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INSURGENT UPRISING: AN UNCONVENTIONAL WARFARE WARGAME

by

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Today, and in the future, unconventional solutions will present U.S. policymakers with options for dealing with threats to U.S. interests while retaining public support. As a result, United States Army Special Operation Command (USASOC) can expect an increased demand for unconventional warfare (UW) in the coming years and is refocusing its priorities accordingly. As United States Special Operation Command (USSOCOM) trains, equips, and restructures to meet future UW requirements, a classroom-based practical exercise educational tool may prove critical to reinforcing UW readiness. USASOC does not currently use a standardized UW wargame to teach and reinforce UW theory and doctrine. This thesis presents a UW wargame specially designed to reinforce UW theory and doctrine, both quantitatively and qualitatively. This wargame aims to improve preparation of UW exercises in all training environments including the qualification courses, JADE HELM, and the Combined Training Center (CTC) rotations. The data collected from the seven iterations of playing this wargame indicate that this UW wargame provides a practical exercise that reinforces UW training objectives and will complement existing training exercises.

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ABSTRACT

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LIST OF ACRONYMS AND ABBREVIATIONS

AI	artificial intelligence
ARSOF	Army Special Operations Forces
CD	compact disc
COIN	Counter Insurgency
CTC	Combined Training Center
DA	direct action
DOD	Department of Defense
DVD	digital video disc
ESP	External Support Ports
FID	Foreign Internal Defense
FOE	Future Operating Environment
HN	host nation
HVI	high-value individuals
IA	information assurance
IR	international relations
JSOU	Joint Special Operations University
JRTC	Joint Readiness Training Center
MARSOC	Marine Corps Forces Special Operations Command
MOS	military occupational specialty
NTC	National Training Center
NPS	Naval Postgraduate School
ODA	Operational Detachment Alpha
RPU	Resource Production Unit
SEAL	Navy sea, air, and, land teams
SFQC	Special Forces qualification course
SOF	Special Operation Force
UN	United Nations
USASOC	United States Army Special Operations Command

USG	United States government
USSF	United States Special Forces
USSOCOM	United States Special Operation Command
UW	unconventional warfare

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I. INTRODUCTION

ARSOF 2022 describes the Future Operating Environment (FOE) as an increasingly unstable world, with both state and non-state actors threatening U.S. interests abroad.[1] ARSOF 2022 states, "A highly visible, conventional presence will be largely constrained by a reduced budget and national reluctance to act overtly and unilaterally."[2] Unconventional solutions will present U.S. policymakers with options that challenge threats to U.S. interests abroad while remaining within the tolerance of public support. As a result, United States Special Operation Command (USSOCOM) can expect an increased demand for unconventional warfare (UW) in coming years and must refocus its priorities accordingly. As USSOCOM trains, equips and restructures to meet future UW requirements, a deliberate uniformed educational tool is critical to ensuring UW readiness.

A. BACKGROUND

The current operational tempo of Special Forces groups necessitates that they focus individual and unit training on the next upcoming deployment. This focus has led to a noticeable atrophying of core UW theory, skills, and tasks.[3] These tasks include clandestine infiltration, clandestine communication, and employment of the components of an insurgency. Special Forces groups routinely practice clandestine infiltration and communication but have not focused on the employment of forces operating in denied areas supporting a resistance.[4] This thesis addresses the skills gap caused by the lack of focus in a UW environment.

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[1] U.S. Army Special Operations Command, "ARSOF 2022." Special Warfare 26, 2013, 4.

[2] Ibid., 4.

[3] Joseph L. Votel, Charles T. Cleveland, Charles T. Connett, and Will Irwin, "Unconventional Warfare in the Gray Zone," *Joint Forces Quarterly* 80, no. 1 (2016): 102.

[4] Fletcher Schoen, "Reorganization is Imperative to Fixing Special Forces' Bent Unconventional Culture," *Small Wars Journal*, no. 6 (June 2015). http://smallwarsjournal.com/jrnl/art/reorganization-is-imperative-to-fixing-special-forces%E2%80%99-bent-unconventional-culture.

1. UW Skill Atrophy

Over the past 16 years, the focus of Special Forces has been primarily on conducting Foreign Internal Defense (FID) with its host nation (HN) counterparts, such as the Afghan Commandos, and Iraqi Counter Terrorism Units.[5] These HN partners were built and employed as direct action (DA) strike elements that target high-value individuals (HVI). This mission was primarily done to support the conventional attrition warfare strategy in Afghanistan that involved Special Forces partnering with Afghan Commandos to conduct extensive clearing operations.[6] These raids were highly successful and produced measurable effects that commanders could report back to Washington. The raids killed or captured top Taliban commanders and intelligence reports indicated that these raids compelled Taliban leaders to begin an internal dialogue to accept the new Karzai government.[7] These effects only served to incentivized Special Operations Force (SOF) commanders to continue to use Special Forces as DA strike elements.

This shift to DA was a monumental change from the initial operations of Special Forces in Afghanistan in 2001. Special Forces units had just taken part in a very successful UW campaign that resulted in the Taliban government falling within weeks.[8] This shift in focus from UW to DA attrition warfare has caused enduring effects which have led to a noticeable atrophy in the proficiency of the core UW skills and tasks in the Special Forces community.[9] Soldiers assigned to Operational Detachment Alphas (ODA) tend to be more comfortable conducting counterinsurgency and DA then UW operations.

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[5] Stew Magnuson, "New Administration May Take Special Operators Back to Roots," *National Defense* 101, no. 759 (02, 2017): 20–22. http://libproxy.nps.edu/login?url=https://search.proquest.com/docview/1880327243?accountid=12702.

[6] Thomas Johnson and M. Chris Mason, "Refighting the Last War: Afghanistan and the Vietnam Template," *Military Review* 89, no. 6 (November 1, 2009): 7. http://search.proquest.com/docview/58834168/.

[7] Andrew Feickert, U.S. Special Operations Forces (SOF): Background and Issues for Congress, 2010, http://handle.dtic.mil/100.2/ADA524382.), 8.

[8] Votel, Cleveland, Connett, and Irwin, "Unconventional Warfare in the Gray Zone, 102.

[9] Ibid.

The Joint Readiness Training Center (JRTC) has observed this trend during UW exercises. ODAs tend to initially struggle with UW doctrine and theory and frame the problem through a DA lens. This incorrect lens does not allow them to correctly understand the operational environment and identify the key operational objectives, and therefore, there is a struggle to find the correct UW solutions in a UW environment.

2. Training Response

In response to this UW atrophy, United States Army Special Operations Command (USASOC) now emphasizes regular UW exercises within each Special Forces Group. Army Special Operation Force (ARSOF) units take part in UW training exercises at both the National Training Center (NTC) and the Joint Readiness Training Center (JRTC). ODAs operate in a UW scenario to shape the environment for a Joint Forcible Entry by a BCT. Historically, SOF takes part in all 20 Combined Training Center (CTC) rotations each year, and ARSOF units participate in 17–19 of the 20 rotations. The ARSOF units that take part in the CTC rotations conduct several days of "UW education" before the exercise to brush up on UW theory and specific skill refreshers.

United States Army Special Operations Command (USASOC) does not currently possess a unified UW training tool outside of the qualification course to reinforce UW doctrine. This lack of a training tool has caused a noticeable decline in the ability to synchronize components of an insurgency in a denied environment.[10] In light of the current operational demands on SOF in the Global War on Terrorism, ARSOF's focus has not been UW knowledge. To retard and reverse this atrophy, the USASOC commander emphasizes regular UW exercises for all Special Forces units. In conjunction with the USASOC training requirements, SOF units currently take part in JADE HELM[11] and CTC rotations. This combination of training requirements and priorities places SOF tactical units in an ever more time constrained environment to meet dictated training requirements. With no current standardized training tool, the weight of developing and

[10] Schoen, "Reorganization is Imperative."

[11] JADE HELM is a United States Special Operations Command sponsored UW training event.

implementing unit UW training falls on individual tactical units. This “reinventing of the wheel” by individual Special Forces Groups further exacerbates the already strained time and resources of tactical units. Traditionally, Special Forces groups incorporate slide presentations enhanced with personal and historical vignettes to satisfy concurrent UW training. A well-designed doctrinally sound wargame could provide a standard uniformed practical exercise for SOF to learn and review the theory and fundamental concepts of effective UW operations. This wargame will provide a universal standard that will enhance current UW training methods during the employment of the components of the insurgency.

B. RESEARCH QUESTION

This thesis aims to provide a useful UW training wargame that reinforces UW theory and best UW operational practices both quantitatively and qualitatively. This UW Wargame delivers a practical exercise for preparation to conduct UW exercises at home station, the CTCs, and JADE HELM. Also, the implementation of this wargame in the qualification course at Fort Bragg aids the current UW curriculum for all initial Special Warfare trainees. There are diverse wargames played regularly across the Army for a variety of purposes; however, at this time, there are no board-based multidimensional repeatable wargame that are simple and relatively brief that reinforces unconventional warfare concepts and principles. This thesis will investigate the following question: Can an unconventional warfare wargame provide an effective practical exercise for Special Operations personnel in an unconventional warfare exercise, and be a valuable addition to the current slide based training and education programs for UW theory?

C. METHODOLOGY

The overarching design of this UW wargame balances simple mechanics, operational flexibility, and a significant human interaction component. After playing this UW wargame, each player can understand the essential elements of UW theory including the guerrilla base, influence, auxiliary/logistics networks, underground/intelligence networks, and the application of military units in a UW environment.

Play-testing was conducted twice by a variety of students from the Naval Postgraduate School (NPS) to refine mechanics and confirm playability before data collection. Following the successful play-testing, data collection wargames were conducted both at NPS and with Special Forces Qualification (SFQC) students at Fort Bragg. Players taking part in data collection came from the Navy, Marine Corps, Air Force, and Army. All players were first-time participants in the UW wargame study and were classified into two different categories: those who have received formal UW training, and those who have not. Each wargame participant completed a pre- and post-wargame survey to investigate their understanding of UW operational theory. The differences between each player's pre- and post-wargame survey were analyzed to determine the effectiveness of the wargame in reinforcing UW learning objectives.

D. RESULTS

The UW wargame captured three doctrinally based learning objectives. These learning objectives included the development of the area command/complex, management of resources, and stressed the value of coalitions. The pre- and post-game surveys from seven wargame iterations indicated the effectiveness of the wargame's ability to increase the users understanding of different components within a resistance movement. In addition, service members' surveys showed that they learned how to synchronize these components to achieve the desired UW effect.

E. CONCLUSION

This UW wargame accomplished each of the original design objectives. First, the wargame provides a platform for developing the area command through the construction of the area complex; players must balance the interdependence of base and military unit development with organizational expansion through influence. Second, the mechanics of the wargame force players to decide how they are going to manage their limited resources and allocate them toward their organization's objectives. The dependence on external support represented by the "international trade" must also be balanced as players decide how their agencies will develop. Third and lastly, this open board multi-player wargame facilitates interpersonal interactions between the players. Players are forced to interact

with the other players in choosing when or if to make or break alliances with any of the other three players.

II. LITERATURE REVIEW

A. WARGAMING

Wargaming has a long and colorful history dating back thousands of years, and the use of wargames to prepare for conflict has a deep lineage among military practitioners.[12] The following paragraphs are not an attempt to recount this grand history, but rather to map out some highlights leading directly to current wargaming, and laying the groundwork for this newly developed UW wargame. For a complete history of wargaming reference the legendary Peter Perla's book, *The Art of Wargaming*, or Philip Sabin's *Simulating War* which examines multiple different styles and types of wargames throughout the ages. Wargaming is a tried and true method of developing all levels of military leaders from tactical to strategic at a fraction of the cost of an exercise involving hundreds or even thousands of soldiers. According to the U.S. Army's Wargaming Handbook, "at its core, a wargame is a tool for exploring and informing human decision-making."[13] A wargame is a simulation of a realistic situation structured around a particular problem set within a conflict.[14] Wargames are designed to help military decision-makers better understand the constraints and principles of war in a hypothetical case.[15]

Many give Sun Tzu credit about 5,000 years ago with a game called *Wei Hai* ("encirclement"). *Wei Hai* used an abstract board or playing surface similar to the current Japanese game *Go* or a chess board. The players would move colored stones around on the board, attempting to outflank each other.[16] Modern wargaming draws its heritage from *Koenigspiel* "Kings Game" a Prussian game invented by Christopher Weikhmann in

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[12] James A. Miller, "Gaming the Interwar: How Naval War College Wargames Tilted the Playing Field for the U.S. Navy During World War II" (master's thesis, Army Command and General Staff College, 2013), 10, http://www.dtic.mil/get-tr-doc/pdf?AD=ADA599136.

[13] United States Army War College, *Wargaming Handbook*, Carlisle, PA, 2015, 7.

[14] Francis J. McHugh, *Fundamentals of War Gaming*, 3rd ed. (Newport, RI: Naval War College), 2.

[15] Peter Perla, *The Art of Wargaming: A Guide for Professionals and Hobbyists* (Annapolis, MD: Naval Institute Press, 2011), 9.

[16] Ibid., 16.

1664.[17] *Koenigspiel* was similar to chess, but with a slightly larger board than the 64 square standard chess board and thirty pieces as compared to only 16 found in chess.[18] It had a very complex set of rules and involved an umpire in deciding the results of combat. The game was slow and cumbersome, but it was much better than marching armies around a field for days. In 1780, Dr. C. L. Helwig developed a game that looks very similar to many military board games of today. It replaced the abstract "chess" board with a map that represented terrain and villages containing some 1,666 spaces for maneuver. Each of the players had about 120 pieces including infantry, cavalry (light and heavy), artillery, and even pontoons. Players could also place some 200 unique pieces, such as fortifications, bridges, and entrenchments, for additional realism.[19] This game was not only more realistic than previous games such *Koenigspiel* and *Wei Hai* but also very educational and entertaining for the players. In 1824, Von Reisswitz published a game called *Kriegspiel*. This game abandoned the chess board squares and adopted a map depicting realistic terrain and introduced a more complex combat resolution technique based on calculations from previous military experience.[20] This complex combat resolution wargame ushered in the modern age of military wargaming.

The United States began using wargames regularly at the Navy War College in Newport in the late 1880s to help educate officers, following the massive reduction in military funding following the Civil War.[21] Wargaming has been a regular part of both the U.S. Army and Navy War College curriculum ever since. During the interwar years of the 1920s and 1930s, the U.S. operational wargames transitioned from primarily tactical maneuver of ships and men to more strategic operations. Some 130 of 300 wargames conducted during this time by the Naval War College were at the Strategic

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[17] Ibid., 17.

[18] "A Brief History of Wargaming," University of Virginia School of Law, accessed November 12, 2017, http://faculty.virginia.edu/setear/students/wargames/page1a.htm.

[19] Perla, *The Art of Wargaming*, 18.

[20] "A Brief History of Wargaming,"

[21] Perla, *The Art of Wargaming*, 64.

campaign level. Admiral Nimitz stated that "nothing happened in the Pacific theater (during World War II) that was a surprise other than the Kamikazes."[22]

Both the German and Japanese used wargames extensively before WWII. The Germans rehearsed almost every major campaign utilizing a wargame before actual execution. These campaigns included the invasion of Czechoslovakia, Poland, France, Russia, and the defense of the Fatherland near the end of the war.[23] The Japanese Navy played almost every major offensive operation that they conducted during WWII to include the Attack on Pearl Harbor and Midway. The Japanese results from their wargames were less useful than the Germans because RADM Ugaki, in particular, would change the outcomes of the battles in favor of the Japanese resulting in the severe underestimation of American capabilities and overestimation of the Japanese capacity for success.[24]

In November 2014, the U.S. Secretary of Defense Chuck Hagel, published an official memorandum directing all branches to focus on innovation with a particular emphasis on wargaming.[25] A few months later, in February 2015, the Deputy Secretary of Defense distributed a memorandum to the secretaries of all military departments reminding them of the importance of wargaming and dictating the necessity for additional resources in the upcoming budgets.[26]

B. SHORT HISTORY OF EDUCATION WARGAMING

There are two primary purposes for wargames, educational and analytical. Educational wargame provides players with decision-making experience, and analytical type wargames are designed to gain information and specific data that will assist

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[22] Perla, *The Art of Wargaming*, 72–73.

[23] Ibid., 2–44.

[24] Ibid., 47.

[25] Chuck Hagel, "Wargaming and Innovation" (official memorandum, Washington, DC: Department of Defense, 2014).

[26] Robert O. Work "Wargaming and Innovation" (official memorandum, Washington, DC: Department of Defense, 2015).

commanders in making decisions.[27] Most wargames educate players to some extent in the general dynamics of war, such as effects of terrain on maneuver, and the strengths and weaknesses of either attacking or defending units.[28] Similar to traditional wargames recreational games also indirectly teach some military lessons. However, the primary focus of the recreational game design is fun and an interactive experience for the players. An educational wargame differs in emphasis in that there are specific aims or lessons that the game facilitators want the players to learn by playing the game. While a well-designed wargame can and should be somewhat enjoyable, the focus is not solely entertainment, but specifically designed learning.

Educational wargames are a form of active learning rather than passive absorption of a lecture. By nature, a wargame creates a real debate of ideas and strategies between players. This dynamic reinforces concepts experienced in the wargame much more clearly than a classroom lecture reviewing cause and effects of a particular military engagement.[29] Successful wargames such as *Kriegspiel* became popular because they married entertainment value with education. *Kriegspiel* and the follow-on version *Free Kriegspiel* continued to reduce the tedious, cumbersome mechanics of early wargames with more rapid playable mechanics. According to Webster's dictionary, the term gamification first began to be used in about 2010 and is currently defined as "the process of adding games or gamelike elements to something (such as a task) to encourage participation" … "[gamification] take[s] the boredom out of long training sessions by gamifying the entire process. A training manual is replaced by an interactive wargame that allows participants to win awards and be acknowledged."[30] Global brands such as McDonald's, Amazon, Facebook, Nike, Starbucks, and Apple all regularly incorporate

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[27] Francis J. McHugh, *Fundamentals of War Gaming*, 3rd ed. (Newport, RI: Naval War College), 10.

[28] Philip Sabin, *Simulating War: Studying Conflict Through Simulation Games* (London: Bloomsbury Academic, 2014), 31.

29 Sabin *Simulating War*, 36.

[30] *Merriam-Webster*, s.v. "gamification," accessed November 6, 2017, https://www.merriam-webster.com/dictionary/gamification?src=search-dict-hed.

gamification in their marketing campaigns across the globe.[31] These companies use game design and rewards such as badges and points to encourage people to do things they may not otherwise do. The early designers of *Free Kriegspiel* were seeking to make the task of maneuvering units more enjoyable and less rigid. By adopting a training tool such as the original *Kriegspiel* and making it more "fun," *Kriegspiel* became widely used, and many more officers benefited from its value.[32] The free online school *Khan Academy* (www.khanacademy.org) uses YouTube for instruction as well as gamification features such as points and badges to motivate students in tracking their progress in whatever subject matter the student is pursuing.[33] This UW wargame seeks to build on this time-proven element of the human psyche which enjoys playing games and earning rewards.

C. UNCONVENTIONAL WARFARE DOCTRINE

UW is "activities conducted to enable a resistance movement or insurgency to coerce, disrupt, or overthrow a government or occupying power by operating through or with an underground, auxiliary, and guerrilla force in a denied area."[34] The use of UW by a nation state or by rebels is not a new concept for waging war. Early civilizations understood the political utility of UW and used it to their advantage to subvert and coerce their opponents.[35] U.S. President John F. Kennedy understood the application of UW when he addressed the graduating class at the United States Military Academy in 1962. President Kennedy said, "There is another type of warfare new in its intensity, ancient in its origin—war by guerrillas, subversives, insurgents, assassins; war by ambush instead

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[31] Jung Tae Kim and Won-Hyung Lee, "Dynamical Model for Gamification of Learning," *Multimedia Tools and Applications* 74, no. 19 (October 2015): 8484, https://link.springer.com/article/10.1007/s11042-013-1612-8.

[32] Perla, *The Art of Wargaming*, 18.

[33] Brian Burke, *Gamify: How Gamification Motivates People to Do Extraordinary Things* (London: Routledge, 2014), 82.

[34] U.S. Army Special Operations Command, "ARSOF 2022." Special Warfare 26, 2013, 11.

[35] Department of the Army, *Army Special Operation Forces Unconventional Warfare*, FM 3–05.130 (Washington, DC: Department of the Army, 2013), 1–1.

of by combat, by infiltration instead of aggression, seeking victory by eroding and exhausting the enemy instead of engaging him. It preys on unrest."[36]

Today, UW is a unique tool that is available to U.S. national decision makers to project national power and resolve conflicts. In certain circumstances, the use of UW may be the only viable policy option for the USG. The option to employ UW exists when the situation dictates that the military action must be discrete, indirect, small-scale, and requires the use of indigenous actors.[37] In this contemporary political environment, USASOC is charged with maintaining the relevance of UW and the expertise required to apply it in contested environments when directed.[38] The proponent for UW within USASOC is the United States Special Forces (USSF) whose soldiers and officers are uniquely trained, equipped, and organized to execute this UW mission. In order for USSF to maintain proficiency in UW, the wargame has been designed to reinforce five components of a resistance or insurgency. The seven components included in the wargame are the three primary components of underground, auxiliary, guerrillas; and four additional components; area command, area complex, population, and guerrilla base.[39]

1. Primary Components of a Resistance or Insurgency

These components are designed to be self-sufficient, cellular, and redundant in an effort to make them more effective and to conceal them from the government.[40] Even though they are cellular, all three primary components must work in concert in order to synchronize their effects against the state or occupying power. The three different components will share a common goal of overthrowing a government or expelling an

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[36] John F. Kennedy, "Remarks of President John F. Kennedy: Graduation Exercises, United States Military Academy, West Point, NY, June 6, 1962," The United States Military Academy Library, accessed November 9, 2017, http://digital-library.usma.edu/cdm/singleitem/collection/p16919coll13/id/4246.

[37] Department of the Army, *Unconventional Warfare*, ATP 3–05.1 (Washington, DC: Department of the Army, 2013), 1–1.

[38] U.S. Army Special Operations Command, "ARSOF 2022," 13.

[39] Department of the Army, *Unconventional Warfare*, 2–16 – 2–23.

[40] Department of the Army, *Army Special Operation Forces Unconventional Warfare*, FM 3–05.130 (Washington, DC: Department of the Army, 2013), 4–6.

occupying power. The different components of the organization do not come from three separate groups with competing agendas, but rather from a unified command structure that has a nested common purpose. The three components are better understood as different functions that support the overall goals of a resistance movement.[41]

a. Underground

The underground is a clandestine network within the insurgency that can operate in areas and by means that are denied to the guerrilla fighter.[42] The underground enjoys this freedom of maneuver because the individuals are generally key respected members of society that operate within their daily pattern of life. They also maintain anonymity from the insurgency by delegating some of their tasks to the auxiliary as needed. This unique ability allows the underground to perform key functions such as intelligence, sabotage, and propaganda operations against the government. These operations against the government are generally most beneficial when they are executed near urban areas.[43] This proximity to population centers allows them to effectively influence the human domain. This influence of the population will increase support to the resistance movement and cause the government to appear illegitimate. The underground may gain influence by conducting information operations or by acting as a shadow government providing essential services that the legitimate government is incapable of administering.

b. Auxiliary

The auxiliary provides active clandestine support to the insurgency and should not be thought of as a separate entity, but as an individual providing a specific function to the resistance.[44] The auxiliary generally performs the more menial task for the insurgency such as logistics, early warning for clandestine bases, intelligence collection, and propaganda distribution. Even though these tasks may seem mundane, the auxiliary

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[41] Department of the Army, *Army Special Operation Forces Unconventional Warfare*, 4–6.

[42] Department of the Army, *Special Forces Unconventional Warfare*, TC 18–01 (Washington, DC: Department of the Army, 2013), 2–8.

[43] Department of the Army, *Army Special Operation Forces Unconventional Warfare*, 4–7.

[44] Department of the Army, *Unconventional Warfare*, 2–18.

networks are a key part to the survival and operational success of any resistance movement. The auxiliary networks are critical for moving fighters around the battlespace and to distribute resources throughout the resistance organization. The functions of the auxiliary and the underground may overlap in some circumstances providing redundancy in the organization. Auxiliary networks may operate in more rural areas and its members often have more of a part-time role in the resistance movement.[45] Historically, the auxiliary tends to be the most expendable component of the movement because of their role and their overlap in capabilities with the underground. As the world becomes more populated, auxiliary networks are equally useful and active in both urban and rural environments.

c. Guerrilla

The guerrilla component is the military action arm of the insurgency that engages in combat operations and is the most recognizable element of the insurgency.[46] The guerrilla fighter is often outmatched by the state when it comes to military prowess and thus employs an indirect approach toward combat operations. This tends to offset the state's strength and can give the guerrillas the military advantage during engagements. Initially, the guerrilla fighter must employ ambushes, assassinations, and sabotage operations when challenging the state. The guerrilla must avoid decisive engagements and should only confront the state when it has an obvious tactical advantage, usually involving surprise. The guerrilla fighter can only achieve this advantage in areas where the resistance movement has influence which fosters clandestine support to the cause creating the desired favorable tactical environment.[47] The resistance movement must continue to cultivate this support from the local population in order to increase the guerrillas' numerical size and operational effectiveness. This growth and development can eventually give the guerrillas the ability to challenge the government's forces in a

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[45] Department of the Army, *Army Special Operation Forces Unconventional Warfare*, 4–8.

[46] Ibid., 2–19.

[47] Department of the Army, *Unconventional Warfare*, 2–19.

larger and more open manner, but this should only be done if the guerrilla can appear to win the engagement.[48]

2. Additional Components of a Resistance or Insurgency

a. Area Command

The area command is the leadership element of the resistance that directs operations and supports all activities within its area of operation.[49] This leadership element is under the control of a single commander and his staff. They are ultimately responsible for the success or failure of the movement. Their primary function is to synchronize all of the resistance's activities to include, but not limited to kinetic operations, logistical support, propaganda, and intelligence operations. This is done to achieve the desired effect and to ensure that all activities are nested with one common purpose. The area command can be further subdivided into sectors to facilitate its operational control of a region. In order to be effective, the area commander and staff need to be located in an area that is outside of reach of the government.[50]

b. Area Complex

The area complex is a group of clandestine networks located in a denied area that facilitates resistance movement operations.[51] The area complex is under the jurisdiction of the area commander and conducts operations to support the commander's intent and goals. In order to support the commander's intent, the area complex must consist of intelligence, propaganda, logistical, and security networks.[52] The area complex provides the insurgent with freedom of maneuver throughout the government-controlled area. The area complex also exits in both urban and rural environments.

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[48] Department of the Army, *Special Forces Unconventional Warfare*, 2–12.

[49] Department of the Army, *Unconventional Warfare*, 2–22.

[50] Department of the Army, *Special Forces Unconventional Warfare*, 2–13.

[51] Department of the Army, *Unconventional Warfare*, 2–22.

[52] Department of the Army, *Special Forces Unconventional Warfare*, 2–13.

c. The Population

The population, which is sometimes referred to as the mass base, has not historically been considered a component of a resistance or insurgency.[53] The population can be unwittingly manipulated to perform certain actions against the state and therefore cannot be considered a traditional component of a resistance because they are not providing the movement with direct support.[54] This additional component is worth discussing and planning for, since the mass base is where the resistance movement will draw much of its indirect and direct support. Population support can be in the form of something tangible such as providing resources or fighters to the cause. Support can also be in the form of leveraging emotional dissatisfaction toward the enemy. Resistance forces can infiltrate and manipulate respected civil institutions in an attempt to exacerbate existing grievances with the government.[55] Once the resistance force is inside a civil institution it can convince its members to protest, riot; conduct a work stoppage, or any other form of sabotage against the state's functions. This is an effective way for the resistance to conduct a covert activity that can disrupt the government.

d. Guerrilla Base

A guerrilla base is infrastructure often in a safe haven that allows the guerrilla fighter to rest, train, and plan for future operations.[56] A guerrilla base needs to be in an area where the resistance has strong support of the local population and in a location the government cannot find or easily access. The guerrilla base provides the insurgent with the necessary safe haven vital to conducting strategic planning and long-term sustainment operations. The guerrilla base can be located in either a rural or urban area. Bases in urban areas tend to be more challenging regarding security, however, more easily logistically supported. The security requirement can be obtained and maintained as long as the state is reluctant to lose troops or public support by entering the area with the

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[53] Department of the Army, *Unconventional Warfare*, 2–21.

[54] Department of the Army, *Unconventional Warfare*, 2–21.

[55] Department of the Army, *Army Special Operation Forces Unconventional Warfare*, 4–8.

[56] Department of the Army, *Unconventional Warfare*, 2–23.

guerrilla base.[57] The resistance force can increase the state's aversion to contesting a known guerrilla base location simply by maintaining strong local popular support around the base.

3. External Support

Although not technically an additional component of an insurgency, external support is still considered key to successful insurgencies according to doctrine. Generally, resistance movements will not succeed without some assistance from an external actor.[58] This external support can come from a state or from a non-state sponsor. These actors fill a gap that exists within the resistance movement that may be preventing it from reaching its objectives. This support can be in the form of money, weapons, capabilities, expertise, or personnel. A state sympathetic to the resistance may also give an organization sanctuary within its borders to conduct guerrilla base operations. A third-party actor to the conflict can help to sustain a resistance movement and may provide a resistance force military parity with the opposing government in combat operations. Overt support from a third-party nation-state may provide credibility to the insurgent's cause which may promote legitimacy on the international stage. This political support can put international pressure on a government or occupying power to give concessions to the resistance and in effect strengthen the movement's overall position. Often the support from external actors is the final ingredient needed to tip the balance into the favor of an insurgent movement.

External actors providing support to an insurgency have some common interest with the resistance movement which is why they decide to get involved in the conflict.[59] These activities are commonly in line with a geopolitical strategy that the third-party actor is trying to obtain. This involvement is beneficial as outlined above, however, can also be problematic or limiting for the resistance movement. The external actor may

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[57] Department of the Army, *Special Forces Unconventional Warfare*, 2–14.

[58] U.S. Army, "ATP 3–05.1," *Unconventional Warfare* (2013), 2–5.

[59] U.S. Army Special Forces, "TC 18–01." *Unconventional Warfare* (2010), 2–16.

attempt to exert direct influence or control over the resistance movement.[60] This authority is done to prioritize the objectives of the third-party actor over the goals of the insurgency. Strong external support can also make the resistance movement look like a puppet regime for the third-party nation-state and cause the movement to lose legitimacy in the eyes of the local populace. Even more problematic is when a resistance movement partners with an organized crime element such as a narcotrafficker. This partnership is typically done to generate much-needed capital for their revolution.[61] These illicit organizations tend to only care about their bottom line which is to create wealth and are not overly concerned with governance. In fact, these illegal agencies may only benefit when the government is in a weakened unstable state. This partnership may make the resistance movement appear to be illegitimate which can cause it to lose popular support both locally and internationally.

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[60] U.S. Army, "ATP 3–05.1," *Unconventional Warfare* (2013), 2–6.

[61] U.S. Army, "ATP 3–05.1," Unconventional Warfare (2013), 2–6.

III. METHODOLOGY

This UW educational wargame is designed to capture three fundamental doctrinally based learning objectives. First, the wargame provides a platform to practice developing the area command through the construction of the area complex; players must balance the interdependence of base and military unit development with organizational expansion through influence. Second, this UW wargame teaches the importance of managing resources within a resistance or state force. Third, and lastly, the wargame illustrates the importance of resistance group cooperation and coordination if the resistance groups are going to be ultimately successful in defeating their oppressors.

There are three primary components and eight additional components of an insurgency or resistance addressed in ATP 3–05.1. This UW wargame only incorporates the three primary components and four of the additional components. This was done to achieve the three learning objectives and avoid excessive complexity. The three primary components are underground, auxiliary, guerrilla force; and the additional components in this wargame are population/mass base, guerrilla base, area command and the area complex. This wargame does not include the additional components of; leadership and command, government-in-exile, shadow government, and insurgent support networks (medical support and financial).

The modern UW environment demands operational flexibility and relies heavily on human interaction. SOF UW practitioners must be able to achieve operational objectives in a diverse environment that presents complex dilemmas working with multi-facet partners. The overarching design of this UW wargame balances simple mechanics, operational flexibility, and human interaction.

This wargame fosters an environment for SOF leaders to share past experiences and expertise in a natural, low threat environment, which engages the soldier's minds more than a "PowerPoint" classroom lecture. Each soldier can be his/her team in the UW wargame and have the ability to lead a force and learn through hands-on experience how to manage the complex and ever-changing UW environment.

This UW wargame is a multi-sided system wargame involving four players. Three of the players will manage non-state or resistance organizations, and one player will lead the state or occupying power. Each player must develop the area complex through the auxiliary and underground networks, build combat power, and influence local populations using the seven components of UW directly from doctrine as discussed in Chapter II. Players will operate their resistance organizations by efficiently managing the economy of money, weapons, and people. The objective of the wargame is to be the first player to build a team that is worth 15 victory points. Each player earns two victory points for each base they construct and one point for each guerrilla force and influence marker that is active on the board. To balance and maintain realistic conditions, the state player begins with twice the amount of infrastructure as the non-state players; however, all players must earn 15 victory points to win, and each player must manage their organizations using the same three components of the economy.

A. WARGAME DESIGN

The UW wargame board (Figure 1) is roughly 24x24 inches square that can fit on any conference table. The construction of the board is of hexagonal pieces. This design allows for randomization for each wargame. This board design also enables the wargame facilitator to customize the board to reflect a concentration of population centers in some portions of the board and more rural environments in other parts of the board depending on the specific training objectives of that particular iteration of the UW wargame.

Along the edges of the board, there are several External Support Ports (ESPs) (Figure 1). The ESPs enable each of the players in the conflict region to reach out to the external world to both trade for needed resources and to bring in foreign support. External support reduces operational cost for players and represents both political and tangible/physical resources. While not essential for a resistance movement, external support is beneficial and can often provide the resources necessary to shift the balance of a conflict.

