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THE ROLE OF AIRPOWER IN IRREGULAR WARFARE FOR THE 21ST CENTURY

by

Kevin D. Huebert

December 2009

Thesis Advisor:	David Tucker
Second Reader:	Brian Greenshields

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Throughout the history of warfare, the use of non-traditional soldiers, weapons and tactics to counter the conventional military has become increasingly important. Our enemies in the 21st century rely upon unconventional and irregular methods of warfare to attack the United States. To counter this threat, the U.S. Air Force must ensure the right mix of aircraft to protect America from attack. What is the role of airpower in this new era of conflict? These roles will be defined through case studies in both unconventional warfare (UW) and counterinsurgency (COIN). I will argue that despite the capabilities of the current Air Force Special Operations Command (AFSOC) fleet of aircraft, it lacks the capability to successfully engage in UW and COIN throughout the globe. The current attack and mobility fleet is too large for a majority of the world's airfields, and is too expensive (required infrastructure to support such aircraft) to transfer to partner nations. I recommend AFSOC acquire additional light attack, light mobility, light utility and rotary wing aircraft to meet the 21st century requirements of irregular warfare.

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THE ROLE OF AIRPOWER IN IRREGULAR WARFARE FOR THE 21ST CENTURY

Kevin D. Huebert
Major, United States Air Force
Bachelor of Science, United States Air Force Academy, 1995

Submitted in partial fulfillment of the
requirements for the degree of

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NAVAL POSTGRADUATE SCHOOL
December 2009

Author: Kevin D. Huebert

Approved by: David Tucker
Thesis Advisor

Brian Greenshields, Col, USAF
Second Reader

Gordon McCormick
Chairman, Department of Defense Analysis

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ABSTRACT

Throughout the history of warfare, the use of non-traditional soldiers, weapons and tactics to counter the conventional military has become increasingly important. Our enemies in the 21st century rely upon unconventional and irregular methods of warfare to attack the United States. To counter this threat, the U.S. Air Force must ensure the right mix of aircraft to protect America from attack. What is the role of airpower in this new era of conflict? These roles will be defined through case studies in both unconventional warfare (UW) and counterinsurgency (COIN). I will argue that despite the capabilities of the current Air Force Special Operations Command (AFSOC) fleet of aircraft, it lacks the capability to successfully engage in UW and COIN throughout the globe. The current attack and mobility fleet is too large for a majority of the world's airfields, and is too expensive (required infrastructure to support such aircraft) to transfer to partner nations. I recommend AFSOC acquire additional light attack, light mobility, light utility and rotary wing aircraft to meet the 21st century requirements of irregular warfare.

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LIST OF ACRONYMS AND ABBREVIATIONS

AAF	Army Air Forces
AFHQ	Air Force Headquarters
AFSOC	Air Force Special Operatoins Command
ARVN	Army of Vietnam (South)
BBC	British Broadcasting Company
CA	Civil Affairs
CAS	Close Air Support
CAT	Civil Air Transport
CCT	Combat Control Team (U.S. Air Force)
CCTS	Combat Crew Training Squadron
CIA	Central Intelligence Agency
COIN	Counterinsurgency
CMO	Civil-Military Operations
CT	Counterterrorism
DoD	Department of Defense
DoS	Department of State
DZ	Drop Zone
FAC	Forward Air Controller
FID	Foreign Internal Defense
ICRC	International Committee of the Red Cross
IO	Infomration Operation
ISR	Intelligence, Surveillance and Reconnaissance
IW	Irregular Warfare
JFKSWCS	John F. Kennedy Special Warfare Center and School
LCN	Load Classification Number
OEF	Operation Enduring Freedom
OSS	Office of Special Services
PYSOP	Psychological Operation

RAF	Royal Air Force (Great Britain)
SF	Special Forces (U.S. Army)
SOF	Special Operations Force
SSTRO	Stabilization, Security, Transition, and Reconstruction Operations
STOL	Short Takeoff and Landing
UAS	Unmanned Aircraft System
USAID	United States Agency for International Development
USASOC	United States Army Special Operations Command
USSOCOM	United States Special Operations Command
UW	Unconventional Warfare

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I. THE ROLE OF AIRPOWER IN IRREGULAR WARFARE FOR THE 21ST CENTURY

A. INTRODUCTION

> Warfare today has taken on a new form and grown to new levels. The type of warfare is not new, and few of the tactics are new. What is new is that this type of war has recently reached a global level—and the United States and its allies have found themselves ill prepared. Many strategists and theorists have attempted to grasp the concept of the war we are facing today, yet none have adequately given it definition and understanding.
>
> —Retired U.S. Army General Gordon Sulliven[1]

With the collapse of the Soviet Union in 1991, the United States stood alone as the singular super power. The United States had a large, conventional military force that was designed to protect America throughout the bipolar confrontation of the Cold War, a force that was designed to fight state on state conflicts. The collapse of the Soviet Union was caused by many different factors, to include social, economic and military reasons. One contributing factor was the protracted conflict in Afghanistan (1979–1989). Lessons from this conflict taught that asymmetric warfare—or to use today's term *irregular warfare* (IW)—could burden a large conventional force, even defeating it. Now, the United States faces complex adversaries in a global environment who adopt asymmetric approaches to warfare in order to challenge U.S. power. As U.S. Secretary of Defense Robert Gates stated:

> The categories of warfare are blurring and no longer fit into neat, tidy boxes. One can expect to see more tools and tactics of destruction—from the sophisticated to the simple—being employed simultaneously in hybrid and more complex forms of warfare.[2]

This paper focuses on the role that airpower will play in irregular warfare during the 21st century. Recommendations include developing a robust aviation IW capability

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[1] Irregular Warfare Center of Excellence, http://www.irregularwarfare.org/CofE.html (accessed October 6, 2009).

[2] Irregular Warfare Center of Excellence.

that is not dismantled post conflict, then resurrected when the next crisis occurs. As currently defined by the Joint Operating Concept, IW consists of 14 independent activities. However, two of these activities, Unconventional Warfare (UW) and Counterinsurgency (COIN), are the heart of IW and are currently the most prevalent forms of IW. Thus, this paper will focus on the role of airpower in these two IW activities. Further, I will limit the discussion to the current capabilities of Air Force Special Operations Command (AFSOC) aviation assets. I will not include in this discussion other government agencies and Department of Defense (DoD) services that have (or are trying to acquire) aviation assets that will be identified as UW or COIN aviation requirements. However, through the historical case studies, the other agencies' assets will be used to show how the aviation requirements for UW and COIN were developed. To enable airmen to comprehend their role in IW, a common definitional understanding of what each term means is required.

B. DEFINITIONS[3]

1. Irregular Warfare (IW)

The Third Geneva Convention coined the term "regular armed forces" in 1949. As principal drafters of the Third Geneva Convention, the International Committee of the Red Cross (ICRC) determined that the term "regular armed forces" applied to those who qualified as belligerents in the Hague Conventions of 1899 and 1907. In order to be considered "regular forces" they must:

1. Be commanded by a person responsible for his subordinates
2. Have a fixed, distinctive emblem recognizable from a distance
3. Carry arms openly
4. Conduct operations in accordance with the laws and customs of war[4]

The opposite of "regular forces" is "irregular forces." These forces are defined by international humanitarian law as combatants who do not belong to the nation-state

[3] See Appendix for additional terms relating to IW.

[4] Hague Convention of 1899. Annex to the Convention, Section 1, Chapter 1, Article 1. http://avalon.law.yale.edu/19th_century/hague02.asp (accessed July 17, 2009).

identified "regular forces."[5] Additionally, "irregular forces" are forces who conduct irregular warfare. IW has become an umbrella term for the spectrum of war previously known as guerilla warfare, small war, low intensity conflict or limited wars. In 2008, the Department of Defense (DoD) produced Directive 3000.07, establishing policy and assigning responsibility for the conduct of irregular warfare. In addition, this directed the DoD to develop capabilities in order to address IW challenges to national security. Directive 3000.07 defines irregular warfare as:

> A violent struggle among state and non-state actors for legitimacy and influence over the relevant population(s). Irregular warfare favors indirect and asymmetric approaches, though it may employ the full range of military and other capacities, in order to erode an adversary's power, influence and will.[6]

According to the Irregular Warfare Joint Operating Concept, the following activities are included in the range of operations considered part of IW:

1. Insurgency
2. Counterinsurgency (COIN)
3. Unconventional Warfare (UW)
4. Terrorism
5. Counterterrorism (CT)
6. Foreign Internal Defense (FID)
7. Stabilization, Security, Transition, and Reconstruction Operations (SSTRO)
8. Strategic Communications
9. Psychological Operations (PYSOP)
10. Information Operations (IO)
11. Civil–Military Operations (CMO)
12. Intelligence and counterintelligence Activities
13. Transnational criminal activities, including narcotics trafficking, illicit arms dealing, and illegal financial transactions, that support or sustain IW
14. Law enforcement activities focused on countering irregular adversaries[7]

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[5] ICRC fact page http://www.icrc.org/web/eng/siteeng0.nsf/htmlall/5kzf5n?opendocument (accessed July 17, 2009).

[6] U.S. Department of Defense Directive 3000.07, Irregular Warfare (IW), Washington, DC: GPO, 11.

[7] U.S. Joint Chiefs of Staff, *Irregular Warfare (IW) Joint Operating Concept (JOC), version 1.0*, September 11, 2007, 9–10.

Many of the other 12 activities on this list are subsets or incorporated into UW or COIN operations. For example, PYSOPs are used in UW and COIN, as well as IO and CMO.

2. Unconventional Warfare (UW)

The term UW has been defined differently by the services (Army, Air Force, and Navy). The definition has also changed over time. The definition and interpretation of UW has varied from World War II through today as it has been used to describe the "gray area" that exists between political conflict and open war.[8] Despite these definitional differences, a basic understanding of UW has prevailed. For the purpose of this paper, I will use the UW definition presented at the UW Definition Working Group (U.S. Army John F. Kennedy Special Warfare Center and School) presented on April 9, 2009:

> Unconventional Warfare: Activities conducted to enable resistance movement or insurgency to coerce, disrupt or overthrow an occupying power or government by operating through or with an underground, auxiliary and guerrilla force in a denied area.[9]

Admiral Olson, Commander of United States Special Operations Command, also directed that this definition be immediately used by all Special Operations Forces (SOF). Further, Olson claims, "…that UW is bigger than SOF and bigger than DoD. Other agencies of government also perform many "activities" of UW. The definition I approved is valid insofar as it relates to activities performed by elements of DoD."[10] In the new joint agency environment, it is wise to ensure all definitions of UW activities are understood by all players.

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[8] Hy S. Rothstein, *Afghanistan and the Troubled Future of Unconventional Warfare* (Annapolis, MD: Naval Institute Press, 2006), 20.

[9] UW Definition Working Group Outbrief, U.S. Army John F. Kennedy Special Warfare Center and School. April 9, 2009.

[10] From Admiral Eric Olsen, to selected USSOCOM staff, subject line: "Unconventional Warfare (UW) definition" dated June 11, 2009. The United States Army Special Operations Command (USASOC) through the John F. Kennedy Special Warfare Center and School (JFKSWCS) is currently in the process of providing this new definition of UW for inclusion in all Office of the Secretary of Defense, joint and Service publications. In a memo dated June 11, 2009, United States Special Operations Command (USSOCM) commander, Admiral Eric Olson, stated that his newly approved definition of UW "has immediate authority within the Army because the USASOC/JFKSWCS is assigned responsibility by the Army for UW doctrine."

3. Counterinsurgency (COIN)

The countries of Afghanistan and Iraq are experiencing ongoing insurgencies. In response, the U.S. Agency for International Development (USAID), DoD and the Department of State (DoS) joined together and co-authored the U.S. Government Counterinsurgency Guide. This document defines insurgency as "the organized use of subversion and violence to seize, nullify, or challenge political control of a region."[11] Therefore, a counterinsurgency effort would include "comprehensive civilian and military efforts taken to simultaneously defeat and contain insurgency and address its root causes."[12]

C. ORGANIZATION

Historically, the Air Force has successfully supported IW operations. However, the Air Force has not maintained a consistent IW capability, having allowed IW capabilities to atrophy post conflict. This paper will explore the role the Air Force played in the Balkans UW campaign during World War II. