs combine such properties as innovation, adaptability, global interconnectedness, and merger with the local population. HTs are able to operate both conventionally and unconventionally, using a combination of traditional, irregular, and criminal tactics.²⁵

Literature that Describes HT and Hybrid Warfare

Frank Hoffman is a modern military theorist who has worked as a Research Fellow at the Center for Emerging Threats and Opportunities since 2002. His primary responsibility is overall direction, conducting analysis, and developing concepts on future challenges and emerging opportunities for the U.S. Marine Corps.²⁶ His work, *Conflicts in the 21st Century: The Rise of Hybrid Wars*, examines deeply the concept of a hybrid threat and fills the gap between the linear specification of regular and irregular warfare in

²⁵ Department of the Army, TC 7-100, *Hybrid Threat*, 1-1.

²⁶ Frank Hoffman, “Conflicts in the 21st Century: The Rise of Hybrid Wars” (Research, Potomac Institute for Policy Studies, Arlington, VA, December 2007), 61.

the current operational environment. This work allows us to understand more deeply the occurrence of changes and their influence on the character of the war. In addition, the author outlines possible most dangerous and most likely form of Hybrid Warfare that will challenge the U.S. conventionally-oriented force and their conception of war.²⁷

Hoffman established three principles designed for applying to “beyond-limits combined war.” The first principle is omni-directionality, according to which a battlefield combines all the traditional domains (land, sea, air, and space) with politics, economics, culture, and morale factors. The second, synchrony, argues that in order to attain the desired end state, actions must be conducted simultaneously and rapidly in different spaces. The last one, asymmetry, determines that in the unlimited war there is a greater ability to circumvent the rules. These principles provide a broader view on the war composition and challenge the U.S. conventional thinking.²⁸

To characterize the nature of current hybrid threats, Hoffman studied a variety of different historical examples, such as Irish insurgents of 1919 and 1920, Mujahedeen in Afghanistan in the 1980s, Chechens rebels in their conflict against Russia, Balkans experience, and finally, operations in the Middle East. A large portion of his work is in particular focused on Hezbollah-IDF, focusing on the defense missions at the operational and tactical levels.

In terms of Hezbollah, Hoffman concludes that the 2006 Lebanon War is an important case to study that is worth a deep analysis. Hoffman thinks that Hezbollah

²⁷ Hoffman, “Conflicts in the 21st Century,” 16.

²⁸ Ibid., 24.

represents the rising HT. Hezbollah proofed itself as a highly disciplined, well trained, and sophisticated group, capable to fight against a modern conventional force. The results of the Hezbollah-Israeli battle in southern Lebanon demonstrate substantial weaknesses of the IDF, which is useful for U.S. military planners.²⁹

Hoffman makes a recommendation in his article using words of one strategic analyst, “we must relearn what modern war is, we must look beyond our own borders and avoid ethnocentric and triumphalist solutions based on technological prowess alone.”³⁰ He concludes that in future irregular conflicts the U.S. Armed Forces will operate in an increasingly complex environment that will require institutional adaptation and much more attention to this issue than it receives nowadays.³¹ In general, Hoffman's thoughts are relevant and valuable.

Asymmetric Strategies as Strategies of the Strong by Michael Breen and Joshua A. Geltzer is worth attention because the authors re-conceptualize an asymmetric strategy in a crucial way. They disagree that only weak parties use asymmetric strategies. The authors describe many ways in which asymmetric strategies are becoming strategies of increasingly strong parties.³² In order to neutralize or mitigate American power, strong

²⁹ Ibid., 36.

³⁰ Ibid., 46.

³¹ Ibid., 59.

³² Michael Breen and Joshua A. Geltzer, “Asymmetric Strategies as Strategies of the Strong,” *Parameter* (Spring 2011): 41.

states such as Russia, China, and Iran are developing and employing strategies that seek to exploit obvious American strengths as implicit vulnerabilities.³³

Considering that the U.S. is now the dominant world power economically and militarily, the opponents who want to restrain the United States will avoid conducting conventional war; instead, they will be looking for approaches that are more sophisticated. They will develop strategies accented to exploit obvious American strengths as factual vulnerabilities.³⁴ The authors also reject the idea that asymmetric strategies can be used only against the United States. Moreover, they argue that the U.S. can use them as well and what benefits may result from this.³⁵ The ideas outlined in this work are trustworthy. The assertion that asymmetric strategies can be strategies of strong states is especially valuable.

The research paper of Colonel Leslie F. Brown, “Twenty-First Century Warfare Will Be Hybrid” defines HT in the same way as in the previous document, provides information about the emergence of HT, and offers a reasonable explanation of why hybrid warfare will be the prevailing form of warfare in the twenty-first century. What makes this document stand out is the fact that it analyzes the National Military Strategy in terms of HT and Joint and Service hybrid warfare doctrine. In addition, the author recommends changes in strategy and doctrine that must be implemented in order for the

³³ Ibid., 44.

³⁴ Ibid.

³⁵ Ibid., 52-53.

U.S. Armed Forces to be able to successfully defeat this threat in the near future. The following recommendations are worth noting:

The Department of Defense must adopt the term hybrid warfare and develop a strategy that properly addresses the hybrid threats.³⁶

The Department of Defense must completely revise the structure of U.S. forces.³⁷

The need to improve and enhance the capabilities of leaders, headquarters, and units at all levels in the conduct of full spectrum operations in a fluid environment.³⁸

Increase the size of the Special Operations Forces capable of conducting seamless conventional and irregular operations.³⁹

The provisions of this document, in conjunction with the entire literature in this area, help to understand the essence of a hybrid war. Brown's guidance, described above, can help in the formation of the recommendations of this study, which will be presented in chapter five of this study.

The Joint Special Operations University Report 13-4 *Hybrid Warfare*, the work of Captain Petri Houvinen "Hybrid Warfare—Just a Twist of Compound Warfare?", and research report of Lieutenant Colonel Michael Miller "Hybrid Warfare: Preparing for Future Conflict" are similar but complementary to the literature discussed above. The first resource describes the theory of hybrid conflicts as well as provides an example of the events of the Second World War in Eastern Front (1941 to 1945), where the authors

³⁶ Colonel Leslie F. Brown, "Twenty-First Century Warfare Will Be Hybrid" (Strategic Research Project, Army War College, Carlisle, PA, 2011), 17.

³⁷ Ibid., 18.

³⁸ Ibid.

³⁹ Ibid., 19.

characterize the Soviet Partisan Network as a Hybrid Organization. Also, this report provides operational approaches to hybrid warfare by analyzing the American experience in Vietnam and in Operation Iraqi Freedom. Captain Houvinen in his research presented a case study from the Second Lebanon War based on the U.S. experience gained in Vietnam War. Thus, these works can expand the view of the concept of HT and hybrid warfare via additional case studies of the wars in Vietnam, Iraq, and Second World War. However, case studies of these three wars will not be implemented in this study.

The article of Charles K. Bartles “Getting Gerasimov Right” provides a review of the chief of the Russian General Staff. General Valery Gerasimov’s article, “The Value of Science Is in the Foresight: New Challenges Demand Rethinking the Forms and Methods of Carrying out Combat Operations,” published in *Voyenno-Promyshlennyy Kurier* (Military-Industrial Courier) newspaper. Gerasimov’s thoughts were published a year before the events in Kiev in the winter of 2014. Since the beginning of spring 2014, Russia brought to life those provisions, which have been disclosed in this article.

Gerasimov asserts that the experience of military conflicts, including those associated with the Color Revolutions (“Color Revolution” is a term that was widely used to describe various related movements that developed in several societies⁴⁰) in North Africa and the Middle East confirm that any state in the shortest period may turn into an arena of bitter warfare, become a victim of foreign intervention, plunge into chaos,

⁴⁰ Chief of the Russian General Staff Gen. Valery Gerasimov, “Ценность науки в предвидении. Новые вызовы требуют переосмыслить формы и способы ведения боевых действий” [The Value of Science Is in the Foresight: New Challenges Demand Rethinking the Forms and Methods of Carrying out Combat Operations], *Military Industrial Kurier*, 27 February 2013, accessed 21 November 2016, <http://vpk-news.ru/articles/14632>.

humanitarian disaster, and civil war.⁴¹ He believes that the rules of war have changed significantly. The role of non-military methods to achieve political and strategic objectives has increased. In some cases, these methods in their effectiveness far exceeded the force of arms.⁴² Methods of confrontation shift toward the wide use of political, economic, information, humanitarian and other non-military measures implemented by taking advantage of the protest potential of the population. These methods are complemented by hidden military means, including the implementation of information warfare measures and special operations forces actions.⁴³ All of the above was the basis of the conflict in Ukraine.

Gerasimov also outlines the characteristics of the operational environment during the conduct of such conflicts. These characteristics include the following:

Enhancing the role of inter-specific mobile groups of forces acting on the same intelligence and information space through the use of new software control systems features.

Great dynamism, activity, and effectiveness of military operations.

The disappearance of the tactical and operational pauses, which the enemy could use.

Reduction of gaps in space, time, and information between the troops and authorities through the use of new information technologies.

At the strategic and operational levels, large forces frontal collisions are gradually disappearing to the past.

Achievements of operational and battle objectives are mainly due to remote non-contact action against the enemy.

⁴¹ Ibid.

⁴² Ibid.

⁴³ Ibid.

Defeat enemy targets throughout the depth of the territory.

The absence of differences between strategic, operational and tactical levels, offensive and defensive actions.

The massive nature of the use of precision weapons.⁴⁴

Gerasimov's views, described in the article, clearly reflect the essence of the Russian campaign in Ukraine. The analysis of this paper will facilitate the Ukrainian-Russian conflict case study of this research.

Another article, which briefly analyzes the modern Russian military doctrine and provides a short overview of Ukrainian events in 2014-2015, is "A Closer look at Russia's 'Hybrid War'," by Michael Kofman and Matthew Rojansky. The authors argue that "Hybrid war" may have become the defining label for Russia's operations in Ukraine, but on closer examination, it misses the point."⁴⁵ According to their opinion, the use of the term Hybrid war when describing current and future actions of the Russian Federation in Ukraine and other neighbors is not correct. Hybrid war is just a tag attributed to Russian actions in Ukraine by the West.⁴⁶ The authors emphasize that the term "hybrid" as a combination of different ways and means across domains is not novel but is as old as warfare itself. This term is imprecise and could not be used to describe a new form of warfare. Generally, this article is not detailed and provides a cursory review

⁴⁴ Ibid.

⁴⁵ Michael Kofman and Matthew Rojansky, "Kennan Cable No. 7: A Closer Look at Russia's 'Hybrid War'" (Woodrow Wilson International Center for Scholars, Washington, DC, 1 April 2015).

⁴⁶ Ibid.

of the new form of war and Ukrainian-Russian conflict. Nonetheless, Kofman and Rojansky contribute to the discussion of the meaning of Hybrid war.

Resources that Review the Israeli-Hezbollah War in 2006

Most of the resources discussed in this section include information about the origin and history of Hezbollah. In the analysis of each of the sources special attention is paid to the peculiarities of each of them, which will contribute to the analysis in this study.

In “Military Capabilities for Hybrid War. Insights from the Israel Defense Forces in Lebanon and Gaza,” David E. Johnson assesses recent irregular and hybrid conflicts and their implications for U.S. Army. He provides the characteristics of the forces of Hezbollah, which is the Shi’a Islamist militant group and political party based in Lebanon, and analyzes the experience of the Israel Defense Force (IDF) in the last conflicts in Lebanon and Gaza to argue for balanced Army forces, capable of joint combined arms fire and maneuver, to provide the range of capabilities needed to prevail in future conflicts.⁴⁷ The author draws a parallel between the IDF and the U.S. Armed Forces. The U.S. Armed Forces, specifically the land forces, have achieved notable adaptations to its high-end warfighting skills in response to the irregular war environments in Iraq and Afghanistan.⁴⁸ Today, the U.S. leaders believe they must

⁴⁷ David E. Johnson, *Military Capabilities for Hybrid War Insights from the Israel Defense Forces in Lebanon and Gaza* (Santa Monica, CA: RAND Corporation, 2010), 1.

⁴⁸ Ibid.

prepare for challenges across the range of military operations.⁴⁹ The basics of combined arms fire and maneuver are essential for countering the hybrid opponents. During the second intifada, the Israelis showed that they had lost High-Intensity Conflict skills. During the war in Iraq and Afghanistan, the U.S. Army was in a condition similar to that of the Israelis before 2006. The U.S. military was expert at COIN, but was less ready for sophisticated hybrid opponents. In conclusion, the arguments from Johnson's paper could be informative in the analysis of current structure and capabilities of U.S. ABCT and its desired shape for facing hybrid threats.⁵⁰

We Were Caught Unprepared: The 2006 Hezbollah-Israeli War, by Matt M. Matthews is, The Long War Series Occasional Paper, in which the author precisely describes the IDF and Hezbollah doctrine prior to the war, the capabilities, operational and tactical problems, and strengths of the warring parties. This is an insightful and comprehensive examination of the 2006 Lebanon War.

Matthews argues that no conflict in recent past provides a more enlightening study for the US Armed Forces than the 2006 Hezbollah-Israeli war.⁵¹ The biggest mistake for the IDF in this war was a reliance on unclear and debatable Effects-Based Operations (EBO) and Systemic Operational Design (SOD) warfighting theories, and a

⁴⁹ Ibid., 7.

⁵⁰ Ibid.

⁵¹ Matt M. Matthews, The Long War Series Occasional Paper 26, *We Were Caught Unprepared: The 2006 Hezbollah-Israeli War* (Fort Leavenworth, KS: Combat Studies Institute Press, 2006), 2.

great reliance on air power.⁵² Moreover, during a long period of time, the IDF were involved in COIN operations in the Gaza Strip and West Bank territories which have a negative effect on their tactical readiness to fight against Hezbollah force that built conventional, fixed-position defense. For the U.S. Armed Forces, which have been involved in irregular warfare for decades, this issue is of primary importance.⁵³ While the U.S. Forces continue to execute COIN operations throughout the world, they must maintain the ability to perform major combat operations.⁵⁴

The next valuable publication is *The Uncertain Role of the Tank in Modern War: Lessons from the Israeli Experience in Hybrid Warfare* by Michael B. Kim. The author argues that future conflicts will not be limited by unconventional fighting; instead, the combined-arms warfare will be relevant.⁵⁵ In this work, Michael Kim analyses the role of the main battle tank M1 Abrams in the past and provides his vision about its future role. He focuses mostly on the IDF experience during Operation Protective Edge (2014), however, the Lebanon War in 2006 is also under consideration. After deep examination of these case studies, Kim concludes that M1 Abrams in 2015 through 2025 will be an effective mobile and survivable precision firepower platform for effective implementation of combined-arms operations against a sophisticated HT in different

⁵²Ibid., iii.

⁵³ Ibid.

⁵⁴ Ibid., 64.

⁵⁵ Michael B. Kim, *The Uncertain Role of the Tank in Modern War: Lessons from the Israeli Experience in Hybrid Warfare* (Arlington, VA: Association of The United States Army, 2016), 1.

environments.⁵⁶ In addition, Michael Kim recommends that the U.S. Army modernize armored platforms with an active armor protection system and improved munitions.⁵⁷ The results of Kim's work and his recommendations will be used in the analysis found in this study.

The newest TRADOC publication *Threat Tactics Report: Hizballah* (January 2017) is thorough, complete, and useful; and contains a sufficiently detailed description of all aspects related to Hezbollah. This document reveals in detail the essence of this organization, the strategic objectives, and the principles of fighting. The publication focuses on the sponsorship relationships through which Hezbollah receives funds and weapons. In addition, the document describes organizational structure and size, weapons, equipment, leadership, recruiting, and locations of active current activities. Tactics and techniques overview occupies a large part of the report. In order to demonstrate the breadth of types of attacks Hezbollah has committed since 1982, authors provide an events timeline, where outlined descriptions and sequence of attacks on different military and civilian targets. An analysis of offensive and defensive tactics is conducted by case studies such as:

Assault of USMC HQ in Beirut, by employing a suicide truck bomb (23 October 1983).

Kidnapping of two Israeli soldiers that initiated a 33-day war (12 July 2006).

Improvised Explosive Device ambush attack in Damascus (2014).

⁵⁶ Ibid., 18.

⁵⁷ Ibid., 21.

A detailed explanation of actions, combined with clear graphic charts allows a reader to understand the tactics of small (up to company size) groups of Hezbollah. This is the only document among all discussed in this literature review which enables a reader to reach such understanding.

The monograph, “The 2006 Lebanon Campaign and the Future of Warfare: Implications for Army and Defense Policy,” by Stephen Biddle and Jeffrey A. Friedman presents a detailed study of the Lebanon War in 2006, informs the debate over the nature of future warfare and how the U.S. should prepare for the future conflict. The work can be considered valuable because the authors collected information directly from 36 participants of those events who fought on the Israeli side and from captured Hezbollah fighters as well.⁵⁸ The monograph outlines the key events of the campaign, characterizes Hezbollah’s tactics, theater operations, strategy, and assesses the Hezbollah’s proficiency in fighting. Finally, the authors summarize lessons learned and provide implications for U.S. Army and Defense policy.

The analysis, outlined in *Preliminary “Lessons” of the Israeli-Hezbollah War* by Anthony H. Cordesman, is based on data collected mostly from media reports, Israeli and Arab military thinkers, senior Israeli officers, and experts.⁵⁹ The document covers lessons from what the war has and has not accomplished for Israel, major lessons regarding strategy and conducting the war, lessons, and insights into various tactical, technological,

⁵⁸ Stephen Biddle and Jeffrey A. Friedman, “The 2006 Lebanon Campaign and the Future of Warfare: Implications for Army and Defense Policy” (Monograph, Strategic Studies Institute, Army War College, September 2008), 8.

⁵⁹ Anthony H. Cordesman, *Preliminary “Lessons” of the Israeli-Hezbollah War* (Washington, DC: Center for Strategic and International Studies, 2006), 3.

and other military aspects of the war. Considering the major lessons about war progress, the contributing experts draw attention to the issues in terms of fighting in civilian areas and the problem of collateral damage.⁶⁰ In the last part of the report, analysis falls to the tactical level and provides useful for this research information touching different aspects as follows: employment by Hezbollah of rocket and missile forces, anti-armor and anti-aircraft systems, technological approaches to shape the fight.⁶¹ In addition, the contributing experts express their views on the conclusions that the U.S. Armed Forces must do after the analysis of Israeli experience in this war.

The focus of Russell W. Glenn's book *All Glory Is Fleeting. Insights from the Second Lebanon War* is the difficulties that Israel and its armed forces confronted during the Second Lebanon War. Glenn relies on information provided by active and retired IDF officers during the conference that took place in Tel Aviv in March 2007 and other data sources.⁶² Initially, the study determines shortfalls. Subsequently, Glenn proposes an external perspective and lessons for the U.S. military that will assist in preparing for current and potential challenges.

In conclusion, the Lebanon War in 2006 was a unique and valuable experience not only for the armed forces of Israel but also for the other countries. Many thinkers and military officers carried out the study of all aspects of this war. Today, there are many sources of information on this topic. Besides the considered literature above, in addition,

⁶⁰ Ibid., 10.

⁶¹ Ibid., 17-21.

⁶² Russell W. Glenn, *All Glory Is Fleeting. Insights from the Second Lebanon War* (Santa Monica, CA: National Defense Research Institute, 2012), xii.

more than 10 works will be used in this study. Each of the references has its own features but mostly the references repeat what has been described in the previous literature review.

Literature that Analyzes the Ukrainian-Russian Conflict in the Donbas Region, Eastern Ukraine

Compared with the war in Lebanon, the Ukrainian conflict is not yet as well studied and described. Nevertheless, recent documents that are released into the world by the U.S. Army War College, Asymmetric Warfare Group, and Dr. Phillip A. Karber substantially cover the events in the Crimea and Eastern Ukraine.

The U.S. Army War College by dint of Project 1704: “A U.S. Army War College Analysis of Russian Strategy in Eastern Europe, an Appropriate U.S. Response, and the Implications for U.S. Landpower” attempts to answer three important questions. The first question asks what the Russian strategy is in their periphery. The second question asks what would be the appropriate U.S. response. The last question asks what the implications are for the U.S. landpower.⁶³ Despite the fact that these issues are quite global and concern strategy in response to these three questions the *War College Analysis* refers to the more mundane issues, the analysis of which will be valuable to this study. The report analyzes Russian Operations in Crimea and Donbas and provides an analysis of characteristics of Russian Land power today by Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF) domains.

⁶³ The United States Army War College, Project 1704, “A U.S. Army War College Analysis of Russian Strategy in Eastern Europe, an Appropriate U.S. Response, and the Implications for U.S. Landpower,” accessed 14 September 2016, <http://ssi.armywarcollege.edu/pdffiles/PUB1274.pdf>, 5.

The authors of *Russian New Generation Warfare Handbook* argue that during the war in Iraq and Afghanistan, the U.S. Armed Forces were the best in combating irregular formations. During this time, Russian forces also changed, but this transformation took place in a special way.⁶⁴ In Crimea and Donbas, the world has seen completely different type of Russian armed forces. The Russian Forces learned bitter lessons during past wars and transformed, retaining virtually nothing from the former Soviet time.⁶⁵ The handbook is concerned with the question of how to defeat such an enemy. The U.S. Armed Forces have not participated in such wars for a long time and must change in order to successfully fight and win in complex maneuver conflicts with peer competitors.⁶⁶ The purpose of this handbook is to provide an analysis of the tactics used by Russia in Ukraine as the military component of the Russian New Generation Warfare doctrine and identify training priorities for the U.S. Army that are not currently a focus area. In addition, this work describes Russian troop's capabilities and applications of combat power. Finally, and most importantly, this handbook gives recommendations for U.S. Brigade Combat Teams and battalions in terms of countering these Russian methods of war.

Dr. Phillip A. Karber's work "Lessons Learned from the Russo-Ukrainian War, Personal Observations" is a unique paper because it is based mostly on personal observation and interviews with Ukrainian combat officers and Ukrainian troops at

⁶⁴ Asymmetric Warfare Group, *Russian New Generation Warfare Handbook*, Version 1 (Fort Meade, MD: Asymmetric Warfare Group, December 2016), 2.

⁶⁵ Ibid., iii.

⁶⁶ Ibid.

Donbas as well as informed by discussion with key government and Ministry of Defense officials and different representatives of the Ukrainian defense industry. In order to collect the necessary material, Dr. Karber made 15 trips to the Anti Terrorists Operation zone and systematically interviewed commanders of different level and troops on the ground. Worthy of note is that all information collected by Dr. Karber about military developments in Ukraine was compared with the views of senior North Atlantic Treaty Organization officials and Allied political and military leaders.⁶⁷ The important thing is that Dr. Karber examines many issues at the tactical level that will be useful for research. Thus, Dr. Karber analyzes the role of technology and its employment in Ukraine. He divides the lessons learned into the following areas and describes them in details:

The ubiquitous presence of Unmanned Aerial Vehicles (UAVs).

Increased lethality of indirect fires.

Antitank Guided Missiles (ATGMs) and armor's counter-revolution.

Declining survivability of light infantry vehicles.⁶⁸

Each area includes successes, failures, and short recommendations. In addition, the author covers some operational issues such as mobilization and deployment, the experience of major battles, and changing of conventional force structures and organization for combat.

The purpose of Bret Perry's work "Non-Linear Warfare in Ukraine: The Critical Role of Information Operations and Special Operations" is a detailed study of a hybrid

⁶⁷ Karber, "Lessons Learned from the Russo-Ukrainian War," 3.

⁶⁸ Ibid., 12.

war waged by Russia in Ukraine. After a brief consideration of the concept and essence of hybrid war, Perry argues that information operations and special operations played the most important role and ultimately paved the way to Russian success in this war.⁶⁹ Perry also offers his analysis of Gerasimov's article and reviews another article of two Russian military officers Colonel S. G. Checkinov and Lieutenant General S. A. Bogdanov concerning the significance of nonmilitary weapons in current and future wars. Below is a quote from the writings of Checkinov and Bogdanov:

A new-generation warfare will be dominated by information and psychological warfare that will seek to achieve superiority in troops and weapons control and depress the opponent's armed forces personnel and population morally and psychologically. In the ongoing revolution in information technologies, information and psychological warfare will largely lay the groundwork for victory.⁷⁰

The conclusions of Checkinov and Bogdanov are important because the enemy by means of information operations and special operations forces affects the opponent and operational environment at all levels of war; strategic, operational and tactical. The U.S. ABCT, while operating against similar threat, must have capabilities to resist and defeat these factors.

The report "Hiding in Plain Sight. Putin's War in Ukraine" by Maksymilian Czuperski, John Herbst, Eliot Higgins, Alina Polyakova, and Damon Wilson is the result of an Atlantic Council Working Group was written to examine direct Russian military participation in Ukraine. The document contains information from a fact-finding mission

⁶⁹ Bret Perry, "Non-Linear Warfare in Ukraine: The Critical Role of Information Operations and Special Operations," *Small Wars Journal* (14 August 2015): 2, accessed 14 September 2016, <http://smallwarsjournal.com/author/bret-perry>.

⁷⁰ Ibid., 6.

to Donbas by journalists, who conducted the appropriate investigations and senior Ukrainian civilian and military officials.⁷¹ Igor Sutyagin's paper "Russian Forces in Ukraine" is also a relevant addition to the previous document. The report provides information concerning those units of the Russian Armed Forces which were deployed to Ukraine or were stationed in close proximity to the border. The report shows that the number of Russian forces was nearly the same as Ukrainian available forces. Thus, Kyiv had no superiority in forces.⁷² These two reports provide an opportunity to understand more deeply what the armed forces of Ukraine faced in this war.

Summary and Conclusions

This chapter reviewed the existing literature relevant to the research question. The doctrinal review section considers all aspects relating to the HT and the U.S. ABCT capabilities. The second section recapitulates the literature that defines and describes the HT and hybrid warfare, outlines the strategy, operations, tactics, and organizations of the HT, and discusses the manner in which such threats operationally organize to fight the U.S. The last two sections summarize the studies that were carried out to provide data analysis on the experience of the IDF in fighting against Hezbollah during 2006 Lebanon War and lessons learned by the UAF during Ukrainian-Russian conflict in the Donbas region, Eastern Ukraine.

⁷¹ Maksymilian Czuperski et al., "Hiding in Plain Sight. Putin's War in Ukraine," *Atlantic Council*, October 2015, accessed 14 September 2016, <http://www.atlanticcouncil.org/publications/reports/hiding-in-plain-sight-putin-s-war-in-ukraine-and-boris-nemtsov-s-putin-war>, 3.

⁷² *Ibid.*, 15.

The summary and evaluation of resources have shown that none of the resources directly address the question of whether the U.S. ABCT is capable of defeating the current hybrid threat. However, the literature on Hybrid Warfare does better defining what the HT can be and can do. Most documents, with few exceptions, focused more on the strategic and operational levels of war. This study focuses on the tactical level of war and attempts to fill the gap in the literature in terms of the U.S. ABCT ability to address such hybrid threat as Hezbollah or separatists supported by Russian troops. The next chapter describes the research methodology used to generate and analyze data in order to answer the primary and secondary research questions.

CHAPTER 3

RESEARCH METHODOLOGY

Introduction

As described in chapter 1, the purpose of this study is to determine whether the U.S. ABCT is organized correctly and equipped appropriately to address effectively the current HT as defined in the current U.S. Army's references, TC 7-100 *Hybrid Threat* and ADRP 3-0 *Operations*. Chapter 2 summarizes and evaluates the existing literature on the research question; identifies patterns and finds gaps in the current literature, which this research will attempt to fill. The intention of chapter 3 is to describe the research methodology used to answer the primary and secondary research questions. As a reminder, these questions are set out below:

The primary research question is: How should the U.S. ABCT be organized and equipped to address the current HT?

Secondary questions are:

1. What is a HT?
2. What are the common characteristics of the HT facing the armies of Ukraine and Israel?
3. What changes have the armies of Ukraine and Israel made in terms of organization and equipment to address effectively the associated HT?
4. What capabilities does a U.S. Army unit need to counter the HT?
5. What is the organization of a U.S. Army ABCT?
6. What equipment does the ABCT have?

7. What changes, as indicated by the threat facing the armies of Ukraine and Israel, does the U.S. ABCT need to make in terms of organization and equipment to address effectively the current associated HT?

This chapter outlines in detail the specific research method and techniques applied to the problem this study intends to solve; explains how the research moves, step-by-step, to answer all the research questions; and reviews the steps taken by the researcher to obtain information needed to address the primary and secondary questions.

Research Methodology

This study begins with the definition of HT in order to avoid any possible confusion and to provide the reader a common understanding of this term throughout this study.

Afterward, this study continues with the examination of separate but similar cases of the Israeli-Hezbollah conflict of 2006 and the Ukrainian-Russian conflict that started in 2014. The 2006 Lebanon War has become an increasingly important case for the U.S. defense debate.⁷³ Hezbollah is considered to be the world's premier non-state hybrid force.⁷⁴ This is why the study of the capabilities of a hybrid threat using Hezbollah as an example is prudent. The second case study, the Ukrainian-Russian conflict, is relevant because this conflict has started in the recent past and is still ongoing. It is also considered an exemplar of HT conducted by the Russian Federation.

⁷³ Biddle and Friedman, "The 2006 Lebanon Campaign and the Future of Warfare," vii.

⁷⁴ TRADOC G-2 ACE Threats Integration, *Threat Tactics Report: Hizballah* (Fort Eustis, VA: TRADOC, January 2017), 34.

The 2006 Lebanon War and the 2014 Ukrainian-Russian conflict case studies are similar, because in the cases, the IDF and UAF faced similar hybrid threats. First, both Hezbollah and pro-Russian separatists initially were a proxy organization that employed guerrilla-style military tactics. They evolved and grew over time and adopted more conventional tactics. Second, Hezbollah and the separatists' troops put great emphasis on holding ground. They sought concealment mostly via terrain and they were concentrated. Third, both groups relied extensively on harassing fires and unattended minefields. They had excellent fire discipline, mortar marksmanship, and coordination of direct fire support. Fourth, Hezbollah and the separatists' troops widely used information warfare and UAVs.

Within the documentary analysis methodology, Doctrine, Organization, Training, and Materiel (DOTM) factors of DOTMLPF shape the research into major functional categories. DOTMLPF is a helpful framework for the analysis of complex issues and breaking them into separate and compliant components. DOTMLPF is a joint term and analysis methodology used by the U.S. Army. Each DOTMLPF domain is an area providing a focus for action officers to investigate solutions, products, and services to meet the required capabilities delineated in Department of Defense directives. This model analyzes future capabilities of potential adversaries, technological breakthroughs, the U.S. national posture, and tries to develop concepts and requirements to counter those adversaries and take advantage of technology.⁷⁵

⁷⁵ Lawrence G. Shattuck, "The Joint Capabilities Integration and Development System and the Capabilities Based Assessment," accessed 9 November 2016, http://faculty.nps.edu/dl/hsi_certificate_program/oa3412/module03/print_versions/mod03_jointCapabilities2.pdf, slide 17.

The following domains are what DOTMLPF stands for:

D—Doctrine: the fundamental principles by which the military forces or military elements guide their actions in support of national objectives.⁷⁶

O—Organization: how the force organizes to fight.⁷⁷

T—Training: how the force prepares to fight tactically; this definition ranges from basic training to advanced individual training to unit training.⁷⁸

M—Materiel: all the “stuff” necessary to equip forces so those forces can operate effectively. Materiel includes ships, tanks, self-propelled weapons, aircraft, related spares, repair parts, and support equipment, but excludes real property, installations, and utilities.⁷⁹

L—Leadership and Education: the professional development leaders need to lead the fight; education ranges from educating squad leaders to educating four-star generals and admirals.⁸⁰

P—Personnel: those individuals required in either a military or a civilian capacity to accomplish the assigned mission.⁸¹

⁷⁶ Command and General Staff College, F-102, “Joint and Army Capability Development” (CGSC Curriculum, September 2016), slide 2.

⁷⁷ Ibid.

⁷⁸ Ibid.

⁷⁹ Ibid.

⁸⁰ Ibid.

⁸¹ Ibid.

F—Facilities: the real property, installations, and industrial facilities that support forces.⁸²

As research continued, the U.S. doctrine became a primary source of understanding both the organization and the equipment of the ABCT. As a result of the information provided in the doctrine, it became clear that the areas of Doctrine and Training from DOTMLPF have to be part of the analysis along with Organization and Materiel to better answer the primary research question. These additional two categories are necessary as this study demonstrates there is a direct and linked relationship among these four categories and the capabilities required in the fight against the HT.

This research will be limited to four factors of DOTMLPF that are doctrine, organization, training, and materiel. Leadership, personnel, and facilities factors are beyond the scope of this study.

Doctrine, Organization, Training, and Materiel as a model for this research, will be used for an analysis and description of recent and current HT (Hezbollah in 2006 and pro-Russian separatists in 2014 through 2017), an analysis of initial IDF's and UAF's response to the associated HT and evaluation of this initial response (effective—not effective), an analysis of changes that IDF and UAF made with the purpose to address effectively the associated HT, and evaluation of these changes (effective—not effective), and an analysis of the current capabilities of the U.S. ABCT.

The same approach will be applied to two case studies. Initially, a brief historical overview of the case will be presented. Further, the analysis will continue with the

⁸² Ibid.

explanations of why the adversary in the case is an HT. Subsequently, a case study will analyze a HT and IDF's—UAF's initial response and assesses the effectiveness of the IDF's—UAF's initial response. Finally, a case study will analyze the IDF's—UAF's adjustments to the HT and assesses effectiveness of the IDF's—UAF's adjustments.

The effectiveness of the initial response is based on the sustainable solutions. If either army used a solution that worked and did not change the solution, then the solution will be determined to be effective. Similarly, the effectiveness of the changes is based on the sustainable solutions. If either army found a solution that worked and adhered to the solution, then the solution would be determined to be effective.

In the case study, a HT will be analyzed considering only the capabilities of the HT that could affect or influence the opponent's armored or mechanized infantry formations. The IDF—UAF will be analyzed considering only the capabilities of the IDF's—UAF's armored or mechanized infantry formations.

After the case study, based on the experiences of the IDF and the UAF, the analysis will show the capabilities (organization and equipment) that a U.S. Army unit (or any unit) needs in order to counter the HT arranged according to DOTM factors.

Next, the research analyzes the doctrinal U.S. ABCT in terms of DOTM factors with emphasis upon organization and equipment. Further, using all available analysis by DOTM, this study compares the U.S. ABCT's doctrinal capabilities with the IDF's and UAF's sustained responses and adjustments of capabilities to counter the HT.

This study is mostly focused on analysis of the existing information, such as Army and Joint doctrine documents, military papers and publications, articles, newsletters, and research reports. Qualitative analysis of narrative data, using a case

study method, forms the unifying structure of the thesis. Additionally, examination of separate but similar cases of Israel fighting Hezbollah in Lebanon and Ukraine fighting Russia in Eastern Ukraine demonstrates clearly the major points of the analysis. This case study relies on multiple sources of information to provide as complete picture as possible and each case uses the same approach. In addition, an interview with Lieutenant-General Zabrodskiy,⁸³ combined with his observations shows the relevance of the study.

There are potential gaps associated with the analysis of HT, IDF, UAF, and the U.S. ABCT, given limited access to some information. The restricted sources are not used in this study because the purpose was to stay in the unclassified area.

Finally, when the analysis shows that the U.S. ABCT capabilities do not meet the requirements to address the current HT, this study presents recommendations for changes in terms of organization, equipment, and training that are explained in detail in chapter 5.

Summary and Conclusions

This chapter describes the research methodology used to generate and analyze data used to address the research questions. This is a qualitative study designed to develop a response to the primary research question. Chapter 4 takes the literature review

⁸³ Philip Karber calls Zabrodskiy “the future of the Ukrainian army” and “the best commander of the brigade, best in the world.”⁸³ He led his forces through the execution of the longest raid in modern military history behind the backs of the enemy in August of 2014. For outstanding courage, Zabrodskiy was recognized by the highest state award “Gold Star: Hero of Ukraine” which the president of Ukraine presented to him. In addition, another key qualification of Zabrodskiy for this study is his educational background. For example, he graduated from CGSC, Fort Leavenworth, in 2006. Another would be his time in St. Petersburg studying at the Russian Military University; compounding the general’s understanding of the tactics he would see during this mission. Currently he serves as Commanding General of Highly Mobile Airborne force of Ukraine.

found in chapter 2 coupled with analysis derived from the research methodology outlined in chapter 3, to answer the primary and secondary questions presented in chapter 1.

CHAPTER 4

ANALYSIS

Introduction

The purpose of this study is to determine whether the U.S. ABCT is organized correctly and equipped appropriately to address effectively the current HT as defined in the current U.S. Army's references, TC 7-100 *Hybrid Threat* and ADRP 3-0 *Operations*.

The purpose of chapter 4 is to present, explain, analyze, and interpret the evidence produced by the research methodology. The following analysis provides answers to the primary and seven secondary questions determined in chapter 1.

Chapter 4 is organized into five sections. Section 1 defines HT in order to avoid any possible confusion and to provide the reader a common understanding of this term throughout the paper. Sections 2 and 3 examine separate but similar cases of the Israeli-Hezbollah conflict of 2006, and Ukrainian-Russian conflict that started in 2014 respectively. Section 4 analyzes the U.S. ABCT in terms of DOTM. Lastly, Section 5 compares the U.S. ABCT capabilities with the IDF's and UAF's initial responses and adjustments. The chapter summary provides a review of the chapter and transitions to the chapter 5 that presents conclusions and recommendations.

Defining HT

Threats are an attributive part of the operational environment of any operation. "An operational environment is a composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the

commander.”⁸⁴ In ADRP 3-0, threat is defined as “any combination of actors, entities, or forces that have the capability and intent to harm the United States forces, the United States national interests, or the homeland.”⁸⁵ Threats transform into the enemy when implementing their potential to harm the United States. Threats can be comprised of individuals, organized or not organized groups of individuals, paramilitary or military forces, nation-states, or national alliances.⁸⁶

The concept of “HTs” was applied in order to describe the operations that comprise a multiplicity of players and do not have clearly defined elements of warfare. For the purposes of this study, a HT will be defined as “the diverse and dynamic combination of regular forces, irregular forces, terrorist forces, and/or criminal elements unified to achieve mutually beneficial effects.”⁸⁷ This definition is the same in all doctrinal documents discussed in chapter 2. HTs include regular forces and irregular forces. The first component is guided by international law in its activities. The second does not have any limitations and restraints to the execution of assigned missions.⁸⁸ The ability to incorporate regular and irregular forces, converting between them and operations in order to take advantage of the weaknesses of the other side makes HTs especially effective. To be a hybrid, these forces collaborate in the scope of attaining their

⁸⁴ Department of the Army, ADRP 3-0, *Operations*, 1-1.

⁸⁵ *Ibid.*, 1-2.

⁸⁶ *Ibid.*

⁸⁷ Department of the Army, TC 7-100, *Hybrid Threat*, v.

⁸⁸ Department of the Army, ADRP 3-0, *Operations*, 1-3.

own inner objectives. For instance, criminal elements can steal repair parts for benefit, while concurrently degrading the readiness of the U.S. forces' combat systems. Militia forces can protect their settlements with extraordinary strength as part of a composite defensive network. Additionally, some HTs may be the result of a non-state actor's sponsorship by a state or states.⁸⁹

In its activities, the HT will try to take advantage and superiority through the employment of modern technology and the media. In addition, they will embed their components in the political, military and social sphere of the opposing side. In opposing U.S. forces, HTs can be highly adaptive and sophisticated. To achieve this, they will combine conventional, unconventional, irregular, and criminal tactics in different variations that modify with the lapse of time. With the aim to create people's distrust of their own armed forces, and to sow instability, the HTs will employ insurgency. To disseminate their influence, they will utilize global networks. Carrying out its tasks, HTs often will not have any restrictions or constraints in the use of violence, including the weapons of mass destruction.⁹⁰

It is important to note that the HT is not a modern discovery and is not something unique. Examples of HTs can be found throughout military history. They were a constituent element of the military power in most wars and conflicts between traditional forces.⁹¹ Among the examples where a significantly weaker opponent uses its relative

⁸⁹ Department of the Army, TC 7-100, *Hybrid Threat*, v.

⁹⁰ *Ibid.*, vi.

⁹¹ U.S. Army TRADOC, Handbook No 1.08, *Irregular Forces*, 1-6.

strengths against the relative weaknesses of the other side are the war in 1754 to 1763 between British and French forces that was fought among irregular Colonists, and the Peninsula War in 1814 when a combination of regular and irregular forces from Spain, Portugal, and Britain hindered France's will to gain control over the Iberian Peninsula.⁹² This category also includes the war in Vietnam in 1954 to 1976 when the Viet Cong and the People's Army of Vietnam fought against allied U.S. and French forces, and the war between Hezbollah and IDF in 2006.⁹³ The most recent example is fighting between UAF and the separatists, supported by Russia and Russian troops, in Eastern Ukraine. This conflict began in 2014 and continues today in 2017.

The following analysis provides an examination of two case studies of the Israeli-Hezbollah conflict of 2006, and Ukrainian-Russian conflict that started in 2014.

Israeli-Hezbollah War of 2006

Brief Historical Overview of the Case

The word "Hezbollah" (some authors use term "Hizbollah" or "Hizballah") means "the Party of God." This militant organization was established in 1982 and conducted operations out of southern Lebanon. For 18 years, the main goal of Hezbollah was to push the IDF out of Lebanon by implementing mostly terrorist and guerrilla tactics.⁹⁴ However, according to Hezbollah's 1985 platform, the conflict with Israel "was not only

⁹² Department of the Army, TC 7-100, *Hybrid Threat*, 1-1.

⁹³ Ibid.

⁹⁴ LtCol Jeffery O. Goodes and MAJ Sharon Tosi Moore, "Hizbollah: The Party of God," *Joint Center for Operational Analysis (JCOA) Journal* 10, no. 1 (December 2007): 1.

limited to the IDF presence in Lebanon” but to “the complete destruction of the State of Israel and the establishment of Islamic rule over Jerusalem.”⁹⁵ In 2000, Hezbollah achieved success in the fighting. As a result, the IDF were forced to retreat. After this event, the leaders of Hezbollah decided to widen their vision and transformed into a political organization with a strong military component.⁹⁶

The U.S. Department of State recognized Hezbollah as a Foreign Terrorist Organization on October 8, 1997. After the involvement of Hezbollah in the conflict in Syria and killing five Israelis and one Bulgarian by using explosives to destroy a bus in Bulgaria in 2012, the European Union applied the terrorist label to Hezbollah as well. Israel, Gulf Arab countries, and the Arab League designated Hezbollah as a terrorist organization in 2016.⁹⁷

Hezbollah operates not only against Israel but also against all countries, including the U.S. that oppose Hezbollah and support Israel. Hezbollah committed a multitude of attacks, among which the major attacks include the suicide truck bombings of the U.S. Embassy in Beirut in April 1983, and the suicide truck bombings of the U.S. Marine Corps barracks in Beirut in October 1983, where 299 people, mostly Americans, were killed. In addition, Hezbollah committed the U.S. Embassy annex in Beirut in September

⁹⁵ TRADOC G-2 ACE Threats Integration, *Threat Tactics Report: Hizballah*, 4.

⁹⁶ Goodes and Moore, “Hizballah: The Party of God,” 1.

⁹⁷ TRADOC G-2 ACE Threats Integration, *Threat Tactics Report: Hizballah*, 3.

1984, the hijacking of TWA (Trans World Airlines) flight 847 in 1985, and the attack on the Khobar Towers in Saudi Arabia in 1996.⁹⁸

On 12 July 2006, Hezbollah fighters crossed the Israel border from Lebanon, kidnapped two IDF soldiers, and killed three IDF soldiers who were on patrol in that area. This event sparked a new war between Israel and Hezbollah. Israeli Prime Minister Ehud Olmert proclaimed, “Lebanon will suffer the consequences of its actions.”⁹⁹ The IDF initiated an effect-based air campaign and started to bomb targets cross Lebanon. Israeli believed that they could force Hezbollah to disarm and withdraw from southern Lebanon as a result of this campaign. Initially, the destructive air strikes stunned Hezbollah. However, within 24 hours, Hezbollah launched a heavy rocket fire from southern Lebanon into Israel. As days went by, Hezbollah’s Katyusha rockets continued to engage the Israeli military targets and the population. The situation demonstrated that Israel was not able to quickly and decisively resolve the conflict and the effect-based air campaign did not reach the intended outcome. Further, Israel moved ground forces into South Lebanon. Israeli actions were ineffective. Utilizing prepared, hardened defensive positions, Hezbollah provided stiff resistance, which surprised not only Israeli military but military observers around the world as well. For several years, the IDF had been successful in COIN operations against the Palestinians. However, the IDF were

⁹⁸ Ibid., 3.

⁹⁹ Matthews, *We Were Caught Unprepared*, 1.

extremely incapable in conducting a successful conventional ground campaign against Hezbollah.¹⁰⁰

The Israeli ground campaign demonstrated that the IDF were confused by the new EBO doctrine. For example, Israeli Air Force campaign planner Ron Tira stated that “officers responsible for planning EBOs in the Air Force could not understand the definition of EBO or the definition of the word “Campaign” in the document. The terminology used was too complicated, vain, and could not be understood by the thousands of officers that needed to carry it out.”¹⁰¹ Individual soldier training was inadequate and the soldiers were not able to use their equipment on the appropriate level. The IDF officers were unprepared to fight this kind of war as well. The 2006 Lebanon War ended on August 14, 2006, with a cease-fire agreement. The IDF suffered a significant defeat and Hezbollah’s victory was absolute and indisputable.¹⁰²

Explaining why Hezbollah is considered a HT

During the 2006 Lebanon War, the non-state actor Hezbollah combined the conventional and unconventional aspects of war during the fight against the superior conventional power of the IDF.¹⁰³ Hezbollah is a powerful militia organization with clear political aspirations. Despite the fact that Hezbollah does not possess the ability to

¹⁰⁰ Ibid., 1.

¹⁰¹ Ibid., 26-27.

¹⁰² Ibid., 2.

¹⁰³ Timothy McCulloh and Richard Johnson, JSOU Report 13-4, *Hybrid Warfare* (MacDill Air Force Base, FL: The JSOU Press, 2013), 4.

generate much conventional military power, this organization consistently receives support from countries, whose policy was directed against Israel. In particular, Iran and Syria regularly delivered weapons and equipment, provided funding and training for Hezbollah troops. Over time, Hezbollah's military power has increased significantly and conventional capabilities in terms of anti-tanks, anti-aircraft, anti-ship weapons, rockets, and artillery have developed.¹⁰⁴ Although Hezbollah possessed some capabilities associated with conventional military forces, Hezbollah leaders concluded that the organization should focus soldiers' training on unconventional warfare with emphasis on individual and small groups' tactics.¹⁰⁵ Hezbollah's conventional capabilities were supplemented with asymmetric capabilities including criminal and terrorist activities and networks. Hezbollah attacked different targets such as civilians, political leaders, military forces, airplanes, and embassies of several countries, to include the United States.¹⁰⁶ As a result, Hezbollah acquired all the necessary attributes of a hybrid organization.¹⁰⁷

A suicide assault against the U.S. contingent of an Multi-National Forces at Beirut International Airport on 23 October 1983 was a vivid example of Hezbollah demonstrating the irregular (non-traditional) measures which are typical for a HT. For this assault, Hezbollah used a truck loaded with the equivalent of over 12,000 pounds of

¹⁰⁴ TRADOC G-2 ACE Threats Integration, *Threat Tactics Report: Hizballah*, 11.

¹⁰⁵ David E. Johnson, *Hard Fighting Israel in Lebanon and Gaza* (Santa Monica, CA: RAND Corporation, 2011), 46.

¹⁰⁶ TRADOC G-2 ACE Threats Integration, *Threat Tactics Report: Hizballah*, 11.

¹⁰⁷ *Ibid.*, 21.

trinitrotoluene. This suicide bombing resulted in the deaths of 241 U.S. military personnel and the wounding of over 100 other individuals.¹⁰⁸

In addition to its activities in Lebanon in 1980s and early 1990s, Hezbollah executed a global terrorist strategy. This organization had a capability to operate all over the world. They carried out terrorist attacks against the U.S. and Israeli targets as well as focused on South America, Southeast Asia, Jordan, the Persian Gulf, and the European continent.¹⁰⁹

Analysis of the HT

Doctrine

Hezbollah uses in its warfare a combination of regular and irregular tactics and techniques that include rocket and artillery attacks, information warfare, suicide bombings, and kidnappings. Since the beginning of Hezbollah's existence, the goal of the organization has been to inflict as many casualties as possible. Hezbollah uses a relatively inexpensive and simple means such as vehicle-borne improvised explosive devices. Over time, Hezbollah acquired more advanced weapons and the level of training of personnel increased. The organization transformed into a more sophisticated threat with a greater breadth of capabilities.¹¹⁰

¹⁰⁸ Ibid., 14.

¹⁰⁹ Captain Petri Huovinen, "Hybrid Warfare—Just a Twist of Compound Warfare?: Views on Warfare from the United States Armed Forces Perspective" (Thesis, National Defence University, Norfolk, VA, April 2011), 25-26.

¹¹⁰ TRADOC G-2 ACE Threats Integration, *Threat Tactics Report: Hizballah*, 14.

Hezbollah's Deputy Secretary-General, Sheikh Naim Qassem, thought that their doctrine helped execute two main goals. First, confusing the enemy and obliging its command to call for a constant state of alert, eventually leading to the exhaustion and decline in power. Second, spreading panic among enemy troops with the fear of death persisting after every successful or possible resistance attack. This served to shake the enemy morale and subsequently affected troop performance.¹¹¹

In order to defeat a high-tech enemy, Hezbollah developed 13 basic principles of warfare. The principles worth mentioning are protecting own fighters, keeping the enemy on constant alert, continuous movement and avoiding the formation of a front line, and avoiding notions of the enemy's superiority in order to maintain high morale of the fighters.¹¹² In addition, Hezbollah pays special attention to the use of media and local population. Hezbollah believes that the media has innumerable guns whose hits are like bullets that need to be used in the battle and the population is a treasure that needs to be nurtured.¹¹³ Over time, the doctrine of Hezbollah has proven to be exceptionally effective in fighting against the IDF.¹¹⁴

Unlike the majority of militias and insurgents, Hezbollah engaged in continuous firefights in the 2006 war. They focused on holding ground. For example, at the Shaked outpost, Hezbollah remained in a dug-in defensive position, exchanging fire with IDF

¹¹¹ Matthews, *We Were Caught Unprepared*, 8.

¹¹² *Ibid.*, 7.

¹¹³ *Ibid.*

¹¹⁴ *Ibid.*, 8.

tanks and infantry for more than 12 hours before being destroyed by Israeli fire. At Marun ar Ras, Hezbollah fighters were in their positions for five to seven hours, fighting with IDF. At Bint Jubayl, Hezbollah fought a series of battles over a period of four days. In the Saluqi valley, Hezbollah ATGM teams engaged the IDF tanks. Furthermore, they received return fire from the Merkava tanks but continued to fight and launched 10 more rockets.¹¹⁵ (see figure 1)



Figure 1. Lebanon Map

Source: Google.com, “Lebanon Map,” accessed 4 April 2017, <https://www.google.com/maps/@33.8684802,34.7424526,8z>. Sites depicted by the author.

¹¹⁵ Biddle and Friedman, “The 2006 Lebanon Campaign and the Future of Warfare,” 35-36.

In addition, Hezbollah employed civilian facilities and homes for defensive and offensive positions. Hezbollah used the people of Lebanon as human shields to their advantage, clearly against the rules of the international laws of war.¹¹⁶

Hezbollah also allocated resources to informational operations. The Hezbollah leaders used effectively their own broadcast capabilities. They had their own television station and several radio stations. Hezbollah adeptly used social media applications such as Facebook, Twitter, and Youtube to spread messages and inform about activities that were aimed to achieve political and military purposes. Hezbollah leaders gave interviews in which they sent messages to people to obtain support.¹¹⁷ They sent out messages to their supporters, foes, and the international press.¹¹⁸ For example, Hezbollah spokesmen used information warfare strategies to blame Israel in civilian collateral damages, regardless of who was truly responsible. By this, Hezbollah strengthened their justification to fight the IDF.¹¹⁹ One IDF soldier who was involved in 2006 Lebanon War characterized Hezbollah as an expert at deception. The following quote demonstrates the effectiveness of Hezbollah information operations: “Everyone will think they won no matter what. That’s how you win when there’s a few thousand of you and 50,000 of us.

¹¹⁶ Huovinen, “Hybrid Warfare—Just a Twist of Compound Warfare?”, 30.

¹¹⁷ TRADOC G-2 ACE Threats Integration, *Threat Tactics Report: Hizballah*, 31.

¹¹⁸ Huovinen, “Hybrid Warfare—Just a Twist of Compound Warfare?”, 31.

¹¹⁹ TRADOC G-2 ACE Threats Integration, *Threat Tactics Report: Hizballah*, 9.

The more of them we kill, the more of them who are generated. Unfortunately, this is a lost war.”¹²⁰

In addition, Hezbollah cared about the image of their organization. They pressured journalists and television stations to not demonstrate footage that negatively portrayed the group.¹²¹

Organization

Hezbollah and its actions can be described as a terrorist organization, insurgency, resistance movement, militia, and guerilla forces. In 2006 Lebanon War, Hezbollah has also demonstrated the ability to utilize conventional tactics. The foundation for success and strength of Hezbollah are flexible tactics, availability, and employment of different actors who actively carry out the tasks of the organization or provide support.¹²²

According to the U.S. Department of State information, Hezbollah includes thousands of members, several hundred terrorist operatives, and thousands of more supporters. At least, Hezbollah is made up of 7,000 fighters who are well trained. In addition, The Party of God has a reserve of 10,000 fighters.¹²³

After defeating Israel, Hezbollah’s popularity increased and thousands of people joined the organization. Many considered the struggle waged by Hezbollah a national resistance movement. In addition, in Lebanon located seven training camps for fighters.

¹²⁰ Ibid., 31.

¹²¹ Ibid.

¹²² Ibid., 7.

¹²³ Ibid., 8.

In general, the ability of Hezbollah to recruit personnel directly depends on the efforts of the organization for social security of the population in Lebanon.¹²⁴

Estimates showed that Hezbollah main forces ranged from 2,000 to 3,000 before the fight started. Hezbollah reserves ranged from several thousand to more than 10,000.¹²⁵ About 184 Hezbollah fighters were killed in ground combat during the war in southern Lebanon.¹²⁶

Most Hezbollah fighters were locally based and operated near their homes in southern Lebanon. They led a normal life with their families, but reported to their units when called up. Hezbollah did not have a fixed unit size. Depending on the area of operations, a unit could have from three to fifteen fighters. Thus, Hezbollah achieved decentralization that allowed them to be less vulnerable to Israeli interdiction. In addition, Hezbollah soldiers knew perfectly their area of operations, had widespread support of the local population, and had very effective communications network.¹²⁷

The command system of Hezbollah was decentralized as well. Within this system, the responsibilities were distributed to smaller cells. Hezbollah commanders planned to maintain firm operational control over their rocket units while providing more tactical freedom to their ground forces. As a result, Hezbollah achieved the organization

¹²⁴ Ibid., 9.

¹²⁵ Cordesman, *Preliminary “Lessons” of the Israeli-Hezbollah War*, 5.

¹²⁶ Lieutenant Colonel Scott C. Farquhar, ed., *Back to Basics: A Study of the Second Lebanon War and Operation Cast Lead* (Fort Leavenworth, KS: Combat Studies Institute Press, 2009), 17.

¹²⁷ Johnson, *Hard Fighting Israel in Lebanon and Gaza*, 49.

flexibility and strength to carry on fighting even if any of these independent cells were incapacitated.¹²⁸

Training

Hezbollah was armed, equipped and trained by Iran and Syria with the involvement of North Korean instructors.¹²⁹ Israeli intelligence officials stated that about 100 Iranian advisors were working with the Hezbollah.¹³⁰

Hezbollah soldiers were well trained. They effectively used the advanced weapon systems acquired before the war. For instance, the anti-tank weapons were used skillfully in terms of tactics. Hezbollah fired multiple rounds at the same target indicating that the use of anti-tank weapons was concentrated in anticipated kill zones. When IDF ground troops occupied buildings for protection, Hezbollah used anti-tank weapons against Israelis causing many casualties.¹³¹

Hezbollah's veteran military personnel were well prepared to conduct elaborate antitank ambushes. Hezbollah soldiers and forward observers were trained to integrate mortars and rockets fire. Often they predicted possible Israeli avenues of approach and engaged their formations unexpectedly. Hezbollah fighters were also professional in counter mobility. They placed mines and improvised explosive devices expertly in depth

¹²⁸ Huovinen, "Hybrid Warfare—Just a Twist of Compound Warfare?", 34.

¹²⁹ Matthews, *We Were Caught Unprepared*, 19.

¹³⁰ Cordesman, *Preliminary "Lessons" of the Israeli-Hezbollah War*, 16.

¹³¹ Huovinen, "Hybrid Warfare—Just a Twist of Compound Warfare?", 31.

along defensive positions to stop IDF movement and mass direct and indirect fire against halted columns.¹³²

In 2000, after Israel withdrew from Lebanon, Hezbollah began preparations for the future war, focusing on defense. Hezbollah built a complex and secret military infrastructure throughout southern Lebanon that consisted of underground tunnels, bunkers, and fortified observation posts all supplied with stockpiles of large quantities of artillery rockets, ATGMs, mortars, food, water, and medical supplies.¹³³ For example, Hezbollah's bunkers were 40 meters underground, covering an area of two square kilometers. Some of them had double blast doors that allowed protection from destructive overpressure generated by high-explosive munitions. Besides this, Hezbollah's bunkers had access to planned firing positions where fighters could engage the IDF from secure locations. All facilities were built from reinforced concrete about three feet thick. Hezbollah used these advanced facilities as cache sites, C2 facilities, and defensive positions. Bunkers and tunnel networks allowed the leaders of Hezbollah to have continuous control with their units. The IDF fires intended to destroy the enemy command posts were not effective and even with knowing the specific placement of Hezbollah leaders, Israel failed to destroy them. The network of defensive positions allowed Hezbollah to protect personnel and equipment, restrict freedom of movement of the IDF, and control key pieces of terrain. Thanks to this advanced infrastructure,

¹³² Matthews, "Hard Lessons Learned," 8.

¹³³ TRADOC G-2 ACE Threats Integration, *Threat Tactics Report: Hizballah*, 23.

Hezbollah had a freedom of movement on the battlefield, a condition that enabled their tactical and operational successes during the 2006 war.¹³⁴

In addition, the IDF faced fighting with Hezbollah in urban areas. Hezbollah built its facilities in towns and populated areas. Hezbollah used civilian facilities and homes to store weapons and supplies. Rockets and mortars were deployed within towns and homes.¹³⁵

In fighting Hezbollah also freely used civilian structures, including schools and mosques, for cover. Sometimes, the IDF soldiers felt that they were battling invisible fighters who had the “magical” ability to melt away and reappear.¹³⁶

Materiel

In 2000, when IDF withdrew from Lebanon, Hezbollah established close relations with Iran and Syria and began arming itself. Hezbollah received high-quality weapons, such as surface-to-surface rockets, anti-tank weapons, anti-aircraft missiles, mines and mortar rounds as well as explosives, small arms and ammunition mostly from these two countries.¹³⁷ In order to raise funds Hezbollah operated a plenty of overt, covert, and fraudulent charities. In addition, Hezbollah exploited relations with criminal organizations to conduct narco-trafficking and smuggling of gold and diamonds. The IDF

¹³⁴ Ibid., 25-26.

¹³⁵ Huovinen, “Hybrid Warfare—Just a Twist of Compound Warfare?”, 30.

¹³⁶ Goodes and Moore, “Hizbollah: The Party of God,” 21.

¹³⁷ Huovinen, “Hybrid Warfare—Just a Twist of Compound Warfare?”, 27-28.

reported that Hezbollah also smuggled weapons with Fatah, Hamas and the Palestinian Authority.¹³⁸

In the logistics arena, Hezbollah preserved every item they needed for war. The supplies were secret and were located in protected bunkers and entrenchments that were able to withstand IDF firepower.¹³⁹ Because Hezbollah soldiers lived near their operating areas, they relied mostly on stockpiled supplies. They did not have a need to provide transportation or to protect lines of communication.¹⁴⁰

Currently there is no data about the exact number of Hezbollah mortars, anti-tank weapons (AT-3, Mk II, Kornet, Metis-M, and RPG-29) or any estimate of the number and percentages of damaged equipment. IDF intelligence experts said that they could only guess that Hezbollah kept at least several hundred thousand rifles and automatic weapons and up to six million rounds of ammunition.¹⁴¹

The UAVs was another force multiplier for Hezbollah. The UAVs, supplied by Iran, had a 450 kilometers range, payload capability of 45 kg, and a GPS guidance system. They could deliver its load anywhere in Israel and engage a target with a high accuracy of 10 m. These UAVs could not be detected with the normal surveillance radars. Thus, this presented a new threat to Israel.¹⁴² The Israeli experts estimated that Iran

¹³⁸ Farquhar, *Back to Basics*, 55.

¹³⁹ *Ibid.*, 8.

¹⁴⁰ Johnson, *Hard Fighting Israel in Lebanon and Gaza*, 49.

¹⁴¹ Cordesman, *Preliminary “Lessons” of the Israeli-Hezbollah War*, 5.

¹⁴² Huovinen, “Hybrid Warfare—Just a Twist of Compound Warfare?”, 32.

supplied Hezbollah with 24 to 30 “Ababil” UAVs.¹⁴³ Iran also created a Hezbollah command center for targeting and controlling missile fire with advanced C2 assets and links to UAVs.¹⁴⁴

Hezbollah possessed long and medium range rockets and missiles that were a serious threat to Israel, but the Israel Air Forces (IAF) dismissed this threat during the first days of the war. However, Hezbollah demonstrated its capability to engage the Northern Israel civilian population by the employment of 122 mm short-range rockets. This weapon was used very effectively. Hezbollah maneuvered and hid the small launchers easily. In addition, this weapon was quick to set up and fire.¹⁴⁵ According to Israeli official’s estimation, Hezbollah had more than 10,000 to 16,000 regular and extended range Katyushas.¹⁴⁶

According to some reports, Hezbollah obtained electronic warfare capabilities from Iran. Hezbollah could jam and successfully hack Israeli communications. However, Israel has denied this fact. Hezbollah was ready to fight against IDF despite the influence of Israeli electronic warfare and maintained its command network throughout the war.¹⁴⁷

¹⁴³ Cordesman, *Preliminary “Lessons” of the Israeli-Hezbollah War*, 5.

¹⁴⁴ *Ibid.*, 16.

¹⁴⁵ Huovinen, “Hybrid Warfare—Just a Twist of Compound Warfare?”, 32.

¹⁴⁶ Cordesman, *Preliminary “Lessons” of the Israeli-Hezbollah War*, 4.

¹⁴⁷ Huovinen, “Hybrid Warfare—Just a Twist of Compound Warfare?”, 32.

Analysis of IDF's Initial Response and Assessment of the Effectiveness of the IDF's Initial Response

Doctrine

After the withdrawal from southern Lebanon in 2000, the IDF started to adopt the theories of precision firepower, Effects-Based Operations (EBO), and Systemic Operational Design. The EBO was designed to affect “the cognitive domain” of the enemy, focusing less on annihilating it. Israelis thought that precision-guided munitions would allow them to destroy specific portions of the enemy with high accuracy. According to this theory, the IDF should target key command and control, (C2) logistics, radars, transportation, and related capabilities. By destroying those, it would make the enemy incapable of employing its military forces and unable to accomplish its military objectives. Another key point of the theory was a benefit of reduction in military casualties and collateral damage and the avoidance of extensive ground battles.¹⁴⁸

The SOD was a tool intended to help IDF commanders plan their campaigns and an attempt to provide IDF commanders with the aptitude necessary to think critically, systemically and methodologically about war fighting. However, this theory brought some problems to the IDF. The main problem was the new terminology and methodology as not all IDF officers understood SOD clearly.¹⁴⁹

The EBO and SOD were “certainly major factors in the IDF’s disappointing performance”¹⁵⁰ during the 2006 war. The new IDF doctrine failed to integrate a large

¹⁴⁸ Matthews, *We Were Caught Unprepared*, 23.

¹⁴⁹ *Ibid.*, 25.

¹⁵⁰ *Ibid.*, 61.

ground maneuver component into its effect-based approach.¹⁵¹ In the first two days of the war, the IAF destroyed most of the Hezbollah's long and medium-range missile launchers and command centers in Beirut. Regardless, Hezbollah still had the capability to use short-range rockets. They still fired hundreds of them a day into Northern Israel. These Hezbollah attacks caused serious morale damage to Israeli civilians who lived in that area. Israeli political and military leaders understood that the war could not be won solely by IAF but that they needed to involve the ground forces as well in order to destroy Hezbollah's positions along the Israel-Lebanon border.¹⁵² With a commitment of ground forces, the IDF faced a challenge of target intelligence and collateral damage. They did not know how to verify targets to be engaged with different weapons and how to avoid civilian collateral damage.¹⁵³

The IDF ground forces did not execute sweeping armor attacks with overwhelming firepower. Instead, they moved cautiously along a very narrow sector during the attack. The IDF units were dispersed and there was no effort to conduct a combined arms attack. Because of the threat of improvised explosive devices and mine fields, tanks and IFVs moved forward only if they were led by dismounted infantry conducting clearing operations. This slow advance made the IDF's armored vehicles vulnerable to the enemy's ATGMs.¹⁵⁴

¹⁵¹ Ibid.

¹⁵² Huovinen, "Hybrid Warfare—Just a Twist of Compound Warfare?", 29.

¹⁵³ Ibid., 30-31.

¹⁵⁴ Goodes and Moore, "Hizbollah: The Party of God," 20.

Ground troops were deprived of both support by aviation and artillery. After the IDF accidentally shot down one of its own helicopter, rotary-winged aircraft were prohibited from going ahead of the line of advance. IDF's leaders made a decision to leave the division's artillery units on the Israeli side of the border. In addition, many units left behind their organic mortar assets to reduce weight. The IDF's ground forces' movement was limited to nighttime operations. Units often withdrew to a safe area after achieving their nightly objective. In summary, the IDF basically ceded the tactical advantage to Hezbollah.¹⁵⁵

Organization

The IDF had four regional commands. Northern Command was responsible for the border between Lebanon and Syria. Central Command was responsible for the West Bank, Jordan border, and Jerusalem. Southern Command was responsible for Egyptian border and Gaza region. Home Front Command was in charge of the internal civilian defense. The IDF were under the command of Chief of the General Staff, Lieutenant General Dan Halutz. He was the first Air Force general to be assigned to this position.¹⁵⁶

With the adoption of new doctrine, the IDF eliminated corps formations and planned to abolish divisions as well. Key military leaders did not see a role for ground formations larger than a brigade.¹⁵⁷ Most of the combat was conducted by the 162nd Armored Division, which had the 933rd Brigade and the 401st Armored Brigade and the

¹⁵⁵ Ibid.

¹⁵⁶ Ibid., 18.

¹⁵⁷ Matthews, *We Were Caught Unprepared*, 28.

91st Territorial Infantry Division, which had the 35th Parachute Brigade, 1st Mechanized Infantry Brigade, 300th Mechanized Infantry Brigade, 609th Mechanized Infantry Brigade, and the 7th Armored Brigade. These brigades were broken down into battalion and company sized teams.¹⁵⁸

During the war, some IDF tanks maneuvered independently, with little support from dismounted infantry, attack helicopters, or fixed-wing close air support. The IDF brigades executed missions in a vacuum, with little consideration or understanding of how their attack fit into the overall scheme of maneuver.¹⁵⁹

The IDF intelligence had some successes against Hezbollah, specifically in collecting data about its rocket forces and their use of tactical UAVs. However, the IDF knew nothing about extended defensive fortifications and positions that Hezbollah created in southern Lebanon. In addition, IDF intelligence was also unaware of quantities and capabilities of Hezbollah's anti-tank and anti-ship missiles, both of which were employed successfully by Hezbollah. Moreover, distribution of intelligence information down to the lowest level was hindered by internal barriers such as classification issues. One of the most critical failures in IDF intelligence was their unawareness concerning Hezbollah's electronic warfare and communications capabilities. When the IDF attempted to jam enemy's radio transmissions in the field and strategic communications with Iran and Syria, Hezbollah successfully countered Israeli electronic warfare efforts by using Iranian-supplied communications gear with robust counter-countermeasures. As a

¹⁵⁸ Goodes and Moore, "Hizbollah: The Party of God," 19.

¹⁵⁹ Ibid., 20.

result, Hezbollah had a functional communication network during the war all over southern Lebanon. On the contrary, Hezbollah effectively employed their own electronic warfare systems to neutralize IDF radar and communications and monitored and exploited IDF communications, obtaining valuable strategical and tactical information.¹⁶⁰

The IDF ground forces had about 125,000 active duty and 330,000 reservists divided among 18 divisions. The IAF had about 32,500 active and 54,000 reserve aviators divided among 19 combat squadrons.¹⁶¹

By 5 August 2006, the IDF had about 10,000 soldiers in southern Lebanon.¹⁶² When the Israeli Prime Minister decided to send ground troops into Lebanon, the Northern Command that was involved in this mission had two active and three reserve divisions. From these divisions, only five brigades were operationally available for the attack. The IDF commander did not inform the Israeli government of this shortage, nor did the leadership demand early mobilization of the reserves in order to equip and train these forces for a ground attack.¹⁶³

Unfortunately for Israel, an air force officer was chosen to command the entire IDF. Lieutenant-General Dan Halutz was considered to be vain and arrogant. He relied

¹⁶⁰ Lt Col Gordon C. Griffin, *Israel Versus Hezbollah 2006: An Assessment of Israeli Strategy* (BiblioScholar: 2008), 34-35.

¹⁶¹ Goodes and Moore, "Hizbollah: The Party of God," 18.

¹⁶² Matthews, "Hard Lessons Learned," 16.

¹⁶³ "Goodes and Moore, "Hizbollah: The Party of God," 19.

solely on air power and precision weapons and did not pay enough attention to the ground forces.¹⁶⁴

During the fight, when the reality of the situation on the ground set in, IDF leadership failed to adapt the military way of operation and its goals to the reality on the ground. Commanders were not given input or control of the joint force, and the Northern Commander, who was allegedly in charge, could not call in the air force or navy support, nor did he control their assets. When Hezbollah attacked Israel with short-range rockets, the army and the air force debated over which service was responsible for defeating them. Relations between the Northern Commander and the Chief of Staff became so spiteful that in the middle of the war the Chief of Staff sent his deputy to oversee and coordinate everything with the Northern Command staff.¹⁶⁵

Training

Prior to the outbreak of 2006 Lebanon War, IDF ground forces received little training. The reasoning was to neglect the land forces in favor of the air force and make sizable cuts in the reserve ground forces' budget and equipment. Many high-ranking IDF officers, both regular and reserve, did not receive adequate training at all. For example, the IDF brigade generals were under-trained and commanders above brigade level did not command their units in training for years. Some reserve units did not have any training in

¹⁶⁴ Matthews, *We Were Caught Unprepared*, 62.

¹⁶⁵ Goodes and Moore, "Hizbollah: The Party of God," 20.

large formations for 4 to 6 years. This under-training was the result of intentional Israel policy.¹⁶⁶

For example, Division 91 had a “stunning lack of professionalism and competence.”¹⁶⁷ Commanders within the division did not fully understand their orders and did not know their goals. During the major battles, they were not present with their troops and failed to accomplish simple missions. Once, an entire IDF battalion was in the same area for several days without moving. When the battalion commander received a mission to move deeper into the enemy territory, he was confused and failed to accomplish this task.¹⁶⁸

Years of COIN against the Palestinians had a huge impact on IDF and seriously diminished its conventional capabilities. The IDF’s reserves in the 2006 war performed poorly. Ground forces demonstrated unsatisfactory skills in the conventional arena as well. For example, in the fight at Wadi Al-Saluki, Israeli tank crews failed to use smokescreen systems. They lacked indirect fire skills and combined arms proficiency.¹⁶⁹ Overall, Hezbollah proved to be a serious adversary for IDF ground forces. Out of 114 IDF personnel killed, 30 were tank crewmen. IDF involved 400 tanks in this war. Five Merkava tanks were completely destroyed, 48 tanks were hit, 40 were damaged, and 20

¹⁶⁶ Matthews, *We Were Caught Unprepared*, 27.

¹⁶⁷ Matt M. Matthews, “Hard Lessons Learned,” in *Back to Basics: A Study of the Second Lebanon War and Operation Cast Lead*, ed. Lieutenant Colonel Scott C. Farquhar (Ft Leavenworth, KS: Combat Studies Institute Press, 2009), 18.

¹⁶⁸ Ibid.

¹⁶⁹ Matthews, *We Were Caught Unprepared*, 63.

penetrated. Hezbollah caused such losses mostly by the sophisticated employment of ATGMs and RPGs.¹⁷⁰

Israeli tactical leadership also suffered from poor training and performance. Mission orders were indefinite and did not have clear timelines for completing tasks. In addition, commanders frequently changed orders that resulted in troop confusion and mistrust between commanders and their subordinates. Seven of eight brigade commanders during the war mostly were located at their headquarters instead of leading troops at the front. Moreover, many units were broken up and dispersed among different forces resulting in a lack of overall unit cohesiveness.¹⁷¹

Materiel

Logistics issues proved problematic for Israel during the war. The IDF were not supplied with proper ammunition or body armor and lacked sufficient food and water to carry out a fight against well-supplied and prepared Hezbollah fighters.¹⁷² Equipment for the reservists that the IDF kept in the depots was missing, obsolete or broken. Reservists were not sure if they would be equipped in a proper way.¹⁷³

¹⁷⁰ Ibid., 64.

¹⁷¹ Griffin, *Israel Versus Hezbollah 2006*, 34.

¹⁷² Ibid.

¹⁷³ Matthews, *We Were Caught Unprepared*, 27.

Analysis of IDF's Adjustments to the HT and Assessment of the Effectiveness of the IDF's Adjustments

Doctrine

In summer 2007, Lieutenant General Gabi Ashkenazi replaced Halutz's. By September of the same year, Ashkenazi introduced a five-year plan called "Teffen 2012." The goal of this plan was to increase the war fighting ability of the IDF by creating a decisive ground maneuver capability based on modern main battle tanks and other armored fighting vehicles, attack helicopters, low-altitude UAVs, and transport aircraft. In addition, Teffen 2012 envisaged advancements in precision strike capability by the IAF as well as intelligence superiority through all means of gathering and preparedness and sustainability through expanding emergency stocks of munitions.¹⁷⁴

Organization

Almost immediately after the war, the IDF began taking steps to correct identified deficiencies such as placing intelligence cells on brigade and battalion staffs and utilizing new missile defense technologies.¹⁷⁵

After the end of 2006 Lebanon War, "Jointness" became the new IDF buzzword. IDF leaders understood the importance of joint warfare. Commanders from the IAF, Navy, Military Intelligence, and Shin Bet met to create joint target banks. Intelligence was pushed to the units in the field and battalion commanders employed the UAVs under

¹⁷⁴ Matthews, "Hard Lessons Learned," 22.

¹⁷⁵ Goodes and Moore, "Hizbollah: The Party of God," 22.

their command. The synergy between arms and branches of the IDF was demonstrated in operation Cast Lead.¹⁷⁶

Training

After the end of the war, Israel not only returned to the former military principles but also began to treat the training of troops quite differently. One Israeli officer described the IDF's response to the 2006 Lebanon War as "Training, training, and training as well as innovative thinking."¹⁷⁷ The IDF started to focus on offensive and defensive tasks and improving conventional warfare skills during the training. Tank units started to focus on their traditional roles and advantages: speed and firepower. The IDF armored brigades spent months of training at the Ground Forces Training Center in Negev, Israel. For example, 401st Armored Brigade that lost eight crews just in Saluki battle in 2006, conducted a three months training exercise in which they prepared for urban combat. The brigade commander of 401st Armored Brigade stated in an interview "Our advantage is our ability to move fast and our firepower. The tanks are now driving faster and using smokescreens—something they didn't use during the war—since we now understand that the threat of anti-tank missiles is 360 degrees."¹⁷⁸ The same approach was implemented at the battalion and company levels. Israeli units conducted

¹⁷⁶ Eleazar S. Berman, "Meeting the Hybrid Threat: The Israel Defense Force's Innovations Against Hybrid Enemies, 2000-2009" (Thesis, Georgetown University, Washington, DC, April 2010), 47.

¹⁷⁷ Matthews, "Hard Lessons Learned," 22.

¹⁷⁸ Ibid., 23.

comprehensive and realistic training in conditions similar to southern Lebanon and Hezbollah tactics.¹⁷⁹

The IDF reserve forces, particularly tank and artillery soldiers, were reattached to their designated weapons systems and retrained on the basics.¹⁸⁰ They started to conduct live fire exercises and full-scale division maneuver training. These exercises that involved both combat and combat support units, for the first time in many years, brought everyone in the units together. In addition, reserve officers received professional training in proper schools and conducted exercises with own units under their command.¹⁸¹

Materiel

After the war, the reserve forces started to receive their equipment in full quantities. Israel also paid attention to reservists' training to fight in order to make them able to fight side by side with regular army soldiers. IDF procured 10,000 ceramic protection vests, 30,000 helmets, 40,000 combat vests, and 60,000-night vision goggles, as well as significant quantities of grenades, small arms ammunition, and magazines. As a result, reserve soldiers became ready to address classic warfare needs.¹⁸²

Only four months after the war, the IDF announced that all tanks would be fit with the Trophy system, an armor protection system to counter advanced anti-tank

¹⁷⁹ Ibid.

¹⁸⁰ Ibid.

¹⁸¹ Ibid., 24.

¹⁸² Ibid.

weapons. Trophy creates a defensive canopy around armored vehicles, tracking and destroying incoming projectiles.

Though there were delays because of budgetary issues, the IDF outfitted tanks from the 401st Brigade with the system, and by the end of 2009, all newly produced tanks were equipped with the Trophy.¹⁸³

In summary, the performance of the IDF, especially ground forces, in the Second Lebanon War was inadequate. Due to such major factors as doctrinal issues, lack of Jointness, individual and collective training, poor intelligence, vulnerability of tactical and strategic communication, weak protection of combat vehicles, and deficient sustainment, Israel failed to meet any of its stated objectives. Nevertheless, the war against Hezbollah was a valuable lesson for the IDF. After the 2006 Lebanon War, Israel corrected perceived deficiencies by implementing Teffen-2012, a five-year plan through which the IDF increased war fighting capability, improved precision strike, gained intelligence superiority, and refined sustainment. Additionally, the IDF changed the training approach of the troops in terms of focus (from low-intensity conflict to high-intensity conflict), increasing the quality, and quantity of training.

Despite the fact that Israel did not verify the effectiveness of these changes directly in fighting against Hezbollah, the assessment is still possible by the results of the operation Cast Lead in Gaza 2008 to 2009. In this operation, Israeli leaders understood, that standoff attack by air, alone, would not create success.¹⁸⁴ In order to set

¹⁸³ Berman, "Meeting the Hybrid Threat," 29.

¹⁸⁴ Johnson, *Military Capabilities for Hybrid War Insights from the Israel Defense Forces in Lebanon and Gaza*, 6.

preconditions to achieve military and political objectives, Israel had to put forces on the ground. Unlike the troops who opposed Hezbollah, the Israeli troops in operation Cast Lead were highly trained in HIC, specifically in combined arms maneuver.¹⁸⁵ “When the IDF went into Gaza in Operation Cast Lead, it was markedly better prepared to fight a hybrid opponent than it had been in Lebanon in 2006.”¹⁸⁶ Additionally, the IDF’s combat vehicles, equipped with improved protection, were able to maneuver and conduct direct fire in the conditions of high concentrations of mines, snipers, and anti-tank weapons.¹⁸⁷ Moreover, in contrast to 2006 Lebanon War, during operation Cast Lead, the IDF’s maneuver brigades operated under the direct support of attack helicopters, UAVs, and artillery that provided “highly responsive and effective”¹⁸⁸ fire. Lastly, the synergy between different services had been improved. Ground brigades were “the locus of tactical decision making”¹⁸⁹ and were resourced to organize and control the fight with liaison officers from different services.¹⁹⁰

However, Hamas is not as well trained, sophisticated, disciplined, and equipped opponent as Hezbollah.¹⁹¹ This demonstrates that adequate effectiveness of IDF’s

¹⁸⁵ Ibid.

¹⁸⁶ Ibid.

¹⁸⁷ Ibid., 7.

¹⁸⁸ Ibid.

¹⁸⁹ Ibid.

¹⁹⁰ Ibid.

¹⁹¹ Ibid.

adjustment in countering current HT could be determined after employing achieved new capabilities in fighting a current HT particularly.

Ukrainian-Russian Conflict that started in 2014

Brief Historical Overview of the Case

In the winter of 2014, the Revolution of Dignity occurred in Ukraine. President Viktor Yanukovych abandoned the country and escaped to Russia. In March, while the Ukrainian people attempted to create a new government, the so-called “green men” in unmarked Russian uniforms, with Russian-made modern weapons, and typical Russian accents started to appear in Crimea and soon in eastern Ukraine. During the same month, Russia annexed the Crimea through an illegal and falsified referendum that was not recognized by international organizations such as United Nation Security Council and Organization for Security and Co-operation in Europe.¹⁹²

Initially, the Kremlin denied its involvement in this action. However, only a year later, Russian President Vladimir Putin made a statement that Russian Special Forces and other troops executed the Crimean operation. In Donbas, Eastern Ukraine, the green men appeared in the guise of local “separatists.” Russian media disseminated false information to the whole world that the turmoil in Donbas was a civil war. In reality, Russian leadership again tried to accomplish the Crimea scenario in the Donbas region. The proclaimed President of Donetsk People’s Republic was Aleksander Borodai, a Russian political consultant. Donetsk People’s Republic Defense Minister was Igor Girkin, known as “Strelkov,” a Federal Security Service Colonel. The Kremlin thought that providing

¹⁹² Czuperski et al., “Hiding in Plain Sight. Putin’s War in Ukraine,” 4.

leadership, money, and weapons would be enough to start a rebellion in Donbas against Kyiv. However, the people did not rise up in rebellion. Girkin asked Moscow for more and more “volunteers” to organize the rebellion. Russia met these requests. Girkin’s forces moved westward to Slovyansk and Kramatorsk.¹⁹³ (see figure 2)



Figure 2. Ukraine Map

Source: Google.com, “Ukraine Map,” accessed 4 April 2017, <https://www.google.com/maps/@48.399053,33.9049334,7z>. Sites depicted by the author.

On 25 May 2014, by majority vote Ukrainians elected a new president, Petro Poroshenko. Just before the election, the Russian-sponsored authorities in Donetsk and Luhansk region held their own illegal referendums and declared independence from Ukraine for these regions. Putin used this opportunity and increased Russian intervention

¹⁹³ Czuperski et al., “Hiding in Plain Sight. Putin’s War in Ukraine,” 4-5.

in Ukraine. Thus, in late spring 2014, he sent to Donbas the Chechen battalion “Vostok”¹⁹⁴ and assembled troops along the Ukrainian-Russian border.¹⁹⁵

Ukrainian President Poroshenko initiated the military operation to defend Ukraine. In June, the UAF started to take back territory, including Slovyansk and Kramatorsk. In response to this offensive, Russia sent more sophisticated equipment, including artillery systems, tanks, anti-aircraft missiles, such as “Buk” and other weapons. The supply of this equipment did not impede Ukraine’s operation through August. Neither did the employment of artillery units from Russian territory against UAF stop Ukrainian advance. By mid-August, Kyiv forces were about to encircle separatists in Donetsk and Luhansk regions. At that moment, Putin decided to send to Donbas approximately four thousand regular forces. As a result, the Russian Army forced the UAF to retreat.¹⁹⁶

Soon, on 5 September 2014, the parties participating in conflict signed an agreement in Minsk that led to a ceasefire. Despite this, Russia did not stop sending heavy weapons to Donbas and continued its operations, particularly to seize Donetsk Airport that was occupied by the UAF. Russia finally seized the airport in January 2015. Further, the Russians renewed offensive actions in order to seize a railway hub in Debaltseve. New fighting in this area led to a second Minsk ceasefire on 15 February 2015. However, the Russians broke the second agreement almost immediately and on

¹⁹⁴ A unit comprised from volunteer Chechen fighters.

¹⁹⁵ Czuperski et al., “Hiding in Plain Sight. Putin’s War in Ukraine,” 4-5.

¹⁹⁶ Ibid., 5.

18 February seized Debaltseve. After that, the fighting calmed down and the Kremlin used this time to move more arms into Donbas. The conflict is still going on.¹⁹⁷

Explaining why the Separatist Forces are considered a HT

The adversary in Eastern Ukraine clearly falls under the criteria of HT. Forces that oppose the UAF are a combination of irregular pro-Russian separatist forces, regular Russian Forces, and regional criminal elements unified to achieve mutually benefitting effects.

In this study, the HT represented in Eastern Ukraine will be called “separatist forces.”

President Vladimir Putin denies Russian involvement in the conflict, but there is a lot of evidence that leads to the opposite. The proof of Russian involvement in Ukraine are satellite images of starting positions of artillery and other units in the territory of Russia and Ukraine, photo and video materials proving the transfer of military personnel and equipment from Russia to Ukraine, and employment of sophisticated surface-to-air missile systems that were used against air targets. In particular, Malaysian Airlines Flight MH17 was shot down from the Russian-controlled territory in Ukraine by mistake.¹⁹⁸

Separatist forces rely heavily on a steady flow of Russian supplies, especially heavy weapons such as tanks, infantry fighting vehicles, armored personnel carriers, air

¹⁹⁷ Ibid., 5-6.

¹⁹⁸ Ibid., 5.

defense, and artillery systems.¹⁹⁹ Separatists try to take advantage and superiority through the employment of modern technology and the media.²⁰⁰

In addition, separatists try to embed their components in the political, military and social sphere of the Ukraine. Separatists seek from Ukraine the recognition of individual Donetsk and Luhansk republics with a special status with the preservation of a common political, economic, and cultural space.²⁰¹

Former and current criminals released from the colonies, jail, and prison constitute a significant portion of separatists' forces. Therefore, the activities of separatists are also combined with robbery, looting, and violence. Gang formations are mostly created on a territorial basis. However, their activities may not be limited to these areas. Often, combat operations of militant units are accompanied by looting and different violence.²⁰²

Analysis of the HT

Doctrine

The tactics of separatist troops in the east of Ukraine are multifaceted. Further analysis reveals the main principles of pro-Russian troops' actions in Donbas.

¹⁹⁹ Ibid., 8.

²⁰⁰ Roman Shutov, "Capabilities of Separatist Forces in Ukraine," accessed 17 November 2016, http://osvita.mediasapiens.ua/monitoring/advocacy_and_influence/rosiyska_propaganda_v_ukrainskomu_informatsiynomu_poli_pidsumki2014/.

²⁰¹ Interfax-Ukraine, "Separatists Objectives," accessed 17 November 2016, <http://ukr.segodnya.ua/politics/pnews/dnr-i-lnr-hotyat-prodolzhat-ravnopravnyy-dialog-s-kiyom-566319.html>.

²⁰² Public Policy Portal, "Capabilities of Pro-Russian Separatists."

Separatist forces use a tactic of subversive-reconnaissance groups. The tactics of the subversive and reconnaissance groups were taken by the Russians from the Chechens. Separatists conducted point attacks, passed between enemy positions, mined roads, ambushed convoys, and unexpectedly attacked individual positions. In 2014, the use of this tactic was justified because part of the local population, propagandized by the Kremlin TV, sympathized with the green men. Additionally, the UAF did not always orient well on the terrain outside the main roads. Nevertheless, now, this tactic has lost its effectiveness because Ukraine has created a solid front line, built an echeloned defense, and controls the entire front-line territory. In addition, the local population began to help the UAF with providing information about suspicious people with weapons.²⁰³

Another foundation of modern Russian tactics learned in Chechnya is coverage by the local population. The Russians noticed in Chechnya that when they used civilians and civilian infrastructure as shields the Chechens did not open a fire on the Russian troops. The Russians placed firing positions in cemeteries, courtyards of schools, kindergartens, hospitals, and multi-storied houses. However, the armed forces of the Russian Federation themselves did not consider these types of positions, if occupied by Chechen fighters, as constraints. Instead, the Russians willingly opened fire on Chechen positions intermixed with the civilian population during operations despite the resulting collateral damage. The Russians saw how effectively, especially in Western countries, Chechens disseminate information about the crimes of the Russian army against civilians.

²⁰³ Solodko, "Tactics and Capabilities of Separatist Forces."

In Ukraine, the Russians hoped that the Ukrainian army would not limit collateral damage but begin to equate Donbas cities in which Russians were positioned. The Russians wanted to achieve two goals. First, to change the population's opinion to that opposing the UAF. Second, the Russians wanted to portray to Western democracies a stunning picture of the "genocide of the Donbas people by the Ukrainian fascists." This concept failed. The UAF, in spite of the Russian artillery firing from the residential districts, did not return fire for fear of killing civilians. Thus, to achieve their given goal of discrediting the UAF, the Russians started to use their own artillery against Ukrainian civilians and create stories about raped women and crucified Donbas' babies²⁰⁴; and war crimes perpetrated by Ukrainian soldiers.²⁰⁵

Russia firmly denies its military presence in the Donbass. Russian political and military elite lie to the entire world to cover themselves with innocence with peaceful population while committing other war crimes.²⁰⁶ The main position to which the Russian Federation adheres to is "Our army is not there." Therefore, the Russian military erases the recognition marks on the equipment, issues military documents of the non-existent "state" instead of the military tickets of the Russian Federation, cuts off the

²⁰⁴ After the liberation of Slavyansk by the Ukrainian army in mid-2014, on the First Channel of the Russian Federation was shown a story in which a resident of the Slavyansk told about not true atrocities of the Ukrainian military. Vitaliy Gyzev, "Russian Propaganda, Media Disinformation," accessed 25 February 2017, <https://www.youtube.com/watch?v=9dgNgf6XIc0&t=51s>.

²⁰⁵ Solodko, "Tactics and Capabilities of Separatist Forces."

²⁰⁶ Ibid.

chevrons from their uniforms, and hides the facts of the deaths of Russian servicemen in Donbas.²⁰⁷

After every new agreement, the Russians immediately begin to violate the agreement. They use agreements to realize their own interests.²⁰⁸ For example, using a truce, they can capture a territory or objects in a zone that is not under their control, while they pretend as though nothing happened.²⁰⁹

Another principle of pro-Russian troops' actions is use of Horde tactics of isolation. The Mongol-Tatars never surrounded the enemy completely. They always left a way to exit because the enemy, driven into corner, will brutally defend, and the enemy who has a way to retreat, will move relaxed along the corridor provided, where the Horde can conveniently destroy the enemy. The Russian troops in Donbas used the tactics mentioned above. For example, during the isolation of Illovaisk, the Russians promised a "green corridor" for the Ukrainians. As a result, most of those who used this corridor were shot. Only those who broke out of the environment in a completely different place survived.²¹⁰

Separatist forces employ the concentration of the main efforts. For example, during the battle for Debaltsevo, the separatists, covering with a truce that had just been signed in Minsk, pulled the troops from other sectors of the front. Taking advantage of

²⁰⁷ Ibid.

²⁰⁸ Ibid.

²⁰⁹ Ibid.

²¹⁰ Ibid.

the weakening of positions, Ukrainian units made significant progress in the vicinity of Shyrokin. ²¹¹

Separatists use echelon battle formations. In defensive and offensive operations, the separatists use two echelons. In the first, there are militia units from the First and Second Army Corps, in which mercenaries serve. The regular army of the Russian Federation operates in the second echelon. The actions of such an army are as follows. The troops of the militia serve as a “cannon fodder” for the first strike against the Ukrainian troops. Regular Russian units further develop success.

For example, in February 2015, this role was performed by servicemen from the 5th Armored Brigade of the Armed Forces of the Russian Federation. The use of militias in the first echelon is also beneficial. First, there is no need to pay a large amount of money from the state budget to combatants who suffer casualties as a result of fighting. Relatives of the victims also do not receive adequate payments. Second, it is impossible to calculate the number of real losses. For example, in the battles for Shyrokin, the separatists did not even try to take the bodies of their victims from the battlefield. ²¹²

Separatist forces widely use propaganda and information operations. The war in Donbas would not have been possible without a grand media campaign, unprecedented in the history of mankind, to misinform the population, and inflict psychological terror against citizens on both sides of the front. ²¹³

²¹¹ Ibid.

²¹² Solodko, “Tactics and Capabilities of Separatist Forces.”

²¹³ Ibid.

The separatist forces widely used capabilities of electronic warfare (EW) systems, including modern models. The separatists conducted a radio-electronic war in Donbas to achieve four main objectives. The first objective was to destroy the UAF C2 nodes by massive rocket and artillery fire. The separatists detected and engaged any sources of electromagnetic radiation whose characteristics could be determined by the UAVs or any electronic surveillance means. The second objective was to block any electromagnetic UAF's means of communication. The third was to suppress Ukrainian UAVs by obstructing their control or passing GPS signals. The final objective was to hamper the use of UAF's artillery and mortars by pre-detonation of artillery or mortar shells with electronic detonators.²¹⁴

Separatist forces intensively used massive rocket and artillery shelling. Increased effectiveness of aerial surveillance systems based on UAVs coupled with massive artillery shelling and MLRS employment led to a new level of intensity of modern traditional combat. The separatists successfully used a combination of enhanced action of conventional ammunition, remote mining, cluster munitions, and a thermobaric weapon that has devastating effects when used during planned massive fire strikes. The results of the conflict in Donbas show that rocket and artillery fire was the cause of approximately 80 percent of all losses. At the same time, the combination of UAVs and artillery systems and the growing role of counter-battery radars and fire on the battlefield reduce the

²¹⁴ Yuri Radkovec, "Capabilities of Separatist Forces," accessed 22 January 2017, <https://www.ukrinform.ua/rubric-politycs/2107122-gibridna-vijna-rosii-proti-ukraini-uroki-ta-visnovki.html>.

possibility of opposing sides to respond with fire strikes, forcing the enemy to constantly change positions.²¹⁵

Separatist forces widely used UAVs for intelligence, surveillance, and reconnaissance, determined target grids to specify the massive rocket and artillery strikes in real-time, and more recently as mini-bombers equipped with incendiary ammunition, targeting the storage of fuel and ammunition. The combination of small size of UAVs, their limited radar profile, and how difficult it is to detect them visually makes the use of the missile systems class surface-to-air against them ineffective and costly.²¹⁶

The separatists provided a significant role to heavy armor on the battlefield.²¹⁷ The separatists used tanks as part of battalion and company tactical groups. In offensive operations in open terrain under the artillery support tanks tried to cut the line of defense of the Ukrainians and wedged into defensive positions to a great depth. In defensive operations in open terrain, the tanks supported the infantry in defeating the enemy's offensive and conducted counterattacks. In the urban operations, tanks were used as a powerful firepower for infantry support. Sometimes, the separatists used single tanks to conduct a troublesome fire on Ukrainian positions. They strike on Ukrainian positions using indirect tank fire from distances up to 10 kilometers. After the special calculations, such a fire could be precise and brought a lot of problems due to the fact that it is very

²¹⁵ Ibid.

²¹⁶ Ibid.

²¹⁷ Ibid.

difficult to destroy one tank at a great distance. There have been cases that one tank bothered Ukrainians for a week.²¹⁸

Today, separatists' forces set up the densest network of mobile defense at the Donbas. The combination of self-propelled and man-portable air defense systems dislodged the Ukrainian aircraft in their own sky. That is why Ukraine is facing the most critical challenge-superiority in the air by adequate suppression and destruction of enemy air defense systems and their secure bases and positions.²¹⁹

Organization

Initially, the separatist forces represented “a bewildering multiplicity of units, such as Don Cossacks (an Orthodox Christian military unit, now in schism), military groups with names like Sparta or Somalia, and many others known only by the name of their commanders.”²²⁰ These groups required continuous control from the Russian Federation, otherwise they could easily turn into a network of well-armed criminal groups or bandits, operating on both sides of the border.²²¹

During the years 2014 through 2016, the Russian military organizers and representatives of the special services of the Russian Federation established a number of separatist gangs on the temporarily occupied Donbas. After a series of reforms and

²¹⁸ From an interview with Lieutenant General Zabrodskiy.

²¹⁹ Ibid.

²²⁰ International Crisis Group, Europe Report No. 235, “Eastern Ukraine: A Dangerous Winter” (International Crisis Group, Brussels, Belgium, 18 December 2014), 13.

²²¹ Ibid.

restoration of order in them, Russian organizers systemized different separatist groups into the general armed group.²²²

Following the military actions, smuggling, looting and criminal rules of life came to Donbas.²²³ Donetsk used to be the criminal capital of Ukraine. Now the situation is the same, only the Russian and Caucasian “authorities” with more stringent “rules of the game” came to replace the Donetsk criminals. They take away the business, deal with the racket, conduct human trafficking, transfer of drugs and weapons, and use Ukrainian prisoners of war as a labor force. If a citizen of Donbas does not want to give up his business, in the best case he can be kept in custody for a long time until he rewrites all his property to bandits.²²⁴ The separatists captured more than 10 prisons on the territory of the Donbas. Some of the prisoners are fighting on the side of the separatists. Those who do not want to take weapons are forced to work. They dig trenches, repair equipment, dismantle the rubble etc.²²⁵

With the direct cooperation of the Russian Federation, the First (Donetsk) and the Second (Lugansk) Army Corps were formed. These Corps formed a “private” army of Putin. The units of the corps are mainly the motorized units, the structure of which

²²² Public Policy Portal, “Capabilities of Pro-Russian Separatists.”

²²³ Radio Svoboda, “Criminal Elements in Donbass,” accessed 13 October 2016, <https://www.radiosvoboda.org/a/26707780.html>.

²²⁴ Ibid.

²²⁵ Ihor Serov, Artur Gor, and Arsen Berkan, “Criminal’s Elements within Separatist Forces,” *Segodny*, accessed 21 December 2016, <http://www.segodnya.ua/ukraine/zaklyuchennye-na-donbasse-eshche-nemnogo-i-my-nachnem-umirat-554358.html>.

coincides with the Russian counterparts. These units are equipped with so-called “militiamen” and volunteers from the Russian Federation.²²⁶ At the same time, the recruitment of mercenaries occurs through the Russian military commissariats. Nevertheless, the troops in Donbas are not just mercenaries. Professional Russian Armed Forces troops are an integral part of separatists’ forces. They are represented with mechanized, tank, artillery, and radio-electronic warfare units.²²⁷

The militants units are organized into separate brigades, separate battalions, battalions of territorial defense, regiments, and some other units. The typical structure of infantry separatists’ brigades follows the Russian model and includes all the classical components. Each brigade has a powerful brigade artillery group. The recruitment of brigades to their authorized strength is still ongoing.²²⁸ One motorized brigade usually has 10 to 20 tanks, 40 to 50 armored combat vehicles, a battery of self-propelled howitzers, a battery of multiple launch rocket systems, and a significant number of other vehicles for personnel transportation. Each brigade has a UAV unit.²²⁹

Experts estimate that in March 2015, about 12 thousand Russian military personnel were present in Eastern Ukraine and approximately 50,000 Russian troops were located in camps along the Russian-Ukrainian border.²³⁰ On the territory of the

²²⁶ Solodko, “Tactics and Capabilities of Separatist Forces.”

²²⁷ Ibid.

²²⁸ Public Policy Portal, “Capabilities of Pro-Russian Separatists.”

²²⁹ Ibid.

²³⁰ Czuperski et al., “Hiding in Plain Sight. Putin’s War in Ukraine,” 6.

Donbas, Russia often used battalion and company tactical groups, especially for offensive operations in 2014. For example, on the night of 25 August 2014, Russia deployed to the Donbas eight battalion tactical groups of the Russian Federation Armed Forces, totaling more than 4,000.²³¹ From the callsigns obtained by the Ukrainian military in one of the battles, it is possible to give the exact composition of the company tactical group of the 36th separate motorized rifle brigade of Russian Armed Forces, which participated in battles in Donbas. The company tactical group consisted of three motorized rifle platoons, tank platoon, mortar battery, howitzer self-propelled artillery battery, grenade launchers platoon, engineering sapper platoon, medical squad, portable anti-aircraft missile system squad, ZSU 23-4 squad, and an evacuation group.²³² A battalion tactical group usually consisted of three mechanized companies, tank company, mortar battery, 1-3 howitzer self-propelled artillery battery, grenade launchers platoon, medical platoon, electronic warfare platoon, sniper platoon, flamethrowers platoon, reconnaissance company, special group (from Russian Special Forces), two UAVs, supply platoon, and an evacuation group.²³³

²³¹ Ukrainian General Staff, "Organization of Pro-Russian Separatists in Donbass," accessed 19 January 2017, http://www.mil.gov.ua/content/other/anliz_rf.pdf.

²³² International Intelligence Community Informnapalm, "Task Organization of Separatist Forces," accessed 5 February 2017, <https://informnapalm.org/ua/sklad-taktychnoyi-grupy-36-brygady-zs-rf/>.

²³³ Svyatoslav Stecenko, "The UAF's Initial Response and Assessment of the Effectiveness of the UAF's Initial Response," accessed November 10, 2016, <https://www.ar25.org/article/strategichni-prychyny-taktychnoyi-porazky-do-rozgromu-ukrayinskyh-viysk-pid-ilovayskom.html>.

Training

There are several Russian training camps located near the Ukrainian border. These camps are the launching points of Russia's war in Ukraine. They serve as the collecting points for Russian military equipment transported into Ukraine and for Russian soldiers mobilized from the far reaches of the country to cross into Ukraine. The camps house thousands of Russian soldiers and pieces of military equipment that appear in Ukraine.²³⁴

Representatives of Russian Armed Forces and current employees of the Russian special services serve as curators and military instructors for separatists.²³⁵

Training of militants is carried out in such disciplines as weapons firing, sabotage, carrying out terrorist acts, survival in the field, and camouflaging. Attention is also paid to training outreach work with the public. Training centers provide good training to the militias.²³⁶

Materiel

Separatists' forces significantly rely on Russian military assistance. Russia has provided substantial amounts of heavy weaponry and equipment to them.²³⁷

²³⁴ Ibid., 13.

²³⁵ Public Policy Portal, "Capabilities of Pro-Russian Separatists."

²³⁶ Ibid.

²³⁷ International Crisis Group, Europe Report No. 235, "Eastern Ukraine: A Dangerous Winter," 12.

Among identified in Donbas modernized samples of new weapons and military equipment of the Armed Forces of the Russian Federation, the following should be noted:

Table 1. Weapons and Military Equipment

Jet infantry flame thrower	“Shmel-M”
Tank	T-72B3
Armored vehicle	“Lenx,” “Tiger,” URAL-63095 “Typhoon”
MLRS	BM-21, BM-30, BM-27, 9A52
Self-propelled mortar	2S4 “Tulpan”
Heavy flamethrower system	TOS-1 “Buratino”
Air Defense Systems	“Tor,” “Buk-M1,” “Buk-M2”
Antiaircraft gun-missile complex	“Pancyr-S1”
Portable anti-aircraft missile system	9K333 “Willow”
Electronic intelligence systems	“Zoopark-1M,” 1L222 “Avtobaza,” 1L267 “Moskva-1”
Automated radio monitoring complex	“Torn-MV”
Complexes of electronic warfare	“Rtut-BM,” “Shypovnik-Aero,” “Leer-2,” 1L269 “Krasuha-2,” 1RL257 “Krasuha-4,” MKTK-1A “Djudoist”
Radar station	1L271 “Aystenok,” PSNR-8M
UAVs	“Tahion,” “Forpost,” “Orlan-10,” “Eleron-3SV”
Landmines ²³⁸	PMN-2, MON-50
Ammunition	Scatterable munition of the rocket missile system MLRS 9K58 “Smerch,” N235 combat element cluster of warhead rockets MLRS 9K58 “Smerch”

Source: Yuri Radkovec, “Capabilities of Separatist Forces,” accessed 22 January 2017, <https://www.ukrinform.ua/rubric-politycs/2107122-gibridna-vijna-rosii-proti-ukraini-uroki-ta-visnovki.html>.

²³⁸ Radkovec, “Capabilities of Separatist Forces.”

Modern Russian tank T-72B3 that is widely used by separatists has modernized armor and is equipped with reactive protection system and a new 125mm gun. The most important upgrade is an advanced computerized fire control system with improved optics and modern night and all-weather vision devices. Considering the experience of the war in Donbas, Russia has also developed modular advanced protection systems (similar to T-90) for the T-80, T-72, and T-64 tanks.²³⁹

Pro-Russian troops widely used UAVs both for reconnaissance and for a strike of high-value targets during the conflict. They employed no less than 13 different fixed wing drone designs and at least one quad-copter design over the Donbas. These UAVs had varying ranges and different sensor suites.²⁴⁰

Analysis of UAF's Initial Response and Assessment of the Effectiveness of the UAF's Initial Response

Doctrine

The initial response of UAF demonstrated that, at the beginning of the conflict, the Ukrainian military specialists did not have a consensus on the role of mechanized and armored units in fighting against such hybrid threat. The Ukrainian doctrine, unfortunately, did not give clear answers to this question as well.²⁴¹ In most cases, mechanized and armored units were used only for conducting positional defense.²⁴²

²³⁹ Radkovec, "Capabilities of Separatist Forces."

²⁴⁰ Karber, "Lessons Learned from the Russo-Ukrainian War," 12.

²⁴¹ From an interview with Lieutenant General Zabrodskiy.

²⁴² Ibid.

Generally, because of low training, mechanized and tank units were not effective. In rare cases, they were effective with units of highly mobile airborne troops. The use of tanks during the raid operations as the main striking force demonstrated its effectiveness. The use of armored units to destroy some well-fortified enemy firing points was effective in the release of Sloviansk and during the relief of Lugansk airport.²⁴³ However, mechanized and tank units during combat operations in eastern Ukraine did not use full capacity, strength, and capabilities.²⁴⁴

Organization

Tank and mechanized units were used as part of a battalion or company tactical group during the conflict. For example, the battalion tactical group included a mechanized battalion in full composition with a tank company, an artillery battery or battalion, and a subunit of flamethrowers and snipers.²⁴⁵ In most cases, this structure has proved itself successful. Nevertheless, the Ukrainian command sometimes used tactical groups that included units from different brigades instead of using the entire brigade. This significantly reduced the combat capabilities of such groups. It also complicated the control, interaction, and sustainment of units.²⁴⁶

²⁴³ Ibid.

²⁴⁴ Ibid.

²⁴⁵ Ibid.

²⁴⁶ Stecenko, “The UAF’s Initial Response and Assessment of the Effectiveness of the UAF’s Initial Response.”

From July to September 2014, during the conduct of raid operations, mechanized and armored units were attached to relatively combat ready highly mobile airborne troops. Their employment was effective in the capture and destruction of enemy checkpoints. Also at this stage, mechanized and tank units, although with more powerful weapons, were often used in the second echelon, while the highly mobile airborne troops were used in the first.²⁴⁷

Training

The UAF personnel had poor training at the beginning of the conflict. Most mechanized and armored units before the conflict were in the reduced state. Officers responsible for combat training were doing mostly life support activities. With a transfer to the state of war, these officers failed to organize effective training of personnel that was called for by mobilization. Keeping units in a shortened composition did not give an opportunity to complete the effective training of troops, as half of the personnel were continuously involved in duties. In such circumstances, a generation of officers has never conducted live fire exercises with their units. There were instances when a brigade did not have any specialists to conduct training of mobilized personnel. A large number of officer positions remained vacant and were staffed during or after the accomplishment of the unit's training. Because of this, the principle of "every commander trains his subordinates" was not respected. This led to the fact that at the initial stage of the conflict

²⁴⁷ From an interview with Lieutenant General Zabrodskiy.

in March and June 2014 the state border with Russia was not effectively covered, which allowed the penetration of militants and arms into the territory of Ukraine.²⁴⁸

During the training of mechanized and armored units, the experience gained by the armed forces of many countries in modern military conflicts was neglected. The soldiers were not trained even in basic techniques and methods of survival in the difficult conditions of modern military conflicts. Personnel were not trained in navigation on the terrain. The interaction between mechanized, tank, and artillery units was poor. Units operated using old Soviet tactical doctrine. Often mechanized and tank units performed assigned tasks together with other services such as special operations forces. However, the interaction between them was also poor.²⁴⁹

Often, mechanized and tank units did not comply with basic standards of tactical movement, deployments on the ground, and allocation of command posts. This led to a reduction of maneuver capabilities, difficulties with unit's control, and to a significant reduction in security personnel and equipment to enemy fire exposure. Elementary ignorance of tactical and technical characteristics and combat capabilities of its own weapons and military equipment led to "finding new techniques and methods of firing weapons," which gave a false impression of the effectiveness of fire.²⁵⁰

One of the main issues that led to heavy losses of personnel, equipment, and weapons was the ineffective measures that took high commanders to ensure the secrecy

²⁴⁸ Ibid.

²⁴⁹ Ibid.

²⁵⁰ Ibid.

and suddenness of units' action. This led to information leaks about plans and actions that caused unnecessary losses.²⁵¹

Brigade's and higher staffs were not proficient in planning and controlling the units during the fight. Time for producing the orders was often exaggerated, which made it impossible for battalions and companies to conduct qualitative planning and preparation for the mission accomplishment.²⁵²

The mobilized personnel had low motivation and discipline. Because of that, the effectiveness of units, manned with this personnel, was low. There were cases when the enemy captured groups of drunken Ukrainian soldiers. Sometimes mobilized soldiers had sufficient motivation to perform tasks, but their training was bad. They had a lack of combat experience and were uncertain in their own abilities and weapons. There were cases when soldiers tried to leave the occupied positions after the first minor attacks of the enemy. To prevent their leaving, commanders sometimes threatened them with the officers' personal weapons. In addition, there was no emphasis on morale and psychological support aimed at forming and maintaining the morale and fighting qualities needed for successful combat missions.²⁵³

²⁵¹ Ibid.

²⁵² Ibid.

²⁵³ Ibid.

Materiel

Since the beginning of hostilities in Donbas, UAF were armed mainly with weapons and military equipment inherited from the time of the Soviet Union. The latest development of Ukrainian gunsmiths appeared in UAF rarely and in limited quantities.²⁵⁴

Weapons and military equipment were in poor technical condition. Physical aging, low maintenance and storage conditions, as well as spare parts understaffing led to this situation. As a result, the majority of time during the combat training units spent on restoring and preparing combat vehicles, weapons, and equipment for combat use. Communications and reconnaissance assets were in the most critical condition. In addition, exploitation of military equipment was carried out with major violations that led to a significant reduction in their reliability. Weapons and combat vehicles often broke down.²⁵⁵

Light armored combat vehicles, such as infantry fighting vehicles and armored personnel carriers, whose mobility and firepower have priority over survivability, were vulnerable to anti-tank weapons, automatic medium-caliber guns, artillery cassettes, and thermobaric ammunition. When hit, the crews of infantry fighting vehicles generally suffered significant losses, were killed or seriously wounded. The presence of advanced protection systems could improve the situation.²⁵⁶

²⁵⁴ Media and Consulting Company Defense Express, “The Ukrainian Armed Forces’ Equipment,” accessed 14 December 2016, <https://defence-ua.com/index.php/statti/1775-ukrayinska-bronetekhnika-v-boyakh-na-skhodi-ukrayiny>.

²⁵⁵ From an interview with Lieutenant General Zabrodskiy.

²⁵⁶ Radkovec, “Capabilities of Separatist Forces.”

Battalion tactical groups did not have organic technical assets for air reconnaissance. Battalions' air defense teams (ZU-23-2, SVD, PKM/RPK-74) in most cases were not able to destroy enemy's UAVs.²⁵⁷ The logistics supply of the units was also poor due to inadequate funding of the Armed Forces of Ukraine.²⁵⁸

Analysis of UAF's Adjustments and Assessment of the Effectiveness of the UAF's Adjustments to the HT

Doctrine

In connection with the peace agreements and a certain clear line of demarcation, the belligerents were forced to conduct a linear defense. Despite the fact that the Ukrainian command understands that positional defense is not effective and should be avoided, all Ukrainian troops conduct this type of defense.²⁵⁹

In the conditions of the extended defense of mechanized and tank brigades, the platoon and company strong points were enlarged in size. For example, a platoon strongpoint could be 500 to 600 meters along the front. In the rear of the strong points, the supplementary positions of the anti-tank reserve and hide positions for armored vehicles with the purpose of withdrawing it from the attacks of the enemy artillery were prepared. Combat vehicles were placed out in the field where the enemy could easily see them and were masked from aerial observation. A shelter for personnel was prepared next to the vehicle's trench. The practice of lodging personnel in tents or houses caused

²⁵⁷ Ibid.

²⁵⁸ Ibid.

²⁵⁹ Ibid.

imminent losses. In order to avoid this, personnel lived in dugouts adapted to long comfortable stays. An observation system was organized qualitatively.²⁶⁰

Due to the lack of tanks or *Boevaya Mashina Pehoty* ((BMPs)-Soviet produced Infantry Fighting Vehicles) to reinforce strong points, check points, and other positions, “armored teams” were employed. At the company level, an armored team included 2 or 3 tanks or BMPs. There are 3 or 4 tanks or BMPs at the battalion level.²⁶¹

The most effective ways to use tank units were found to be the so-called “Tank Carousel” and “Fire Carousel.” These two methods allowed maintaining a high rate of fire during suppression of enemy for a long time. Tank Carousel is based on continuous firing from tanks at the enemy during a certain period of time or until the target is destroyed. The Tank Carousel could be executed by tanks of one unit or by several tank units (see figure 3).²⁶²

²⁶⁰ Ukrainian Land Forces National Academy, “Ukrainian Army Improvements,” Reports from Scientific Conference, November 17, 2016, accessed December 5, 2016, http://www.asv.gov.ua/content/nauka/2016/17-11-2016_zb_tez_dop.PDF.

²⁶¹ From an interview with Lieutenant General Zabrodskiy.

²⁶² Ibid.

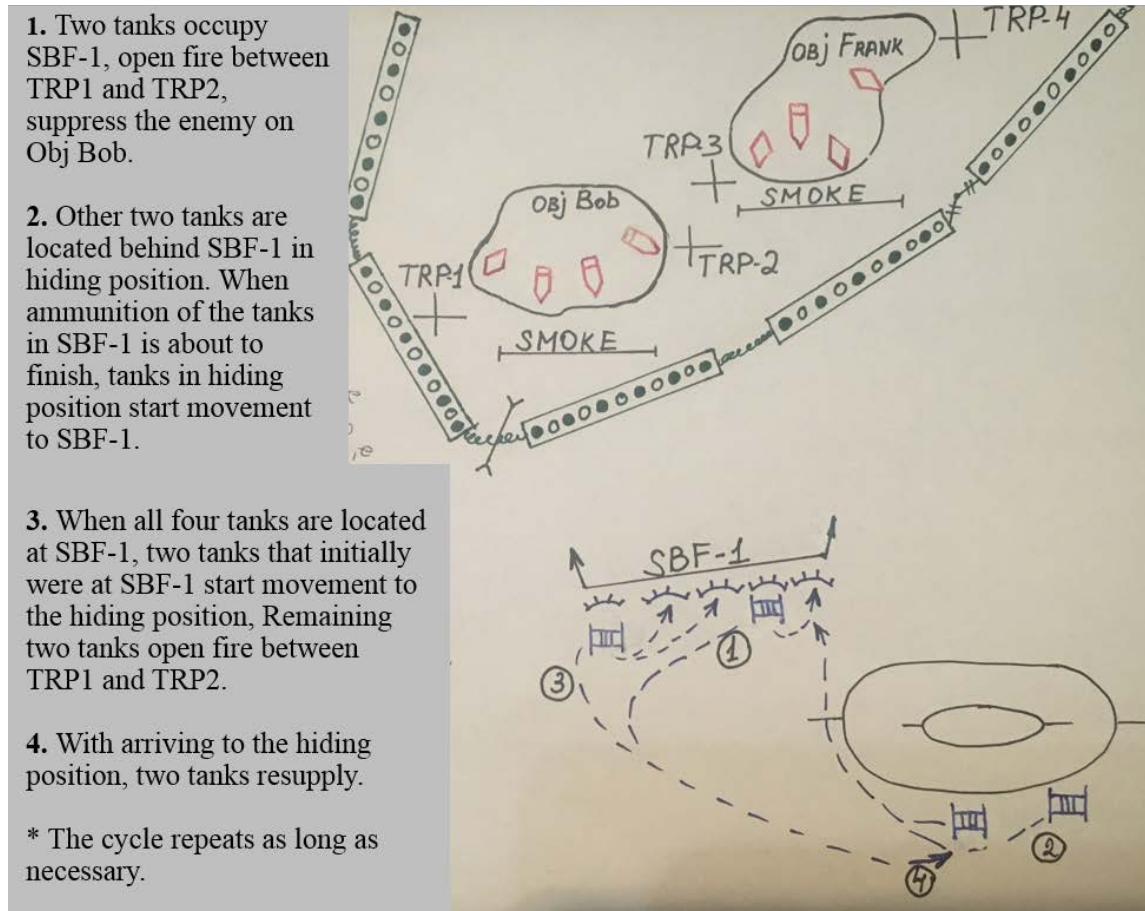


Figure 3. Tank Carousel Example

Source: Created by author.

The Fire Carousel is based on continuous firing from tanks and artillery at the enemy during a certain period of time or until the target is destroyed. Typically, armored units first opened fire on the enemy. After expending all ammunition or when the tanks must move, artillery units opened fire on the target until the tanks were ready to shoot

again. The artillery units changed positions when the tank units began to fire (see figure 4).²⁶³

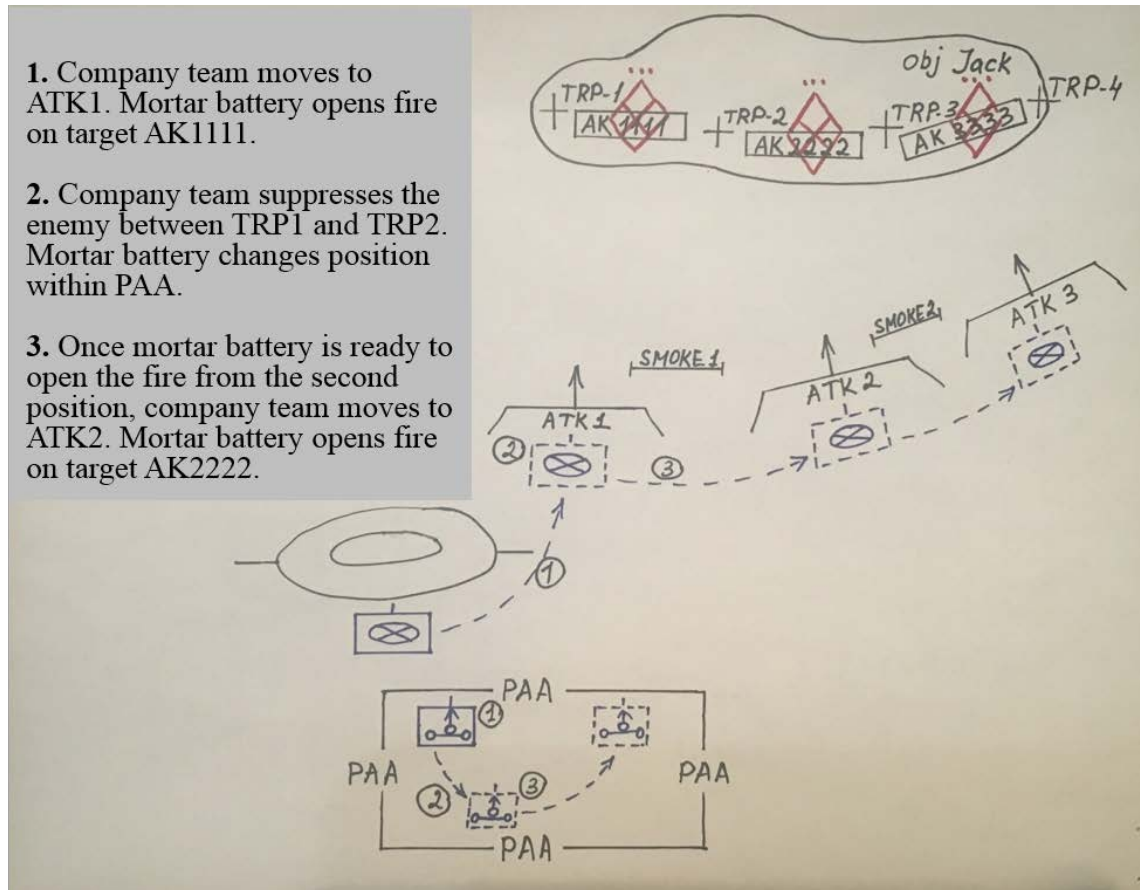


Figure 4. Fire Carousel Example

Source: Created by author.

²⁶³ Ibid.

Organization

The territorial defense battalions became part of mechanized (armored) units as separate motorized infantry battalions. The artillery brigades included motorized infantry battalions as guard units (force protection). Tank units and MLRS units were formed in highly mobile airborne troops. These reorganizations significantly increased firepower.²⁶⁴

The UAVs units were formed in brigades. A UAVs platoon was organized in a Battery of Control and Artillery Reconnaissance of Brigade Artillery Group. As a result, the effectiveness of artillery units significantly increased. However, the quantity of UAVs was not enough.²⁶⁵

Training

From March 2015, experience and training of UAF personnel grew. The interaction between combined arms units and other armed services that perform tasks in one area of operation significantly improved. Information exchange, fire support, and comprehensive support improved as well.²⁶⁶

The number of training activities (practical component) including brigade and battalion tactical exercises increased, but the quality of this training, especially live firing exercises, remains poor. Mechanized and armored units continue to use linear tactics in training. Higher Command focuses on the conduct of demonstration training and exercises. Mobile defense, urban operations, and offensive operations are not practiced.

²⁶⁴ Ibid.

²⁶⁵ From an interview with Lieutenant General Zabrodskiy.

²⁶⁶ Ibid.

Training is aimed at conducting positional defense. Usually, units defend in one echelon, without a reserve. An interaction with neighbors is not organized. Additionally, the UAF units do not currently conduct any training specifically designed to counter the HT.²⁶⁷ Nevertheless, from September 2014 to present time combat experience of mechanized and tank units significantly increased. They are confident in their own abilities, strength, and weapons. Most importantly, personnel has sufficient motivation to protect the state.²⁶⁸

Materiel

Russian intervention changed the situation in the matter of equipping Ukrainian forces with the newest weapons and equipment, especially armored vehicles. Combat units started to receive new tanks, armored personnel carriers, and armored cars, which immediately went to Donbas for real combat testing. In particular, the new Ukrainian tank T-64BM “Bulat” worked very well in Donbas. Bulat’s main gun and ammunition were able to destroy the separatist’s tanks. T-64BM’s armor enabled effective protection against enemy antitank weapons. These factors, in combination with high skills of the crews, often allowed the T-64BM to defeat separatists’ armor in tank duels. Another invention of the Kyiv State Enterprise titled “Ray,” is the anti-tank guided missile “Combat.” These missiles proved to be very able to destroy Russian tanks in Donbas.²⁶⁹

²⁶⁷ Ibid.

²⁶⁸ Ibid.

²⁶⁹ Media and Consulting Company Defense Express, “The Ukrainian Armed Forces’ Equipment.”

An important part of Ukrainian heavy armor survivability in the fields of Donbas is the concept of dynamic protection complexes, known in the U.S. as reactive armor. Thus, many Ukrainian tanks participating in the conflict have a complex of dynamic protection called “Knife” which was developed by Kyiv Enterprise “Mikrotek.”²⁷⁰ Thanks to this technology, when Ukrainian combat vehicles received direct fire from Russian anti-tank missiles, the tanks did not suffer significant damage.²⁷¹

In addition, new weapons were tested in real combat conditions. The new Ukrainian ATGM “Stugna-P” was effective in the defense of Donetsk and Lugansk airport and other locations.²⁷²

Unit sustainment became more efficient and effective. Personal protective equipment, such as helmets and vests, and military clothing met international standards. Some communication assets, such as old soviet radio stations R-159, R-148, R-162, R-123, R-173, were replaced with relatively modern equipment. Nevertheless, the Ukrainian Army units do not receive any sophisticated equipment specifically designed to counter the HT, fight against enemy’s informational operations, or counter-UAVs because of financial constraints.²⁷³

²⁷⁰ Complex of dynamic protection is the terminology in UAF; similar to reactive armor used by the U.S.

²⁷¹ Media and Consulting Company Defense Express, “The Ukrainian Armed Forces’ Equipment.”

²⁷² Ibid.

²⁷³ From an interview with Lieutenant General Zabrodskiy.

In summary, the analysis of conflict between the UAF and separatist forces indicates that, because of poor training, deficient sustainment, low discipline, and morale of armored and mechanized brigades, the UAF's leaders were forced to use these units, with few exception, in a nontraditional way. During the active fighting in 2014 and 2015, armored and mechanized units were involved in executing tasks that shaped the environment for the Ukrainian's highly mobile forces. Even in operating in shaping operations, the factors mentioned above, did not allow to armored and mechanized units to employ all potential capabilities against pro-Russian forces such as maneuver, fire, intelligence, engineer, protection.

However, the three years of fighting were not in vain for the UAF. First, military personnel received invaluable experience. Second, the UAF started to implement improvements in terms of organization, training, and materiel. Third, Ukrainian brigades created organic UAVs units, but the UAVs themselves are not yet fully fielded. Fourth, training of the UAF personnel improved, but the quality of this training still remains insufficient. Fifth, sustainment of UAF became better and Ukraine has many homegrown technical developments, but these improvements, such as new weapons, equipment, and armored vehicles, have not arrive in necessary quantities to the troops. Moreover, currently the UAF conduct only defensive operations against separatist forces. In such conditions, the assessing of the effectiveness of the UAF's adjustments is impossible. These adjustments are not fully implemented yet. Active fighting (offensive operation) must occur in order to set conditions for evaluation of the adjustments.

Capabilities that a U.S. Army Unit needs to Counter the HT

Based on the experiences of the IDF fighting against Hezbollah and the UAF fighting against separatist forces, and the initial adjustments both forces made as a result of these experiences, the following are the capabilities that a U.S. Army unit need to counter the HT.

Doctrine

The experience of Israel demonstrated that the years of COIN operations negatively affected the conventional capabilities of the forces. The IDF ground forces demonstrated poor performance and unsatisfactory skills in the conventional arena. The evidence indicates that in order to defeat a HT, doctrine needs to be focused on employment of the conventional capabilities of the unit. Brigade and division scale ULO with decisive ground maneuver capability remains essential in fighting against a HT.

The IDF failed to execute sweeping armor attacks with overwhelming firepower. The UAF did not use full capacity and strength of armored and mechanized units. The IDF and UAF units were dispersed and did not demonstrate effort to conduct a combined arms attack. The IDF's ground forces movement was limited to nighttime operations. In addition, ground formations were deprived of aviation and artillery support. These facts indicate that principles of war such as objective, mass, and maneuver, without rejecting the rest of the principles, serve as the foundation for planning and executing ULO. Ground units must be supported by attack helicopters, fixed wing aviation, artillery, and, if situation allows, naval forces.

Although the IDF's intelligence was relatively successful in collecting data about Hezbollah, the distribution of information down to the lowest level was hindered. This

influenced the IDF performance as well. Therefore, the information distribution mechanisms must ensure timely and high-quality data transfer.

Organization

Hezbollah and the separatist forces widely used UAVs for collecting information and targeting the opposing forces. Both, the IDF and UAF did not possess capabilities to neutralize or destroy enemy's UAVs. In order to fight with enemy's UAVs and other aerial targets, which could not be detected with the surveillance radars, a brigade must have an organic air defense capability.

The IDF and the UAF operated in the environment where the enemy used manmade obstacles to hinder the mobility. In 2006 Lebanon War Hezbollah successfully influenced the IDF's movement by employment of improvised explosive devices, anti-personnel, and anti-tank mines. The same effect was achieved by separatist forces during Ukrainian conflict. This leads to the fact that a brigade must have an organic engineer capability to provide mobility and counter mobility.

Hezbollah and separatist forces successfully neutralized the IDF's and UAF's radars and communications and obtained valuable strategic and tactical information. Israeli and Ukrainian forces did not counteract to such activities. Hence, a brigade must possess organic electronic warfare capability.

Ukrainian conflict demonstrates that the primary means of destruction is artillery fires. During extended defense, Ukrainian armored or mechanized brigades, possessing four organic artillery battalions had difficulties carrying out the assigned tasks in full. This evidence indicates that a brigade must have an organic artillery with counter artillery radars. For example, a brigade must have four artillery battalions, three self-propelled

howitzers battalions and one MLRS battalion. As a result, if a brigade has three maneuver battalions, then each of them could be supported by the self-propelled howitzers battalion and the MLRS battalion could be a brigade commander's asset.

The 2006 Lebanon War and Ukrainian conflict proved the effectiveness of UAVs both for collecting information about the enemy and for targeting the enemy. The use of UAVs allowed one party to gain intelligence superiority. Hence, a brigade must have organic UAVs. In addition, both case studies demonstrated that intelligence superiority is paramount. The IDF and UAF failed to collect and analyze data about the enemy. This indicates that a brigade must have an organic reconnaissance unit and an intelligence cell in staffs.

Separatist forces were able to inflict mass casualties to the UAF by employing heavy artillery fire. As a result, some Ukrainian units became combat ineffective. Thus, a brigade must have a redundancy in command and control capabilities to enable fast reconstitution when C2 nodes are destroyed.

Training

The 2006 Lebanon War and the Ukrainian conflict demonstrate that one of the most significant problems that the IDF and the UAF faced was poor training of personnel. Based on the IDF and UAF experience, in order to counter a HT, a brigade's individual training of personnel must be proficient. Training must focus on conventional warfare particularly conducting offensive, defensive, and stability operations. Collective training must include full-scale division and brigade maneuvers.

Commanders and staffs must be trained to make fast and sound decisions. Staff must be able to operate with minimum or no reliance on computers. During the fight,

leaders must lead the troops on the ground. In addition, leaders must have skills to think innovatively.

During 2006 Lebanon War and Ukrainian conflict, Israeli and Ukrainian troops were not trained in using smoke for obscurity. As a result, Hezbollah and separatists could easily engage their opponents' combat vehicles with ATGMs. Thus, a brigade must possess the ability to use smoke through all means of delivery available and codes during communication instead of an opened text. Personnel must know how to use the equipment and weapons of the entire unit.

Personnel must be trained to execute tasks in limited visibility, at night, and when communication is hacked and-or degraded. Personnel must be trained to call for aviation and artillery support, to fight in open and urban terrain, to navigate with minimum or no reliance on GPS, to emplace obstacles, and build different constructions. A brigade must be trained in counter ambush, counter improvised explosive device activities, fight in isolation, fight under the mass artillery fire, and mass casualties scenarios.

In training, a brigade should understand that the enemy maintains continuous surveillance over it through UAVs or other means. A brigade must be ready to fight under conditions where the enemy is mixed with civilians. Personnel must be resilient to sustain a constant state of alert, exhaustion, and enemy informational operations. Finally, a brigade must achieve synergy with other arms, services, and branches. The interaction between infantry and armored units must be flawless.

Materiel

The IDF's and UAF's experience indicates that in order to counter a HT, a brigade must be fully supplied, including personal body armor and other personal

equipment. All equipment of the unit must be in a working condition. The unit must have night-vision devices both for combat vehicles and for personnel. Combat vehicles must have superior firepower and advanced protection. A brigade must have camouflaging and breaching assets.

U.S. ABCT Analysis

Analysis of the U.S. ABCT in terms of DOTM

Doctrine

The ABCT has several roles in combat. The ABCT operates to close with the enemy using fire and movement, to destroy or capture enemy forces, to repel enemy attacks by fire, to engage the enemy in close combat, and to counterattack the enemy to control land areas including populations and resources.²⁷⁴

The ABCT “conducts sustained and large-scale actions within the foundations of unified land operations.”²⁷⁵ In operations, the ABCT is organized to concentrate an overwhelming combat power. The ABCT can fight without additional combat power. However, the ABCT “can be task-organized to meet the precise needs of its missions.”²⁷⁶

Organization

The ABCT is a combined arms organization that consists of three combined arms battalions of armored and mechanized infantry companies. The ABCT also has organic

²⁷⁴ Department of the Army, Field Manual (FM) 3-96, *Brigade Combat Team* (Washington, DC: Government Printing Office, October 2015), 1-10.

²⁷⁵ Ibid.

²⁷⁶ Ibid.

cavalry, field artillery, engineer, intelligence, signal, sustainment, and chemical biological radiological and nuclear (CBRN) reconnaissance units. For a specific mission, higher commanders can augment the ABCT with aviation, armor, field artillery, air defense, military police, civil affairs, military information support operations elements, engineers, CBRN, and additional information systems assets.²⁷⁷

Figure 5 illustrates the current ABCT design.

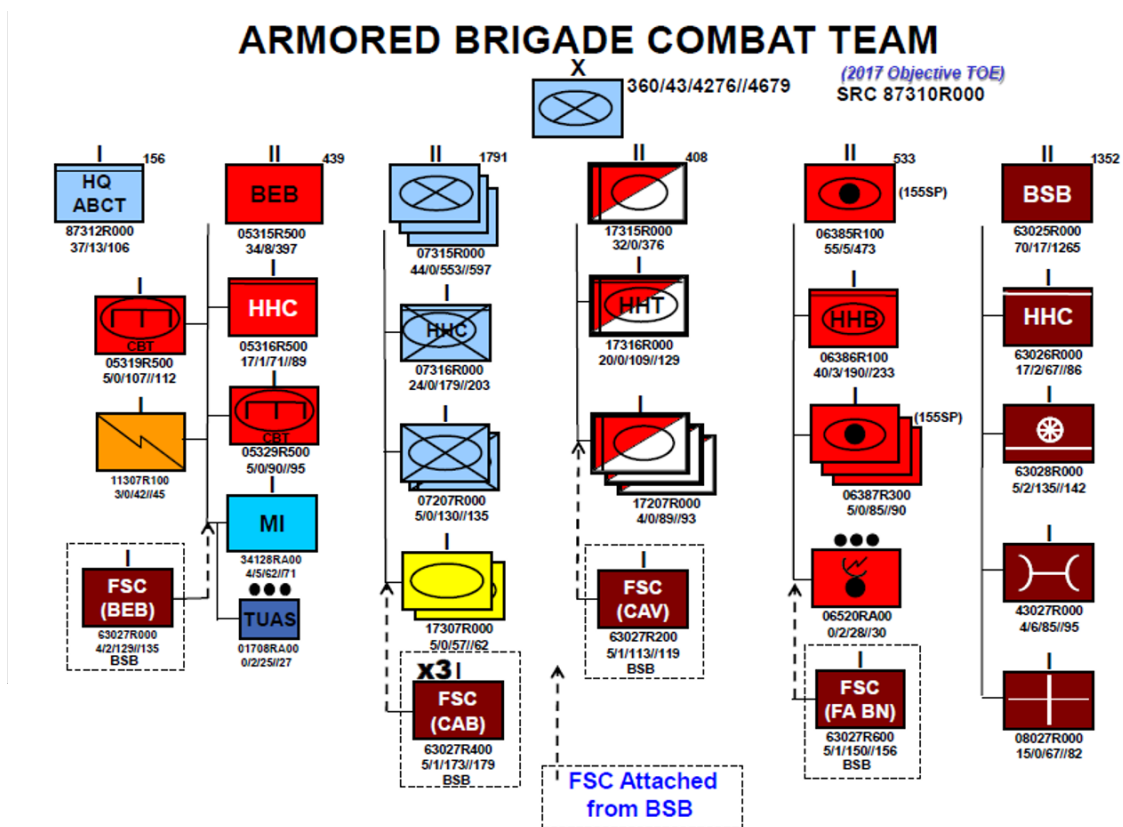


Figure 5. Armored Brigade Combat Team

Source: Maneuver Center of Excellence, MCoE Supplemental Manual 3-90, *Force Structure Reference Data* (Fort Benning, GA: Government Printing Office, January 2015), 69.

²⁷⁷ Ibid.

The primary maneuver force of the ABCT are the three combined arms battalions, each of which consists of two armored companies and two mechanized infantry companies along with the headquarters company. These combined arms battalions execute combined arms operations within their area of operations to support the ABCT commander.²⁷⁸

The main purpose of the cavalry squadron is to perform reconnaissance and surveillance tasks and conduct security operations. The conduct of security operations by the squadron provides an economy of force and allows the ABCT commander to preserve combat power for engagements where he desires.²⁷⁹

The ABCT field artillery battalion supports ABCT operations by providing massing fires on single or multiple targets with precision, near precision, and area fires. The field artillery battalion consists of a headquarters battery and three batteries of six M109A6 Paladin self-propelled 155-mm howitzers, which are able to operate as two separate firing platoons of three guns. In addition, the field artillery battalion has two AN/TPQ-53 counter fire radars and four AN/TPQ-50 lightweight counter mortar radars for target acquisition.²⁸⁰

²⁷⁸ Department of the Army, FM 3-96, *Brigade Combat Team*, 1-11.

²⁷⁹ Ibid.

²⁸⁰ Ibid., 1-12.

The brigade support battalion (BSB) is the organic sustainment unit of the ABCT. The BSB plans, prepares, executes, and assesses replenishment operations to support ABCT operations.²⁸¹

The brigade special troops battalion provides control and sustainment to the organic engineer company, signal company, military intelligence company, military police platoon, and the CBRN reconnaissance platoon as well as other units attached to the ABCT, so they can support the ABCT commander and staff.²⁸²

Training

Over the last decade, the U.S. military made significant changes in training in order to adapt to nonstate, irregular threats represented in Iraq and Afghanistan. The U.S. enemy in these two theaters did not use effective standoff weapons, such as Man-Portable Air Defense System and ATGMs in large numbers. If militants used such weapons, this could be a significant problem for the U.S. Armed Forces. Given the fact that the U.S. Army in recent years still focused its preparation on irregular warfare, the U.S. military could face the same challenge as the IDF did in 2006 Lebanon War in fighting against Hezbollah.²⁸³

In order to counter a current HT, the U.S. ABCT requires different skills from those that were obtained through conducting COIN operations. The ABCT's personnel require "highly integrated joint, combined-arms fire-and-maneuver skills used in major

²⁸¹ Ibid.

²⁸² Ibid., 1-13.

²⁸³ Johnson, *Hard Fighting Israel in Lebanon and Gaza*, xv.

combat operations.”²⁸⁴ Other skills, such as integration of air-ground-intelligence, surveillance, and reconnaissance operations against a HT with effective stand-off fires capabilities, need to be evaluated and strengthen because they may have atrophied.²⁸⁵

The ABCT commander plans and conducts training based on the units’ mission essential task list and priorities of effort. He establishes the conditions in which to conduct training according to the determined standards. These conditions should include an OPFOR that realistically challenges the ability of the U.S. unit to accomplish its tasks.²⁸⁶ The U.S. combat training centers should be focused on training troops for the full range of military operations with inclusion of HT OPFOR into training exercises.²⁸⁷

Materiel

The BSB forms the core of the ABCT’s sustainment operations. The BSB distributes Class I (subsistence), Class II (clothing), Class III (petroleum, oil, and lubricants), Class IV (construction and barrier materials), Class V (ammunition), and Class IX (repair parts) materials. The BSB provides food services, the presented above Roles 1 and 2 of the Army Health System (health service support and force health protection), as well as field maintenance and limited recovery.²⁸⁸

²⁸⁴ Ibid., 178.

²⁸⁵ Ibid.

²⁸⁶ Department of the Army, TC 7-100, *Hybrid Threat*, 3-1.

²⁸⁷ Johnson, *Hard Fighting Israel in Lebanon and Gaza*, 178.

²⁸⁸ Department of the Army, FM 3-96, *Brigade Combat Team*, 1-12.

The ABCT is a self-contained unit. The BSB positions forward support companies with combined arms battalions, the cavalry squadron, the field artillery battalion, and, when converted, the brigade engineer battalion to support the ABCT. The ABCT conducts sustained operations for a limited period of time due to the BSB's materiel-carrying capability.²⁸⁹

Designated distribution managers coordinate and synchronize logistics flow according to the commander's priorities. Distribution managers have asset and in-transit visibility to optimize the distribution system within their area of operations. Advanced information systems such as movement tracking systems, battle command sustainment support systems, and advanced planning and optimization decision support tools provide this capability.²⁹⁰

The ABCT Command, Control, Communications, Computers, and Intelligence (C4I) capabilities assist in maneuver, command, and control of the BCT units. Modern digital systems include Blue force Tracker (BFT), Force XXI Battle Command Brigade and Below (FBCB2), Command Post of the Future (CPOF), and Enhanced Position Location Reporting System (EPLRS). These systems are fielded down to the company level and each combat platform. They provide maximal SA enabling quicker C2 and maneuver of the forces. The C4I components and capabilities also allow the entire BCT

²⁸⁹ Ibid.

²⁹⁰ Department of the Army, FM 3-96, *Brigade Combat Team*, 1-12.

to quickly update SA against a hybrid threat through populating graphics, enemy contact, and targeting information through the systems.²⁹¹

All ABCT's weapons platform systems contribute to the combined arms effort. They provide the infantry, armor, reconnaissance, engineer, and fire support elements with firepower, armor protection, and battlefield agility.²⁹²

The ABCT's main weapons platform systems are M1A1 Abrams main battle tank, M2 Infantry Fighting Vehicle, and the M3 Cavalry Fighting Vehicle.

The current fielded models of the M1A1 Abrams main battle tank are M1A1 (Army National Guard of the United States), M1A1 HA (heavy armor), M1A1 AIM (Abrams integrated management) program, M1A1 AIM ED (embedded diagnostics), M1A1 AIM SA, and M1A2 SEP (system enhancement package) series.²⁹³

The M1A1 HA Abrams main battle tank has the 120-mm smoothbore cannon, increased armor protection, a chemical, biological, radiological, and nuclear over pressurization system, and digital electronic control unit.²⁹⁴

The M1A1 AIM program adds various upgrades and extends the life of the aging M1A1 fleet. Some of the upgrades of M1A1 AIM include Battlefield override system that

²⁹¹ MAJ Ronald W. Sprang, "The Armored Brigade Combat Team (ABCT) in the Future: An Assessment of Capabilities Against the Hybrid Threat in the Future Operational Environment" (Master's thesis, Command and General Staff College, 2013), 78-79.

²⁹² Department of the Army, Field Manual (FM) 3-20.21, *Heavy Brigade Combat Team (HBCT) Gunnery* (Washington, DC: Government Printing Office, September 2009), 2-1.

²⁹³ Ibid., 2-1.

²⁹⁴ Ibid., 2-2.

allows crews to operate the tank in emergency situations and increased armor protection.²⁹⁵

Among some important upgrades that M1A1 AIM SA adds to the M1A1 AIM is Blue force tracker (BFT) Force XXI command and control system. This system allows the crew to communicate digitally with a wider spectrum of Army vehicles. Also, M1A1 AIM SA has the First Generation Forward Looking, Infrared (FLIR) radiant thermal sighting system that gives the tank commander and gunner the ability to detect, identify, and engage targets more accurately at a greater range. The next system is a position navigation (POSNAV) system, which gives the crew the ability to use “far-target locate” to calculate grids to targets for accurate digital calls for fire. In addition, M1A1 AIM SA has a driver’s vision enhancement (DVE). The DVE is an uncooled, FLIR night-vision device. The DVE is a real-time thermal-imaging system that improves the driver’s SA during limited visibility operations.²⁹⁶

The M1A2 SEP tank system is designed to accommodate new and upgraded components required for the continually expanding performance requirements and to facilitate ease of maintenance. The M1A2 SEP has the Commanders Independent Thermal Viewer (CITV). CITV allows the tank commander to acquire targets independently from the gunner and then designate the gunner to those targets. In addition, M1A2 SEP has increased accepted range parameters for ballistic solution calculation

²⁹⁵ Ibid., 2-2 – 2-3.

²⁹⁶ Ibid., 2-4.

from 200 to 3990 meters on the M1A1 series and from 200 to 4,990 meters on the M1A2 SEP series that has enhanced engagement range.²⁹⁷

In order to improve Abrams survivability in urban environment, M1A1/M1A2 was fitted with Tank Urban Survival Kit (TUSK). With this kit, Abrams tanks became more deadly. The TUSK improves protection, firepower, and SA of the tanks. The TUSK includes such components as add-on explosive reactive armor and a slat armor, which provides protection against RPG rounds, 32 dischargers for 66-mm defensive grenades, which loaded with a combination of smoke and anti-personnel grenades, a transparent shielding around vehicle commander's 12.7-mm machine gun that allow vehicle commander to be protected from enemy fire.

The TUSK also has a thermal weapon sight for a shielded loader's 7.62-mm machine gun that allows him to locate targets and fire from his machine gun at night, additional remotely controlled 12.7-mm machine gun over the main gun that is fitted with a spotlight. In addition, the TUSK includes a 7.62-mm coaxial machine gun, a 360-degree camera for a vehicle commander that improves SA, new safety rear and rear vision camera for a driver, and an infantry phone that allows the nearby infantry to communicate with the tank commander and coordinate their actions in combat.²⁹⁸

The models of Bradley Fighting Vehicle are the M2 Infantry Fighting Vehicle and the M3 Cavalry Fighting Vehicle. M2A2 and M3A2, M2A2 ODS (Operation Desert Storm) and M3A2 ODS, M2A2 ODS-E (engineer vehicle), M2A3, M3A3, and M7

²⁹⁷ Ibid., 2-5 – 2-6.

²⁹⁸ Andrius Genys, "Tank Urban Survival Kit (TUSK) Capabilities," accessed 7 March 2017, <http://www.military-today.com/tanks/tusk.htm>.

Bradley Fire Support Team (BFIST) are the model numbers that represent upgrades or differences in system configurations and capabilities.²⁹⁹

The M2A2 and M3A2 model improvements include an increase of 100 hp in the power train, 30-mm armor protection, armored-tile protection capability, and spall liners.³⁰⁰ M2A2 ODS and M3A2 ODS upgrades include the eye safe laser range finder (ELRF) which is a part of the vehicle's Integrated Sight Unit. ELRF allows the crew to determine target ranges from 200 to 9,995 meters, accurate within 10 meters; Tactical Navigation System (TACNAV) that is able to report the vehicle's position in three dimensions—longitude and latitude, grid location, and elevation. The information about BFV hull and turret azimuths, location, directions, distance to way points, and steer-to data shows up on both the commander's and the driver's compass displays. M2A2 ODS and M3A2 ODS also have the DVE which is an uncooled, FLIR night-vision device. The DVE is a real-time thermal-imaging system that improves the driver's SA during limited visibility operations. The last improvement is the Force XXI Battle Command Brigade and Below (FBCB2) that provides to A2 ODS and A3 crews SA and real-time command and control.³⁰¹

The innovations of M2A3 and M3A3 BFV improve the BFV's ability to shoot, move, and communicate. Some of these innovations include a commander's independent viewer (CIV) and the Improved Bradley Acquisition Subsystem (IBAS) that allow the

²⁹⁹ Department of the Army, FM 3-20.21, *Heavy Brigade Combat Team (HBCT) Gunnery*, 2-9 – 2-10.

³⁰⁰ *Ibid.*, 2-10.

³⁰¹ *Ibid.*, 2-10 – 2-11.

commander to acquire targets independently from the gunner. M2A3 and M3A3 BFV have the Turret Drive System (TDS) that moves the weapon and stabilizes the A3 weapon systems and improved sights and the commander's tactical display (CTD) that give the A3 commander a level of SA never before possible. It gives more information about the location of each vehicle in the unit. It also gives operational graphics, and it allows the commander to send and receive orders and mission updates and respond to an expanding area of operations.

In addition, M2A3 and M3A3 BFV have the A3's fire control system that allows the crew to independently search, track, and conduct target hand-off. The system also allows the commander to override the gunner and abort a fired missile. Next improvement is the integrated communication, command, and control (IC3) digital battle command information system provides SA and offers real-time C2 information to A3 crews and squads. Finally, M2A3 and M3A3 BFV have the A3's subsystem position navigation (POSNAV) provides the A3 with accurate positioning and navigation data and improved CBRN Protection.³⁰²

Bradley Fighting Vehicles can also be fitted with Urban Survivability Kit. The Bradley Urban Survivability Kit (BUSK) incorporates four modifications including a blast-proof fuel cell, a blast-resistant driver seat, a turret survivability system, and an emergency ramp release. Some Bradley improvements are electrical ground improvements, a fire suppression guard improvement, an automatic fire suppression

³⁰² Department of the Army, FM 3-20.21, *Heavy Brigade Combat Team (HBCT) Gunnery*, 2-11 – 2-12.

system control panel switch guard, and a hotbox protection system enhancement.³⁰³ In addition, BUSK includes high-powered spotlight, sight protection, and non-conductive “dome tent” structure to protect turret and crew from low-hanging electrical power lines.³⁰⁴

In summary, the description of the ABCT’s capabilities is substantially based on what the U.S. Army doctrinal publications explain the ABCT can do, not on any actual assessment of the ABCT performance either in combat training centers or in actual combat.

Comparison of the U.S. ABCT Doctrinal Capabilities and the IDF’s
and UAF’s Initial Responses and Adjustments

Based on the previous analysis the following table compare the U.S. ABCT doctrinal capabilities with the IDF’s and UAF’s initial responses and adjustments. The comparison is organized through DOTM factors. Worthy of note is that ABCT doctrinal capabilities only are compared with actual performance of the IDF and UAF against Hezbollah and separatist forces respectively

³⁰³ Bill Good, “Bradley IFV Capabilities,” accessed 12 December 2016, https://www.army.mil/article/82060/Bradley_Urban_Survivability_Kits_installed_early_under_budget.

³⁰⁴ Defense Industries, “The Bradley Urban Survivability Kit (BUSK) Capabilities,” accessed February 5, 2017, <http://www.army-technology.com/projects/bradley/>.

Table 2. Results of Analysis

	IDF initial condition	IDF adjustments	UAF initial condition	UAF adjustments	U.S. ABCT current condition
Doctrine	<ul style="list-style-type: none"> - The IDF relied on theories of precision firepower, EBO, and SOD. - The IDF eliminated corps formations and planned to abolish divisions as well. IDF command did not see a role for ground formations larger than a brigade. - The IDF failed to integrate a large ground maneuver component into effect-based approach. - Units were dispersed and were not able to conduct a combined arms attack. - Tank units operated independently with little support from dismounted infantry, attack helicopters, or fixed-wing close air support. 	<ul style="list-style-type: none"> - The IDF created a decisive ground maneuver capability based on main battle tank and other armored fighting vehicles. - The IDF put emphasis on "Jointness". - The IDF achieved synergy among its arms and branches. 	<ul style="list-style-type: none"> - The UAF did not have a consensus on the role of mechanized and armored units in fighting against HT - The UAF did not use full capacity and strength of armored and mechanized units. - Mechanized and armored units were used only for conducting positional defense. - Units were dispersed among different forces resulting in a lack of overall unit cohesiveness. 	<ul style="list-style-type: none"> - Interaction between combined arms units and other armed services that perform tasks in one direction significantly improved. - The UAF stated to use UAVs for target acquisition and adjusting a fire. 	<ul style="list-style-type: none"> - Doctrine of ABCT is comprehensive in that the concepts address combined arms maneuver across the spectrum of conflict in terms of offensive, defensive, and stability tasks. The emphasis is upon using all available assets along with civilian assets. - Enhanced situational awareness down to individual fighting vehicle level.
Organization	<ul style="list-style-type: none"> - Units were broken down into battalion and company sized teams and dispersed among different forces resulting in a lack of overall unit cohesiveness. - The IDF had poor intelligence. - The IDFs were not able to jam enemy's radio transmissions in the field and strategic communications 	<ul style="list-style-type: none"> - The IDF envisaged intelligence superiority through all means of gathering and preparedness. - Intelligence was pushed to the units in the field and battalion commanders employed the UAVs under their command. 	<ul style="list-style-type: none"> - Tank and mechanized units were used as part of a battalion or company tactical group. - Battalion tactical groups did not have organic technical assets for air reconnaissance. - Battalion tactical groups were not able to destroy enemy's UAVs with organic assets. - Mechanized or armored brigade 	<ul style="list-style-type: none"> - The UAF formed organic to BCT UAVs units. 	<ul style="list-style-type: none"> -The ABCT has a Cavalry Squadron for reconnaissance and security operations. - The FA battalion has three firing batteries. - The FA battalion has two AN/TPQ-53, and four AN/TPQ-50. - FA battalion is able to fire with precision-guided projectile

	<p>of Hezbollah with Iran and Syria.</p> <p>- The IDF were vulnerable to Hezbollah's electronic warfare systems.</p>		<p>had a powerful artillery group consisting of 2S1 battalion, 2S3 battalion, MLRS battalion, and Antitank artillery battalion.³⁰⁵</p>		<p>"Excalibur".³⁰⁶</p> <p>- FA battalion is able to receive target information from maneuver unit through digital system</p> <p>- The ABCT has a Military Intelligence company.</p> <p>-The ABCT has four organic UAVs (SHADOW).³⁰⁷</p> <p>- The ABCT C4I capabilities assist in command and control.</p> <p>- The ABCT is dependent on radio communications.</p>
Training	<p>- Personnel was under-trained</p> <p>-Ground forces demonstrated unsatisfactory skills in the conventional arena</p> <p>- Tactical leadership was poor</p> <p>- Field artillery did not support ground units.</p>	<p>- The IDF started to focus on offensive and defensive tasks and improving conventional warfare skills</p> <p>- Tank units focused on their traditional roles and advantages: speed and firepower</p> <p>-The IDF conducted comprehensive and realistic training in conditions similar to 2006 Lebanon War</p> <p>- The IDF started to conduct full-scale division maneuver</p>	<p>- UAF personnel had poor training</p> <p>- The interaction between mechanized, tank, and field artillery units was poor.</p> <p>-Tactical leaders were not proficient in planning and controlling the units</p>	<p>- Experience and training of UAF personnel grew</p> <p>- The interaction between combined arms units and other services significantly improved.</p> <p>- The number of training activities increased, but the quality of training remains poor</p>	<p>- Personnel is trained with a focus on counterinsurgency operations</p> <p>- Personnel has extensive combat experience in conducting counterinsurgency operations and able to absorb lessons</p>

³⁰⁵ Ukrainian Military Institute, "Task Organization of Ukrainian Armored and Mechanized Brigades," accessed 25 November 2016, <http://lektsii.org/8-33104.html>.

³⁰⁶ Thomas A. Kennedy, "The U.S. Field Artillery Capabilities," accessed 18 March 2017, <http://www.raytheon.com/capabilities/products/excalibur/>.

³⁰⁷ Maneuver Center of Excellence, MCoE Supplemental Manual 3-90, *Force Structure Reference Data* (Fort Benning, GA: Government Printing Office, January 2015), 24.

		training - Field artillery achieved synergy with armored units.			
Materiel	<ul style="list-style-type: none"> - The IDF were not supplied with proper ammunition or body armor and lacked sufficient food and water to carry out a fight. - Some sustainment equipment that was kept in the depots was missing, obsolete or broken. - The IDF's armored vehicles were vulnerable to the enemy's anti-tank weapons. - The IDF units possessed horizontal engineering capability, road clearing, obstacles breaching, and organic gap crossing capabilities. 	<ul style="list-style-type: none"> - The IDF expanded emergency stocks of munitions. - The IDF received needed equipment in full quantities. - The IDF developed Trophy system and installed them on the armored vehicles. 	<ul style="list-style-type: none"> - Logistics supply of the units was poor. - The UAFs armored vehicles were vulnerable to the enemy's anti-tank weapons. - Combat vehicles, weapons, and equipment were old in poor technical condition and broken. - Reconnaissance assets were in critical condition. - Communications assets were in critical condition - The UAF units possessed horizontal engineering capability, road clearing, obstacles breaching, and organic gap crossing capabilities. 	<ul style="list-style-type: none"> - Unit sustainment became better. - The UAF started to improve available and receive new weapons, equipment, and armored vehicles. - The UAF installed dynamic protection "Knife" on tanks. 	<ul style="list-style-type: none"> - The ABCT has robust organic sustainment, however consumption of Class III and V materials is high. - ABCT organic platforms and formations have superior firepower, protection, and lethality. - The ABCT modern digital systems and TUSK/BUSK assist in maneuver. - Weapons systems have improved observation (day/night) systems. - The ABCT possesses some horizontal engineering capability, road clearing, obstacles breaching, and organic gap crossing capabilities.

Source: Created by author.

The comparison above indicates that the U.S. ABCT tentatively include those capabilities that were available and effective in the IDF and UAF, and those capabilities that were lacking in Israeli and Ukrainian Armies with exception of organic EW and anti-UAV capabilities.

Summary and Conclusions

Chapter 4 presented, explained, analyzed, and interpreted the evidence produced by the research methodology. The analysis, outlined in this chapter, provided the answers to the seven secondary questions determined in chapter 1. The information, generated above, defined a HT, described the result of examination of cases of the Israeli-Hezbollah conflict of 2006 and the Ukrainian-Russian conflict that started in 2014. Lastly, chapter 4 analyzed the U.S. ABCT and compared the U.S. ABCT capabilities with the IDF's and UAF's initial responses and adjustments. Chapter 5 answers the primary research question, states the discoveries that emerged from the interpretation of the research evidence, explains the significance of the conclusions to the field of study, and makes recommendations for further inquiry.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Introduction

The purpose of the study was to determine whether the U.S. ABCT is organized and equipped appropriately to address the current HT as defined in the U.S. Army's current references, TC 7-100 *Hybrid Threat* and ADRP 3-0 *Operations*. The research used the qualitative analysis method and focused on analyzing available documents while studying the separate but similar cases of Israel fighting Hezbollah in Lebanon and Ukraine fighting Russia in Eastern Ukraine. The analysis of Hezbollah, the separatists' forces in Donbas, IDF—UAF initial response, IDF—UAF adjustments, and the U.S. ABCT was conducted using DOTM model that helped answer the following secondary research questions:

1. What is a HT?
2. What are the common characteristics of the HT facing the armies of Ukraine and Israel?
3. What changes have the armies of Ukraine and Israel made in terms of organization and equipment to address the associated HT effectively?
4. What capabilities does a U.S. Army unit need to counter the HT?
5. What is the organization of the U.S. ABCT?
6. What equipment does the ABCT have?
7. What changes, as indicated by the threat facing the armies of Ukraine and Israel, does the U.S. ABCT need to make in terms of organization and equipment to address effectively the current associated HT?

The findings presented in chapter 4 suggest that the U.S. ABCT may be effective against current hybrid threats based on the DOTM analysis. This chapter will summarize the ABCT's current capabilities that allow addressing the current HT effectively and outline the recommended changes that the ABCT need to make in order to be more effective. The chapter will then provide recommendations for future research followed by the chapter conclusion.

Interpretation of Findings Described in Chapter 4

The U.S. ABCT current capabilities, as set out in U.S. Army doctrinal publications, to a large extent address the current HT. The ABCT, as doctrinally organized and equipped, maintains significant conventional capabilities and is comprised of heavy forces based on tanks and infantry fighting vehicles as key elements that could fight hybrid enemies. Organic fire systems could conduct precision fires. Combined arms battalions could operate under responsive and adequate artillery and UAVs support. The ABCT personnel, when trained to doctrinal standards, will have high individual and collective skills, including urban warfare. The ABCT's ground combat vehicles are survivable, lethal, and mobile. These capabilities are superior to near-peer competitors; however, survivability improvements are a valid area for development. Another distinctive doctrinal capability is digitization and enhanced SA down to the squad level. In addition, the ABCT has night vision capabilities for both combat platforms and personnel. Notwithstanding these doctrinal capabilities, the ABCT needs to make some changes across the DOTM factors in order to be more effective against current HT.

Doctrine

Years of COIN operations in Iraq and Afghanistan likely have weakened the ABCT's use of its conventional capabilities. The IDF experience indicates that in order to defeat a HT, doctrine needs to be focused on employment of the conventional capabilities of the unit. Brigade and division scale ULO with decisive ground maneuver capability remain essential in fighting against a HT. The ABCT must be ready to operate within a division framework.

Organization

The Ukrainian conflict demonstrates that HT can inflict severe destruction and casualties that could lead to losing command and control over a unit. The recommendation is to create reconstitution teams within the ABCT to re-establish C2 in the case when main command post gets destroyed during mission execution.

Separatists' forces widely used artillery against UAF. There are four artillery battalions in UAF mechanized brigade. Sometimes even that amount of artillery units was not enough to counter the enemy. One recommendation is to have more than one organic FA battalion in ABCT including MLRS battalion as well.

The UAF artillery units were not able to organize their own security in an environment where the enemy could be everywhere. Brigade commanders attached mechanized units (1-2 squads with on BMP) to each artillery battalion. As a result, some mechanized units were not at full strength for combat mission. The recommendation is to create a security unit organic to FA battalion.

Considering the fact that the ABCT could operate independently and the ability of current HT to employ electronic warfare capabilities, the ABCT must have its own

organic electronic warfare systems. Finally, the two case studies demonstrated that the UAVs were a significant force multiplier. Therefore, the ABCT should have short-range air defense capabilities effective against UAVs, helicopters, and close air support aircrafts. In addition, at company level, the ABCT should have greater UAV capability to gain situational awareness.

Training

Although the ABCT personnel training is high, there may be some areas for improvement. Commanders must be trained to be more independent and rely less on staff. Leaders must be able to make their own decisions in a short period of time. Personnel must be trained to operate without computers during training at company, battalion, and brigade level. During training personnel must also understand that they are under a continuous enemy observation. The ABCT must train against the enemy that continuously uses UAVs. Personnel must pay significant attention to camouflage, concealment, and deception. Training must include operating in mass casualties scenarios (mass vehicles destruction, mass personnel losses). Personnel must train to interact effectively with other services (national guard, police, etc.) and allied forces. Personnel within the ABCT must know how to use and must be trained in using all ABCT's available weapons.

In the condition when enemy possesses an electronic warfare capabilities, all personnel must be able to navigate without GPS using a map and a compass and to operate on the battlefield without radio communication. Finally, in the conditions when enemy possesses significant fires capability, a brigade must train how to equip (dig) shelters for personnel using improvised means and trench charges.

Materiel

One area for improvement can be proposed in terms of materiel thus far. Although the ABCT tanks and Infantry Fighting Vehicles are relatively survivable, development and installation of advanced protection systems such as Israeli “Trophy” will significantly improve protection of combat vehicles.

Conclusion

In conclusion, the analysis indicates that the U.S. ABCT is well organized and equipped to counter a current HT. However, the U.S. ABCT can better prepare for the fight against the HT by implementing some improvements in terms of doctrine, organization, training, and materiel.

Recommendations for Further Research

This research was conducted by analyzing information from unclassified sources. Some ABCT capabilities, for example electronic warfare capabilities, were therefore studied superficially. Furthermore, ABCT training was not deeply analyzed as well for the same reason. As a result, recommendations in this area for improvement were developed solely based on the IDF and UAF experience. The recommendation for further research is to include analysis of the restricted resources that enable more accurate assessment of the ABCT capabilities. In addition, in order to obtain a more realistic information in terms of training and combat performance of ABCT, ABCT need to be objectively assessed against an HT OPFOR at joint or national training center conducting live iterations across all aspects of conventional operations.

In addition, the available literature regarding 2006 Lebanon War does not possess specific and detailed data about the organization and equipment of IDF brigades during the fighting against Hezbollah. The second recommendation for further research is to conduct an interview with an Israeli officer or another credible person knowledgeable in this area. Information on the mentioned above aspects will make the analysis more valuable.

Lastly, this research was focused on analysis of the conventional capabilities of the IDF, UAF, and ABCT. The recommendation is to include a study of unconventional capabilities of all three parties.

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