A Resource Production Unit (RPU) (Figure 1) represents economic productivity. Each of the hexes has an RPU placed on it to serve the resource production in dollars.

The last phase of each player's turn is to collect the total RPUs from all of the terrain which the player controls. The randomization of the RPU numbers on each of the board hexes will add variation to the wargame to highlight varying economic values of terrain and can be increased or decreased to change the play of the wargame or represent a given area of the world. This method of resource allocation also enables the wargame facilitator to create more or less "productive" regions within the conflict area, while not subjecting the more impoverished areas to abject poverty.

Four players/teams of players play the wargame. One player is the state, or counterinsurgent (COIN) player who is also the regional power and occupying government force. The other three players represent different non-state or rebellious insurgent groups working to gain combat power and influence. The wargame is played in turns which involve interpersonal coordination and collaboration of resources and strategy between allies if they should choose. There is no restriction on a player's alliance to include alliances with the state player.

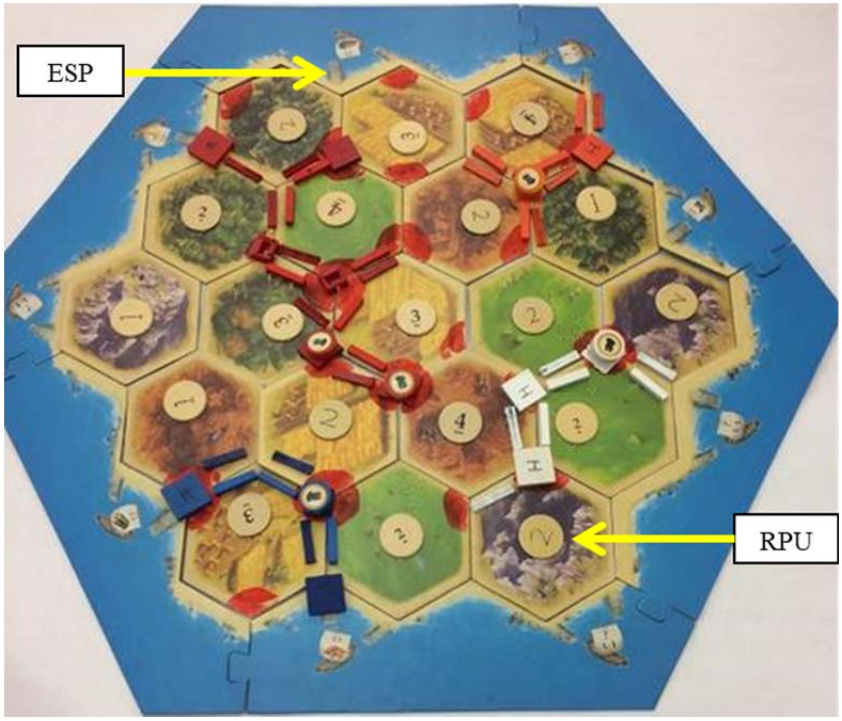

Figure 1. UW Wargame Board

B. WARGAME INFRASTRUCTURE

There are seven pieces of infrastructure available for purchase, consisting of bases, population influence, auxiliary or logistics network, underground or intelligence network, military units, and weapons. The international exchange represents the ability to buy or sell resources from any external third-party sponsor to the conflict. Each player can negotiate and trade resources with any of the other players during this phase of their turn. This player interaction is critical to the gameplay as it replicates the interconnectedness of contemporary conflict and enables players to work together or alone as they desire. Players are free to coordinate with any other players around the board to achieve their wargame objectives (discussed below).

The first foundational infrastructure for all organizations is the base and second is the organization's influence overpopulation and resources. These two infrastructures serve to control terrain and populations by recruiting people to the team and gathering financial resources. The player purchases and places guerrilla/training bases in any region that the player controls. The base is placed at the intersection of three hexes to enable it to collect all three adjacent RPUs, and populations. The placement of a base or influence on an intersection represents in the real world the terrain that it controls. Following the initial base which each player begins the wargame with, the player places all new bases adjacent to friendly underground and auxiliary networks.

The second foundational piece is influence. The population influence piece represents the underground or intelligence government cell, which can conduct governance, humanitarian aid, and information operation of all manners including but not limited to messaging, coercion, subversion, and sabotage. The player places the influence infrastructure along any friendly underground or intelligence network. Influence infrastructure can be moved from intersection to another each turn along any one friendly underground or intelligence network to either generate resources for the organization or take part in a conflict. While the underground or intelligence network is required for influence operations to be built and moved, the auxiliary and logistics networks are still needed to transport the resources generated back to a friendly base.

The next two components for all players connecting their organizations are the auxiliary/logistics network and the underground/intelligence network. In real-world operations integration of auxiliary and underground is critical, and in this wargame, they form the backbone for achieving effects. A player can purchase and place auxiliary or logistic networks adjacent to any other auxiliary network piece. This network enables military units to move to areas of conflict as well as transport resources from an influenced area back to a base for future utilization. For any military unit whether the non-state guerrilla force or state security forces to move, there must be a friendly auxiliary or logistic network leading to the intended destination. Players must build new bases on an auxiliary or logistic network. Players must also connect influence to auxiliary/logistics to collect resources from that area.

A player must purchase and place underground or intelligence infrastructure to create a network of observation or information gathering for the organization. A player cannot conduct any offensive operations without an underground or intelligence network being present. The influence infrastructure requires underground or intelligence networks. Influence can move along underground or intelligence networks. This wargame does not allow for the destruction of auxiliary or logistic network infrastructure and the underground or intelligence network infrastructure. These infrastructure elements can coexist with enemy auxiliary and underground networks. For example, the same piece of highway can be driven on by opposing forces at different times of the day without ever knowing that the other is also using the same road.

The last two infrastructure elements in the wargame available for purchase are the military unit and weapons. The military unit represents the security forces of the state player and the guerrilla forces of the non-state players. Military units rely on continual support and are limited to operating and “seeing” as far as the auxiliary and underground networks. Military units are used to conquer terrain, as well as defend ground from opposing forces. The player can use military units with influence in conflict. The coordination of military units and the application of population influence is critical to gaining influence of populations and resources on the board. They are also crucial to denying enemy influences access to your population and resource centers.

Lastly, there are weapons available for purchase. Each player must procure weapons to arm and train their military units. As with other resources, external actors provide cheaper weapons through a port. Weapons are critical to maintaining the viability of a player's military fighting force. Weapons can be stored indefinitely along with the money and people generated from occupied regions.

C. PHASES

There are seven phases to each player's individual turn. Pay maintenance, invest in new infrastructure, place networks and influence, movement, resolve conflict, place new military units or bases, and lastly collect new resources.

1. Pay Maintenance

When indicated, on the turn tracker (every third turn) each player must pay the requisite maintenance cost for their organization and networks according to the maintenance cost chart (see the Appendix). This recurring cost represents the ongoing cost of maintaining infrastructure of an effective organization no matter what side of the conflict you are on.

2. Invest in infrastructure

A major task of the area command is to manage available resources. Each player will choose what new infrastructure they want to invest in. New infrastructure will be paid for using the available RPUs, personnel, and weapons. During this phase the purchasing player is able to trade resources with other players as well as on the "international market" through an ESP if their organization has gained an international sponsor. Each player's area command must balance and synchronize investment so that the organization does not have excess in some areas and shortages in others.

3. Place Networks and Influence

The area complex is made up of this expanding network of influence and capability. Any new auxiliary/logistics or underground/intelligence networks purchased during invest in new infrastructure phase will be placed along the hexagonal edges during

this phase. Any new or reconstituted influences will also be placed at this time, and are available for use immediately during the next phase (movement). The order of phasing is critical because an area command is able to invest in networks, and immediately put those networks to use before an adversary is able to respond to the network expansion. Due to the open nature of the wargame design there are no secret networks, so in order to facilitate some degree of surprise (which is critical for an insurgent or resistance group) the networks are usable immediately.

4. Movement

Each player moves any or all available units to the desired locations within the individual movement allowances. All movement takes place along the hexagonal edges where there are existing networks. Units may not move if they are being reconstituted that turn and units may take part in conflict after moving their full movement allowance. Specific unit moment allowances are defined the Appendix.

5. Resolve Conflict

Any conflict that has resulted due to the movement phase is now adjudicated according to the engagement table found on the player chart. Players choose which casualties their side will take in response to the number of "hits" from the engagement table. Each player will disrupt influence and military units and withdraw any surviving military units as necessary. (See engagement table in the Appendix for further clarification.)

6. Place New Military Units or Bases

Any new military units or bases which were purchased at the beginning of the turn during the "invest in new infrastructure" phase are now placed on the board. Players can only set military units in a base. The player must put bases at any junction or port connected via auxiliary/logistical or underground/intelligence networks. The base and military units are not immediately available for use like the networks and influence because in general these elements of infrastructure require more logistical support and

specific training to become operational. Efficient military units and robust reliable, bases do not just appear out of nowhere with little time and effort.

7. Collect New Resources

Each player will tally the number of RPUs that their organization controls and collect the requisite amount of resources. All newly placed infrastructures immediately produce resources. Each player will use the designated personnel and weapons markers provided to delineate stored resources represented by chips. White is one, red is five, and blue represents ten items. RPUs are denoted in dollars and are also collected at this time.

D. TIME DURATION OF WARGAME

The wargame is designed to last less than four hours through either a decisive or arbitrated outcome. A wargame facilitator can explain the wargame rules in 30 minutes, and give a tutorial of the wargame mechanics. This time enables all players to understand the rules, identify their entire wargame infrastructure, and observe a short demonstration of how the mechanics of the wargame play out. Following the completion of the wargame, the wargame facilitator hosts a discussion highlighting fundamental concepts that came out of this educational wargame, inviting each player to share their lessons learned from their experience commanding their organization.

E. HOW TO WIN

There are two ways for players to win the wargame based on victory points awarded for specific types of infrastructure. The first method for winning the wargame is a decisive victory of being the first player to gain and maintain 15 points for one complete turn. Any player with 15 points is in a strong position economically and militarily. Through playtesting, when a player gains and maintains 15 points for one complete turn that player is in the dominant position to carry the campaign on to overall success. The second method of victory is to have the most points by the 12th turn of the wargame which is marked “UN Intervention” on the turn tracking board (see the Appendix for details). This victory condition represents the historical fact that 33% of insurgencies end in negotiated settlements due to a fundamental stalemate. The strength

and influence of each organization is vital to any power-sharing agreements that result through international arbitration (i.e., UN intervention). Players with the most points can gain the most favorably negotiated outcomes because they are negotiating from positions of strength.

Points are awarded as follows: two for each base, one for each active influence, and one for each active military unit. Customized victory points may be defined explicitly by the wargame facilitator before the beginning of each wargame if there are specific learning objectives. The default scoring of 15 points encourages players to be purposeful in their organization growth, and flexible enough to be achieved through a variety of strategies. No single plan will enable a player to win each time, and what worked during one wargame with one group of players and one board design may not work a second time with another team, and different board set up. The 12-turn limit to the wargame has been implemented to bring the wargame to a close and enable time for purposeful post-game discussion. After the players have each taken 12 turns, even if they have been unable to achieve a decisive 15-point victory, they will have a good understanding of each of the three primary learning objectives the wargame is seeking to reinforce.

The mechanics of the wargame and the victory point allocation reinforce the doctrinal application of a successful anti-government resistance movement, and COIN campaign by a state or occupying power. The key to victory for all the players mirror the three key learning objectives that the wargame is designed to teach based on doctrine. To be successful, all players must first develop their area complex by balancing and synchronizing the investment and employment of underground/intelligence, auxiliary/logistics, and military units and balance the development of their bases and surrounding influence.

Second, players must determine and execute a coordinated development of their organization, managing the limited resources generated locally and maximizing the benefits from external sponsors if the player chooses to develop foreign sponsors. The state benefits greatly from an international sponsor because by nature of the player titles all three non-state players begin the wargame predisposed to oppose the state, and the

initial position of economic strength compared to the non-state players naturally places the state as the player to be fought.

Third, and lastly, each player must work diplomatically to partner with other players to achieve individual and or collective objectives while preventing their adversaries from gaining their goals. The non-state players do not necessarily all have to work together against the state; however, it is challenging to win the wargame without allies or collaborators. The state must excel at negotiation and can gain a significant advantage if they can achieve a temporary partner with one or more of the non-state players, or just prevent the three non-state players from working together throughout the wargame.

IV. RESULTS

A. LEARNING OBJECTIVES

This UW educational wargame is designed to capture three fundamental doctrinal based learning objectives. First, the wargame provides a platform for developing the area command through the construction of the area complex. Players must balance the interdependence of base and military unit development with organizational expansion through influence. Second, this UW wargame teaches the importance of managing resources within a resistance or state force. Third, and lastly, the wargame shows the importance of resistance group cooperation and coordination if the resistance groups are going to be ultimately successful in defeating their oppressors. The wargame was played five times by a diverse group of players. The players consisted of two groups; formally trained UW practitioners and untrained personnel. A pre-and post-wargame survey was conducted with the participants to confirm the wargame's effectiveness at educating the learning objectives. Survey data analysis indicates that the wargame achieved the intended learning objectives.

1. Area Complex Development

The first training objective consists of two separate sub-objectives for developing the area complex. The first is the network development within the area command as part of the area complex, and the second sub-objective is balancing the interdependence of base and military unit development with organizational expansion through influence. The area complex consists of network development using both the auxiliary and underground elements of a resistance or non-state and logistics and intelligence elements of the state. The mechanics of the wargame make developing auxiliary and underground in the same geographic locations the most advantageous strategy for collecting resources and gaining influence over populations. When players expand their organization's influence, they need both auxiliary and underground networks to achieve the intended influence and or military results and then be able to capitalize on those gains by extracting the resources back to the organization's base. When the terrain is uncontested, there is always mutually

supporting network development because the primary focus was to increase the resource generation and expand the organization's influence.

Players built only an underground or just an auxiliary when they were deliberately attacking a specific location along an enemy's network. When this happened, players were only interested in the destruction of the enemy piece and not immediately exploiting the available resources in the contested region. Both single influence attacks were using just the underground network, as well as unilateral guerrilla attacks supported only by the auxiliary network. The wargame mechanics are designed to drive players to use both networks in a multidimensional approach as found in doctrine, replicating the time and expense that adequately developed compartmentalized networks demand. One of the most challenging aspects of developing the area complex is to manage and resource compartmentalized networks in the same geographic regions all working toward the same organizational objectives.

In this open wargame design (Figure 2), each player's area command has the advantage of seeing their entire network clearly and simultaneously. They also can observe their opponent's and allies' network development all at the same time. This common operating picture for all players enables the players to develop strategies that will exploit their opponent's weaknesses, as well as learn from their opponent's mistakes as each player develops and improves their networks throughout the wargame. One example of this is seen in turn four when the white player has less space to expand because the blue and red players are boxing him in with their more robust networks (Figure 2). Players can see the strength of blue and now have the option to cooperate or continue their initial strategy. In each of the five data collection wargames, players were observed making visible changes to their network development in response to their allies' and opponents' movements. The phases of each turn were deliberately created to capture the "fog of war" that enables resistance forces to strike where least expected. In the same turn, any player could invest in a network of any affordable length and both place the networks and then use the networks to move both influence and military forces to achieve "surprise." The wargame's educational value is that players can observe and anticipate at

least some degree of enemy activity. Players are also able to see how opponents react to their movement of military units and development of bases or influence.

Figure 2. Robust Network Development

The second half of the first training objective is that this wargame reinforces the interdependence and balancing of base and military force development and organizational expansion through influence. The wargame assigns two victory points for each base, one victory point for each active influence, and one victory point for each functioning military unit. Players tended to focus on point generation through two methods. The first and most common technique was to expand the area complex and invest heavily in influence in as wide an area as possible. Players who had a relatively open area around their initial base development tended to expand their area complex into space and focus on the influence strategy to win the wargame. In one wargame (Figure 3), the orange player won the wargame with nine influenced regions and only one base. Even though the areas this orange player influenced were not the most economically lucrative on the board, this player did not have to compete with other players and was able to freely expand his network and collect the meager resources with no opposition.

Figure 3. Orange's Strategy

The second strategy was to build bases in a small geographic area and avoid contact with other players. Players who were either boxed in or had a particularly active economic region of the board were more successful in developing bases and avoiding confrontation. Rarely did the base-focused strategy win, however, because regardless of the strategy, no player was able to win the wargame with fewer than six areas (intersection of three hexagonal tiles). The players who avoided influence expansion and remained very small relying extensively on an external port were never able to be the dominant player on the board. For resistance and insurgent forces to have legitimacy within the local population, they must have credible influence. When resistance forces rely exclusively on external actors, they appear as puppets of the external sponsor lacking legitimacy. Dominant players generated a majority of their resources from areas they influenced. Relying heavily on ESP limited the ability to create resources. In one wargame, the white player (Figure 4) had only five regions, three of which were bases, before losing terrain to orange at the end of the wargame. The mechanics of the wargame served to drive players with no prior experience with these concepts to develop robust resistance networks with a balance of bases and influence. The few players who did not

invest in much of an area complex, but attempted to win the wargame using an external port and military units, were never successful in any of the five wargames. Military units are an economic drain and do not contribute to resource generation; therefore, a substantial investment in military forces with a small network is unwise due to the financial cost incurred by that organization.

Figure 4. Base Strategy

Chapter V discusses possible of adjustments to the wargame scoring and how to best end the wargame. However, the current scoring mechanism was very effective in re-enforcing and educating the doctrinal theory of balancing the interdependence of base construction and expanding the area complex through influence.

2. Resource Management

This learning objective in this UW wargame teaches the value of managing resources within a resistance or state organization. Through the seven-phase turn model, each player worked through the strategy of allocating existing resources by investing in new infrastructure for future objectives. Then, each player employs existing and new resources to achieve desired effects on the board. Finally, when resolving conflict, each player must choose what resources they will risk, and potentially take losses on to accomplish the overall strategy. An example of cost-benefit analysis that most players

grasped quickly was the cost of a military unit for the non-state player. The non-state player must invest five personnel, $10, and five weapons to purchase a new military unit. The cost of a new influence infrastructure in comparison is five people and $15. Each player must choose whether it is more lucrative to invest in influence, which is cheaper and offers the ability to move, fight, and collect additional resources, or to invest in military units, which are very useful in both offensive and defensive conflict. Players who spent heavily in military units had existing biases toward the use of armed force despite being trained formally in UW (which advocates a varied and indirect approach). Players' bias toward the application of force is from multiple DA deployments. In all the wargames, the winning strategies were network development and resource based. Players whose aim was to fight with other players failed to gain dominance because the number of resources expended in conflict diluted their investment in resource-generating networks. This strategy directly impacted their economic viability.

Players had to evaluate the physical and human terrain they were operating on to determine what economic strategy was best. One state player (Figure 5) focused exclusively on the economic productivity and population centers by securing those areas and building bases there. This player was surrounded by opponents and forced to fight on three fronts possibly; however, he had more money than the other three players combined for much of the wargame. This plan allowed him to pay players not to attack him while he continued to expand his network.

Figure 5. Economic Strategy

External support is not required; however, it indeed can provide critical assistance and aid in resource management if accessible. Statistics showed from the post-wargame survey data that 33% of the players valued external support more after the wargame than before. Several players, such as the orange player (Figure 6), did not initially position themselves well to be able to expand networks to gain external port access quickly. Players' lack of understanding of the importance of ESP during the beginning of the wargame led to this strategy. Several players were able to develop organic organizations that did not have any external support; however, even these players would trade with other players around the board to receive better prices for particular resources that were in short supply. Players were forced to balance the investment of the network in the local areas, or to build a network out to an external port. The strongest teams achieved a balance of a robust organic organization with the aid of an international port. Some players chose to build their organization from the international port into the local region with varying levels of success.

Figure 6. External Support

3. Coalitions

The wargame teaches the importance of resistance group cooperation and coordination if the resistance groups are going to be ultimately successful. The majority of the wargame began with little "table talk" around the board and little if any coordination or trade. As the wargame progressed and some players began to expand more quickly than others, the "weaker" players would first complain about how they had a poor location and then, begin to work with each other to counter the stronger players. This realization around the fifth turn of the wargame was the most definitive factor in driving coordination, cooperation, and trading. When all three non-state players joined together and would share assets and conduct coordinated attacks, the state was never able to withstand the concerted onslaught. The one time the state player won the wargame, the state was able to convince one of the non-state players not to attack. In one wargame, one of the non-state players was able to win because they rallied the other non-state players to one team and then positioned themselves to benefit the most from the spoils as the state player was forced to give up terrain and influence. The state (Figure 7 red player) had 13

points when the three non-state players began a coordinated attack. The orange player took the state's international port (Figure 7), substantially increasing the state's cost of weapons and people, while the blue and white players attacked the state from the opposite side (Figure 7). You can see two blue military units and one blue influence piece used the white auxiliary and underground networks to attack the red state player. In two turns, the state's score went from 14 points to 9 points due to the loss of three influences and two military units.

Figure 7. The State without Allies

Private discussions and open "table talking" between players was a key component to this wargame. Not only were the individual players able to see and learn from each other's mistakes, as stated above with network development, but they were also able to warn each other and debate strategies against opponents. There was successful and unsuccessful bribery that took place; there were lasting alliances and some double-crossing that also took place throughout different wargame. All these characteristics are found in the real world of UW operations and can only be

demonstrated and then discussed when they are “forced out” in a competitive multiplayer open wargame like this. During the development of the wargame, there were optional rules developed to sow discontent and challenge coordination between the players. However, the wargame did not implement these optional rules because in each wargame there was natural tension. If the wargame were digitized, it might limit the natural discontent by decreasing the human interaction component. Human interaction is a vital component of UW, and this essential element must remain in the wargame.

B. RESULTS AND ANALYSIS OF SPECIFIC ASPECTS OF THE WARGAME

1. Board Design

The hexagonal board design (Figure 8) allows the board to be set up in numerous configurations and worked exceptionally well for this UW wargame as discussed in Chapter III. The design intent was to create a playable wargame that would not result in one dominant strategy. For future versions of the wargame the terrain and population graphics on the hexes, as well as the external port symbols will be changed.

Figure 8. Hexagonal Board

2. Population Centers

The more concentrated population area board designs led to a more rapid network development due to the increased population resources available. Board designs with fewer concentrations of the population took longer to develop networks due to a shortage of population centers’ resources. Board designs that had only a few “two-population” intersections and many single population areas were very slow in the beginning few turns

and took roughly 3–4 turns for organizations to begin to grow beyond their initial setup. After play-testing, all wargames were played with a minimum of two three-population center intersections and many two-population center intersections (Figure 9). This board design led to a noticeable variation in population densities across the board, which drove players to compete for the high production regions and avoids the regions with no populations at all. The wargame facilitator could choose to make players operate in a sparsely populated area to teach specific lessons, or specifically align the board to have many "urban areas" or three population intersections.

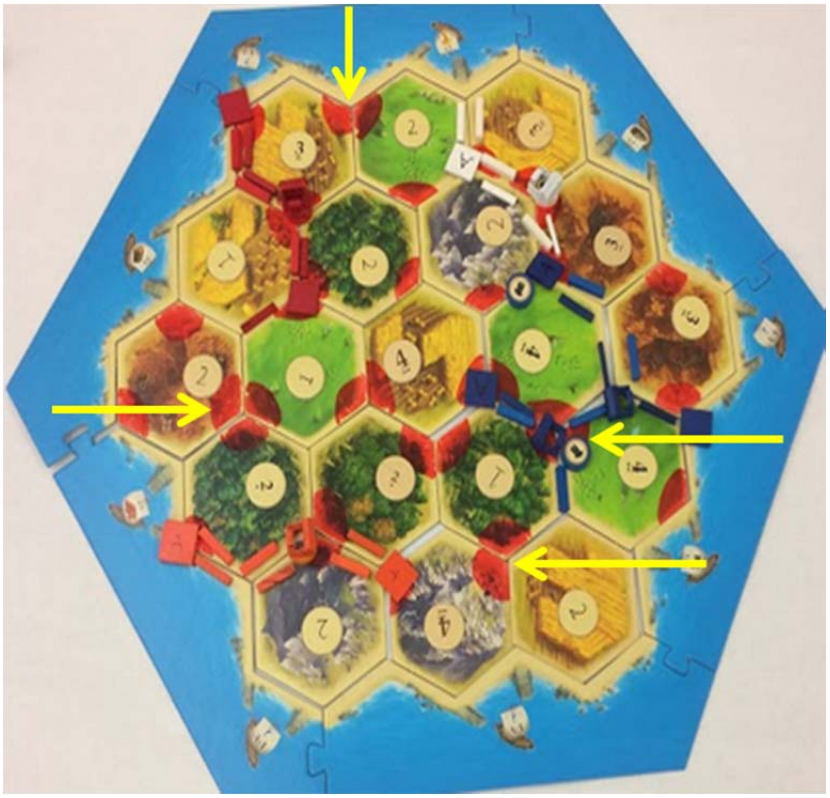

Figure 9. Few Population Centers

3. Resource Production Values

The higher the numeric values for production on each hexagonal piece, the more quickly players can amass financial resources, accelerating network development. Initial playtesting used only three number #3 production markers and then an even split of #2

and #1 production markers. This level of resource production resulted in very slow wargames because players could merely not generate adequate amounts of resources in a reasonable time. The introduction of two to three #4 production markers and three to four #3 production markers led to a noticeable increase in the rate of network development for each of the player's organizations. As with the population density, the resource production markers (Figure 10) can be precisely aligned to create more valuable terrain and less costly terrain. Any wargame facilitator can customize the production levels to achieve the desired learning effects, or just to progress the wargame at a faster rate.

Figure 10. Resource Production Markers

4. External Ports

The current board design has numerous foreign ports along the outer edges of the board. All these ports have the same effects for each of the players to standardize the wargame experience for each of the players. The numbers on the little ships are not relevant to the wargame as tested. In future versions of this UW wargame, there will be fewer external ports, and the effects of foreign sponsors and the international markets could vary based on turn and or players.

C. PLAYING THE WARGAME

The wargame was play tested by a group of experienced UW SOF practitioners and a group of naval officers with no formal UW training before any data collection wargame iterations. These two playtests led to several small refinements to the rules and victory points, as well as the increase in resource production and purposeful urbanization of the hexagonal tiles. All of the data collected from players who played the wargame was from first-time players who had no previous UW wargames to compare this wargame experience to. Those players who had previously play-tested the wargame or taken part in any portion of the development were not recruited to play in any of the five data collection wargame iterations.

The two research groups, one from NPS and the second from the SFQC at Fort Bragg, served as the perfect diversified collection of experiences that was desired to thoroughly test the effectiveness of this wargame across a broad spectrum of personalities, experiences, and training. NPS students represented 13 of the 20 players for the first research group. They came from a variety of backgrounds including all branches of the U.S. armed forces (Navy, Marines, Air Force, and Army) and multiple foreign countries including Denmark, Georgia, and Finland. The NPS students had a variety of Military Occupational Specialties (MOS) as well as diverse backgrounds and military experience levels. This group included Naval Surface Warfare Officers, Foreign Area Officers, Civil Affairs, Military Information Support Operations, Infantry, both fixed and rotary wing pilots from both the Army and Air Forces, multiple specialty areas such as operations research officers and computer science engineers, and lastly Navy SEALs and Special Forces Officers.

The second group of players came from Fort Bragg and consisted of seven current students in the Special Forces Qualifications course. These groups of players were all Army personnel, both officers and enlisted, and had all received formal UW training.

The average wargame took approximately 3–3.5 hours. The shortest wargame lasted just over two hours. The quickest wargame was a group of players who were all formally trained in UW and familiar with all the terms and functions of the infrastructure.

The players also were very purposeful in taking their turns with a minimum of downtime between individual player's turns. None of the wargames lasted longer than four hours, meeting the intended time limit objective of the initial wargame design.

Students who had previously received formal UW training provided few changes between their pre- and post-wargame surveys with minimal statistical relevancy. This result reinforced the doctrinally based UW wargame design, since it was intended to supplement formal UW classroom environments. Measurable changes were observed in the non-formally trained personnel's survey data. These players valued the area complex development 33% higher after the wargame than before. They assessed the importance of resource management 18% higher after the wargame than before the wargame began. Lastly, 38% of this group increased their value of coalitions following their UW wargame experience. Based on the post-wargame surveys, the UW wargame represented each of the three intended learning objectives. This change in appreciation validates the wargame mechanics of reinforcing area complex development, resource management, and coalition building. Many of them had never considered how to conduct an insurgency before the introduction of this UW wargame. Thus, their initial surveys were merely the first guess as to what elements would be necessary, and the post wargame survey reflected their lessons learned from their experience playing the wargame. The most common element of the insurgency that changed in value ranking was the guerrilla fighters. 95% of the untrained personnel decreased the value of fighters after playing the UW wargame. This apparent bias is perhaps a result of the media's presentation of resistance efforts centering on guerrilla activates since they are often the most visible and "nightly news" worthy. The initial value of guerrilla fighters could be related to the military players identifying more closely with the military arm of the resistance organization than the other aspects of the group.

V. CONCLUSION

This UW wargame accomplished each of the original design objectives. First, the wargame provides a platform for developing the area command through the construction of the area complex; players must balance the interdependence of base and military unit development with organizational expansion through influence. Second, the mechanics of the wargame force players to decide how they are going to manage their limited resources and allocate them toward their organization's objectives. The dependence on external support represented by the "international trade" must also be balanced as players decide how to develop their area complexes. Third and lastly, this open board multi-player wargame facilitates interpersonal interactions between the players. Players are forced to interact with the other players choosing when or if to make or break alliances with any of the other three players.

The data collection from 20 players confirms that this wargame does, in fact, reinforce doctrinal principles. The changes in survey data that were most measurable came from the group of players who were formally untrained. Their initial surveys were somewhat diverse in ideas of how to focus and develop an area complex; however, after playing this wargame, the post wargame surveys reveal that their perspectives and ideas for future wargames involving UW would follow doctrinally suggested approaches without ever having read doctrine.

A. SUGGESTED CHANGES, ADAPTATIONS, AND IMPROVEMENTS

Of all the rules in this UW wargame, the most questioned rule by the players was why the scoring system is as it is. The scoring in the wargame is designed to place value on specific critical pieces of infrastructure within an organization, and ultimately to create conflict on the board as players have an objective to aim their strategy toward. The scoring could be changed to include adding point values to more pieces of infrastructure or possibly point values to geographic terrain as well. Each additional rule requires additional computation for the players to mentally track while playing the wargame. A digital version of the wargame would alleviate this added computation challenge, and

make complicated scoring more playable. A subset of the overall point allocation and scoring is the fact the state players only won 20% of the time. In all of the wargames, the three non-state players eventually worked together to counter the state's efforts, resulting in the low state win rate. Max Boot writes in his article, "The Guerilla Myth" that since 1945 51.1% of the time the state or counterinsurgent wins.[62] This balance of play issue in the current wargame should be addressed in future versions of the wargame. Follow-on versions of this wargame should consider different scoring techniques that could solve this balance of play. Changing the state's cost for infrastructure during initial setup would also shift the balance of play. The introduction of special rules which will be discussed further down could also play a pivotal role in changing the balance of play in future versions of this UW wargame.

The current wargame requires four players to achieve the balance needed for a challenging experience. Future versions should have a scalable chart outlining the number of board tiles, ports, and resource production units required for an optimal 2, 3, 4 or up to 8 player wargame. This scalable board would be relatively easy to develop due to the existing hexagonal design of the board. The outer edge of the board would have to be redesigned to be more flexible in size. Adding scalability for the numbers of players able to participate, would add to the overall flexibility of this wargame in any environment.

Several players have suggested creative ideas for additional rules which would add nuance and "realism" to the existing wargame. The addition of any new rules could dramatically change the economy of the wargame, and also possibly the methods of network expansion and overall area complex development. In future versions of this wargame, there should be an optional rules appendix with several optional rules focusing on different aspects of a UW campaign. The base wargame could be easily adapted to focus extensively on information operations, civic engagement such as development and governance, or strictly on information and intelligence collection and generation.

[62] Max Boot, "The Guerrilla Myth," *The Wall Street Journal*, January 18, 2013, https://www.wsj.com/articles/SB10001424127887323596204578243702404190338.

Practitioners from each of these sub-specialties could work out their own optional rules tailored to their expertise based on this foundational UW wargame.

B. DIGITALIZING THE UW WARGAME

1. Advantages

The board based wargame and the existing mechanics have been demonstrated to deliver the intended results. There are four major advantages to digitalizing this wargame and three drawbacks. The first advantage is that it will speed up the play of the wargame. The second advantage is that it will allow more complex, flexible rules with nearly no additional computational work on the player's part. Thirdly, by digitalizing the wargame, it could be played by a more flexible number of players due to the incorporation of potential artificial intelligence (AI) or simply scaling the size of the board as addressed previously. Lastly, the wargame could be distributed and updated across the USASOC enterprise continuously with maintenance rolled into an existing digital computing contract.

a. Quicker Resource Calculations

The wargame could be played more quickly because the calculations involved in both resource generation and also conflict resolution would be calculated by the computer. This increase in the speed of play for the wargame makes it more advantageous for classroom practical exercises as well as those players who may be discouraged or intimidated by the calculations necessary each turn. This automation also allows more complicated and "realistic" methods of computing conflict and resource generation. An example would be that a single region's resources and population could be split between different players simultaneously instead of the all or nothing economic model currently used.

b. More Complex Realistic Rules

Digitalizing the wargame will allow the development of more complex realistic rules concerning conflict resolution, resource generation, and the introduction of additional infrastructure introducing the opportunity for more operational flexibility and

creativity. The current conflict resolution matrix is rudimentary, and the conflict results are very simplistic. By digitalizing the conflict results more variation of results could be calculated through the introduction of terrain, population, morale, and equipment variables. These additional aspects of the wargame make a more realistic dynamic wargame without creating a calculation nightmare for the players each time they engage in conflict. Resource generation could be more nuanced than the current all or nothing approach as well as creating varied effects from different foreign/international partners. Currently, all players have easy access to external partners through the international market. If the wargame were digitized this aspect of the economy could be significantly enhanced to reflect the monumental challenge of gaining and maintaining international support while fighting a multi-dimensional conflict. Lastly, the "influence" infrastructure on the current wargame represents at least three distinct organizational functions and special activities (political leadership, sabotage and subversion cells, and messaging cells). To maintain playability, the current version of this wargame only uses five pieces of infrastructure total; however, a digital version could and should consider the inclusion of specific infrastructure for each of the influence sub-elements.

c. More Players and the Use of AI

The introduction of a scalable board from perhaps two-eight players could be easily done digitally as well as possibly the introduction of an AI player or players. These additions would make the wargame more usable for varying groups of players much more efficient than altering a board based wargame. The introduction of AI would add significant cost to the digital variant, however, it should still be considered.

Lastly, if the wargame were digitized, it would be easy for all DOD education courses to gain access to the wargame, as well as operational units around the globe. Any updates, changes, or variation to the wargame could all be nearly instantaneous and across the enterprise with little additional cost. Joint Special Operations University (JSOU), the NPS Defense Analysis program, the National Defense University, and others could all also obtain subscriptions and implement this UW wargame in their specific UW/COIN/IR training modules.

2. Drawbacks

a. Interpersonal Interactions

The wargame was explicitly designed to facilitate interpersonal interaction between players and groups of players. The need for special operations personnel to have and maintain interpersonal skills is critical. This wargame facilitates the training of interpersonal negotiations much more effectively than a digital version could. While people could potentially play the wargame around computers in the same classroom or use a chat function, the tangible board brings a dynamic that is not easily reproducible. The implementation of AI into the wargame would negate this entire learning objective from the existing wargame.

b. High Cost

Following a small initial investment, this board wargame can remain a useful tool with no additional maintenance cost for many years. Currently, this wargame as a board based system costs roughly $50 to create with no ongoing maintenance costs. The ever-growing cost of maintenance for online systems both in hardware and in the software and security side of the cloud-based infrastructure dwarfs the cost of a board based wargame. While this wargame could be added to an existing contract for other digital-based wargames, it would still involve additional and continual costs to the DOD to maintain accessibility of the wargame for all potential users.

c. Playing Location

The board-based wargame is usable in almost any location where U.S. forces are working with local partners without electricity, Internet connections, or information assurance (IA) mitigation. The board based wargame will not require bandwidth, security protocols to access, or any other IA complications which could be caused by a digital cloud-based system. The tangible board-based wargame version will also likely be more efficient with cultures and groups of people who are not as comfortable or adept as the average American male at computer-based wargames. Lastly, a solid board based wargame could be stay-behind equipment in any foreign staff school or partner unit

headquarters. A cloud-based digital version would create many challenges. A CD/DVD version could bridge this gap, however, would still not be the same a solid board wargame that can.

C. UW EDUCATIONAL FRAMEWORK

This thesis has demonstrated that this UW wargame can effectively fill the need for a practical exercise in the existing UW educational framework. The results of this UW wargame have proven valuable across the broad demographic of players who have played the wargame and walked away with a better appreciation for the foundational doctrines and theories of how successful UW area complexes should be developed. This UW wargame or a variation of it should be adopted by the USASOC enterprise to train and refresh current and future special operations practitioners who are called to be proficient in unconventional warfare. As MARSOC continues to build its UW capability, it also should consider adopting this UW wargame into its training pipeline.

APPENDIX. WARGAME RULE BOOK

A. DEFINING KEY TERMS

The wargame terms are defined below to ensure a shared understanding while playing the wargame.

1. Unconventional Warfare (UW)

UW is "activities conducted to enable a resistance movement or insurgency to coerce, disrupt or overthrow a government or occupying power by operating through or with an underground, auxiliary and guerrilla force in a denied area."[63] There are three players (non-state) who are conducting UW operations using underground, auxiliary and guerrilla forces to degrade the state player. These players may work together or individually. Their only limiting factors are the governing rules of the wargame. Bartering, bribing, treaties and backstabbing can all be part of war and this wargame.

2. The Underground

The underground is a clandestine network within the insurgency that can operate in areas and by means that are denied to the guerrilla fighter.[64] This unique ability allows the underground to perform essential intelligence, sabotage, and propaganda operations against an enemy. They enjoy freedom of maneuver because the underground members are often respected members of society that operate within their daily pattern of life. They also maintain anonymity from the insurgency by delegating potentially compromising tasks to the auxiliary. The underground is necessary for a movement to gain or extend influence into an area.

3. The Auxiliary

The auxiliary provides active clandestine support to the insurgency and should not be thought of as a separate entity, but as an individual providing a specific function to the

[63] U.S. Army Special Operations Command, "ARSOF 2022." 11.

[64] Department of the Army, *Special Forces Unconventional Warfare*, 2–8.

resistance.[65] The auxiliary perform the more compromising daily tasks for the insurgency such as logistics, early warning for clandestine bases, intelligence collection, and propaganda distribution. Because of their role in the resistance the auxiliary tend to be the most expendable within the movement.

4. The Guerrilla

The guerrilla is the military action arm of the insurgency who engages in combat operations.[66] The guerrilla fighter is outmatched by the state when it comes to military prowess and thus generally employs an indirect approach to combat operations. This approach tends to offset the state's strength and give the guerrilla a momentary tactical advantage. The guerrilla must avoid decisive engagements and should only confront the state when it has a distinct advantage.

5. The State

This player will serve as the "government or occupying power" during this UW wargame. This player will follow all the same rules as the non-state; however, the state does begin with twice the infrastructure and has a different set of prices for their units (see unit cost chart). This increased cost reflects the higher costs the state incur while conducting security operations due to the equipment and formations of conventional security forces and the simultaneous drain of resources supporting other governance requirements. The state does not have a physical presence across the entire board; however, due to the open nature of this UW Wargame, the occupying power can observe resistance forces in his area of influence.

6. Non-state

The non-state player represents a resistance movement or insurgency, whose aim is to disrupt or overthrow the state player. The player will do this by using "subversion

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[65] Department of the Army, *Unconventional Warfare*, 2–18.

[66] Ibid., 2–19.

and violence to seize, nullify, or challenge political control of a region."[67] This player will follow all the same rules as the state player. A non-state player may choose to fight or not fight whomever they decided, as well as partner/ally with whomever they wanted.

B. INFRASTRUCTURE

1. Underground/Intelligence network

This infrastructure (Figure 11) represents a portion of the underground or intelligence network that is critical to conducting any security or resistance operations. Each unit's cost is displayed on the individual player unit cost card. This infrastructure does not have a maintenance cost, and it cannot be destroyed or removed from the board unless the owner disbands it. In the event an Underground or Intelligence network is cut off from its base, it merely remains where it is and can be used again if it is reconnected. Underground networks are necessary for any Influence operations. An underground/intelligence network must be traced back to a player's base or headquarters to sustain influence operations.

Figure 11. Underground/Intelligence Network

2. Auxiliary/Logistics Network

This (Figure 12) infrastructure represents a portion of the auxiliary or logistics network that is critical to conducting sustainment and security operations. Each unit's cost is displayed on the individual player unit cost card for each player. This infrastructure does not have a maintenance cost, and it cannot be destroyed or removed from the board unless the owner disbands it. In the event an auxiliary or logistics network

[67] Department of Defense, *Counterinsurgency*, JP 3–24, (Washington, DC: Department of Defense, 2013), ix.

is cut off from its base, it simply cannot be used before it is reconnected. auxiliary/logistics lines must be traced back to a player's guerrilla base or barracks to receive any benefit from resources or people from active influence operations.

Figure 12. Auxiliary/Logistics Network

3. Military Unit

This infrastructure (Figure 13) represents the military action arm for each player's organization (the resistance's guerrillas and state's security forces). Each unit cost is displayed on the individual player's unit cost card. This military action arm is the primary unit responsible for defending and also attacking adjacent organizations and threats. Any military unit can conduct two actions during a player's turn. They may perform any combination of the following three activities: Move, attack, and defend (along logistics/auxiliary networks). In the event a guerrilla or security force is defeated in conflict, the unit will withdraw and reflect any possible disruption as defined by the results of the conflict (found on the battle board). Military units must trace an uninterrupted line of supply via an auxiliary/logistics network back to any friendly base to be able to conduct offensive operations. If a force becomes isolated and unsupplied, they may only defend their positions. In the event they are attacked and must withdraw, the unsupplied military unit must withdraw along an existing friendly aux/log route regardless of whether the network is connected to a base or not.

Figure 13. Military Unit

4. Base (Guerrilla Bases (G-Bases)/State's Barracks)

This infrastructure (Figure 14) represents the "heart" of each player's organization. Each player's base or barracks generates two times the posted resources from the surrounding areas. The G-Base and barracks receive resources from influenced areas via an uninterrupted logistics or auxiliary network. G-Bases or barracks are necessary to train military units (guerrilla or security forces), as well as provide resupply to all military units via the logistics and auxiliary network. It is possible for a player to continue playing the wargame without a G-Bases or barracks; however that player will not receive any production resources. If an allied player "liberates" a friendly player's base, the base is now usable on the next turn. G-Bases and barracks defend at 5–6 and can sustain three hits during one turn. At the start of the next turn, a base is repaired automatically with no cost to the player. If multiple players attack the same base during the same turn, the hits are combined.

Figure 14. Base

5. Influence

This infrastructure (Figure 15) represents influence that any particular player's organization can exercise in a given area and its population. Influence represents all forms of underground/ intelligence operations (i.e., messaging, coercion, sabotage, and disruption). Influenced areas generate resources, in addition to taking part in both offensive and defensive conflict. An influence infrastructure generates the number of resources and number of people represented in the area being influenced. (See resource and population production.) An influence infrastructure can move one space per turn. Influence may withdraw from combat along underground or intelligence networks and can be disrupted similar to military units. A player does not have to withdraw Influence infrastructure if it becomes disrupted during a conflict. A player may choose to leave disrupted influence in the enemy occupied area and regenerate it on a later turn if desired.

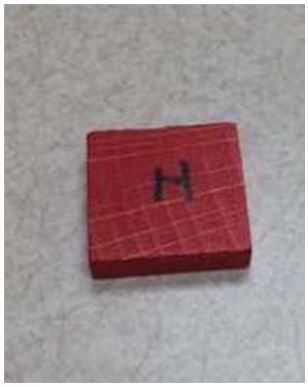


Figure 15. Influence

6. External Support Ports (ESP)

The ESP (Figure 16) ship symbols around the edge of the board represent the ability for organizations inside a conflict zone to find external supporters who will provide assistance. A player must establish influence or a base adjacent to one of the two piers to gain access to the ESP. ESP's reduce the cost of all materials (note "International trade" chart); optional rule restriction: Players may trade resources only if they physically have auxiliary or logistics connections, or if both players have ESPs established.

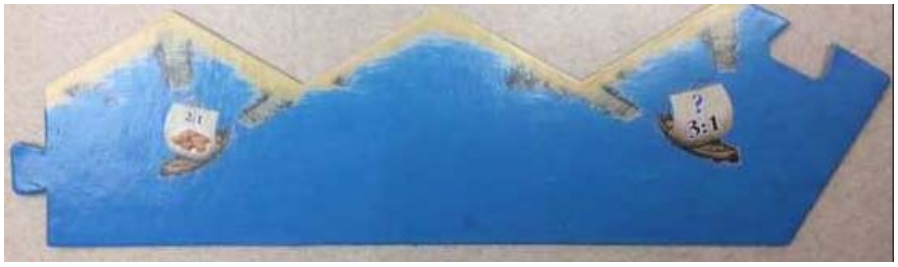


Figure 16. ESP

7. Hexagonal Board Tiles

The board infrastructure (Figure 17) is made up of different terrain features and varying population densities. Each time the wargame is played the board will likely be set up in a different manner creating diversity. The terrain does not affect the movement or

combat odds for specific units. (Note this hexagonal board tile does not have any population centers.)

Figure 17. Hexagonal Board Tiles

8. Population Centers

Population centers (Figure 18) are represented by red dots in the corners of board tiles. Each population center in the corner of a board tile represents one person for resource generation. The maximum number of population centers that one influence or one base could effect is three. (This is because all three board tiles have populations at the same intersection. The people who are recruited from each population center represent individuals who join the resistance or state organization due to the influence that is being applied in that specific area.

Figure 18. Population Centers

9. Resource Production Unit (RPU)

RPUs (Figure 19) represent the resource production of a particular hex tile of the board and are represented in U.S. dollars. Each hexagonal board tile will have an RPU number assigned during the setup phase of the wargame. RPU markers come with the numbers 1, 2, and 3. Each Influence on the board will border three hexes resulting in a collection of the total of all three hexes each turn. A Base will generate two times the resources from each of its adjacent hexes effectively doubling the resource generation of influence. Each player can only collect the RPU equivalent of one Influence or one Base for each specific location. (Example if you have an Influence and a Base in the same location you will only collect 2x the posted resource production because of the presence of the base. If there is more than one influence in the same area, just one can collect the number of RPU's listed in the three intersecting hexes.

Figure 19. RPU

10. Personnel Marker

This marker (Figure 20) will identify the chips which represent recruited personnel at a player's disposal available for utilization in support of the organization. People are used in all portions of the organization see the unit cost chart.

Figure 20. Personnel Marker

11. Weapon Marker

This marker (Figure 21) will identify the chips which represent available weapons at a player's disposal which are necessary for all military unit creation and retraining in the event they are disrupted in combat. The cost to reconstitute a disrupted military unit is indicated in the unit cost chart (Figure 24 & 25) in red.

Figure 21. Weapons Marker

C. TABLES AND CHARTS

1. Engagement Table (Figure 22)

Players may engage other players with influence and military units, or a combination of both. The attacker must have fully supplied forces with active underground and auxiliary networks back to a base. The attacker always roles first: One dice is rolled for each attacking unit. Following the attacker rolling one dice for each of the attacking units, the defender will roll one dice for each of their defending units. In order for the attacker or defender to gain affects i.e., "hits," they must role what is stated in the chart. Any other number results in a miss (no meaningful effects against the enemy). Following both the attacker and defender rolling their dice, each player will

determine their own unit's casualties from the effects of the engagement dice rolling. Both influence and fighters can withstand two "hits" each, and a base can withstand three hits. The first hit results in the unit's disruption, and the second hit results in the unit's removal from the board unless it is the base which can sustain three hits before being destroyed and removed from the board. Military units and Influence can withdraw after any round of battle along an existing network according to normal movement rules. Influence units may remain disrupted in "enemy controlled areas." Only units that are not disrupted may continue to attack. An attacking unit may occupy new territory even if they are disrupted during the conflict as long as the defending unit is forced to withdraw, or enemy influence is disrupted and no longer effective. Bases are destroyed after incurring a total of three hits in one turn. Any hit "battle damage" sustained by influence or fighters can be repaired by paying 50% of the original cost of the unit. Bases are automatically repaired at the beginning of each turn (when the turn marker moves). If multiple players attack the same base during the same turn, the hits are combined.

	Hit
Influence	5-6
Fighters	4-6
Base	5-6

Figure 22. Engagement Table

2. Unit Cost Chart

Each player will have a player purchase card detailing the cost of each available item for that player. There is a difference in costs between the state (Figure 23) and the non-state players (Figure 24). If players have access to a port they may obtain resources from international trade by exchange supplies on hand for new supplies (see the international trade card for details).

	People	Money	Weapons
Weapons		8	
Base	17	45	
Intelligence	2	15	
Logistics	2	10	
Military Unit	8	15	8
Influence	8	25	

*Disrupted units are reconstituted at 50% cost rounded up

Figure 23. Unit Cost for State Player

	People	Money	Weapons
Weapons		5	
Base	10	30	
Underground	1	10	
Auxiliary	1	5	
Military Unit	5	10	5
Influence	5	15	

*Disrupted units are reconstituted at 50% cost rounded up

Figure 24. Unit Cost for Non-state Player

3. International Trade

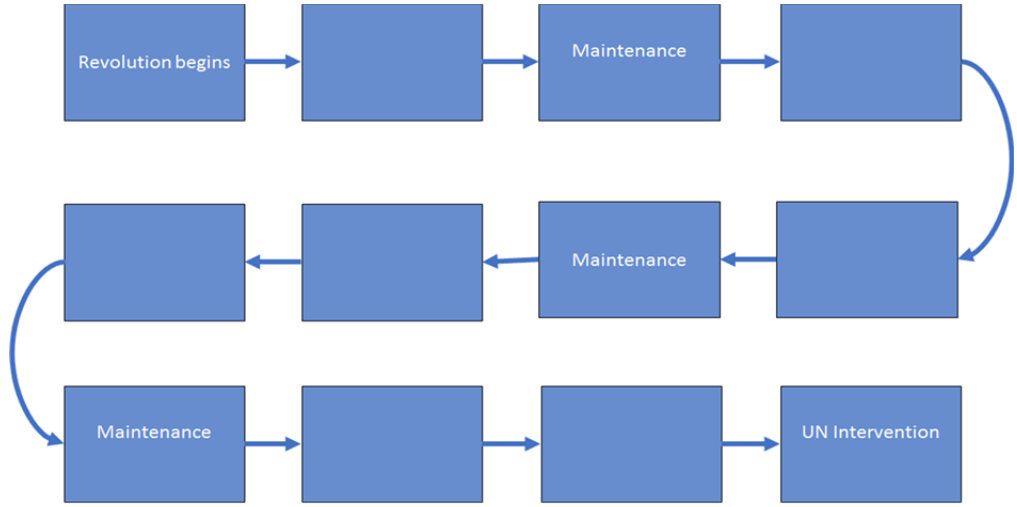
Each player can gain international sponsors for their organizations and governments. International support is manifested in the economic tangibility of trade rates (Figure 25) available through this external sponsor. With the assistance of external sponsors, an organization can exchange surplus resources for those that are harder to acquire in the player's controlled territory.

	People	Money	Weapons
People	1:1	1:5	1:2
Money	5:1	1	3:1
Weapons	2:1	1:3	1

Figure 25. International Trade

4. Turn Tracker

The turn tracker (Figure 26) depicts how many turns have been played, as well as marking every 3rd turn when maintenance upkeep is incurred. Maintenance cost represents the recurring costs to any organization to maintain their primary "fixed" infrastructure. The costs are specified in the maintenance cost table (Figure 27 & 28).



Turn Sequence is finished after all four players have completed their phase of play.

Phase of play:

- Pay Maintenance (when marked on turn tracker)
- Invest in New pieces
- Place Networks + Influence
- Movement
- Resolve Conflict
- Place new Soldiers or Bases
- Collect New Resources

Figure 26. Turn Tracker

Non-State	Money
Base	4
Fighters	2
Influence	2

Figure 27. Non-state Maintenance Cost

State	Money
Base	8
Fighters	4
Influence	4

Figure 28. State Maintenance Cost

D. WARGAME SETUP

1. Initial Board Layout

Each player will choose a color for their "team" and draw one player purchase card and one player special rules card (if the optional rules are being used). The board will be constructed in the center of the players. One RPU marker either a 1, 2, or 3 will be placed on each hex of the board. The turn marker will be placed on turn one "revolution begins" on the turn tracker card located adjacent to the board along with the bank of RPU's. The conflict board will be placed in a location that all player can see clearly to resolve conflict engagements. Two dice are included in the wargame for adjudicating conflict.

2. Players Initial Starting Positions

Each player will roll one die to determine who will place the first infrastructure. The non-state player will place a total of three items on the board wherever they desire. This includes a base as well as one auxiliary network infrastructure and one underground network infrastructure. The network must be connected to the base. However, they do not have to be along the same route (edge of a hex). Each player in a clockwise rotation will

follow suit playing their Base and two networks. The state player will place six pieces of infrastructure when it is their turn. They will place one base; one influence; two intelligence; two logistics. After each player has placed their initial position, the last player to place their infrastructure will then place their Influence and second set of the auxiliary and underground network. This second set does not have to be connected to the original set of infrastructure, however, all networks must be connected to either an existing network or base or the newly placed influence infrastructure. The state player will place their second base, and second Influence along with two of each of the networks as prescribed above. Each player will conclude their set-up by collecting all resources available from their newly placed infrastructure connected to an auxiliary/logistics network.

E. ORDER OF PLAY AND PHASES OF EACH TURN SEQUENCE

Players will each play through the seven phases in sequence in a clockwise rotation (in the same order of laying down the initial infrastructure.) One wargame turn is completed when each player has completed all of their specific phases in order. Example player one will play through their phases followed by player two, three, and lastly player four. All following the sequence of seven phases listed below. After all four players have completed their phases; the turn marker is moved on the turn tracker board to the next square. All bases are considered full strength at the beginning of each turn regardless of the level of damage incurred during the preceding player's collective conflicts.

Each player will follow the following phases during each turn.

1. Pay Maintenance

When marked on turn tracker (every three turns) each player must pay the requisite maintenance cost for their organization and networks according to the maintenance cost chart.

2. Invest in New Infrastructure

Each player will choose what new units they want to invest in. New units will be purchased using the available money, personnel, and weapons. If a player intends to

reconstitute disrupted units, the player will allocate the appropriate cost (50% of original) for the action during this phase of the turn. Any disrupted unit that is along its respective network can be reconstituted. During this phase, the purchasing player can trade resources with other players as well as on the "international market" if their organization has gained an international sponsor.

3. Place Networks and Influence

Any new auxiliary/logistics or underground/intelligence networks will be placed on the board immediately. Any new or reconstituted influences will also be placed at this time, and are available for use immediately during the movement portion and conflict.

4. Movement

A player moves any or all units to their desired locations within individual movement allowances. Fighters can move a maximum of two spaces along auxiliary/logistics networks. Influence can move one space along an underground/intelligence network. Both military units and influence can take part in conflict at the end of their maximum movement in the same turn. Note: any military unit that is being reconstituted must be positioned on its respective network at the beginning of the turn, and will use all its movement authorization in the reconstitution effort (i.e., cannot move, or fight, during your turn). An influence that is reconstituted which was previously disrupted in enemy occupied territory cannot move, however, will be forced into conflict during the resolve conflict phase.

5. Resolve Conflict

Any conflict that has resulted due to the movement phase is now adjudicated according to the engagement table (Figure 22). Players will inflict casualties as necessary disrupting influence and withdraw any surviving military units.

6. Place New Military Units or Bases

Any new military units or bases which were purchased at the beginning of the turn are now placed on the board. Military units can only be placed in a base. Bases must

be placed at any junction or port that is connected via auxiliary/logistics and underground/intelligence networks.

7. Collect New Resources

See rules for population centers and RPUs to determine the amount to collect. All newly placed infrastructures immediately produce resources. Each player will use the designated personnel and weapons markers provided to delineate stored resources represented by chips. White is one, red is five, and blue represents ten items.

F. HOW TO WIN

The first player who accumulates 15 points wins the wargame. If no players achieve 15 points by turn 12 “UN Intervention,” then the player with the highest number of points is the winner. Each influence and military unit infrastructure is worth one victory point, and each base is worth two.

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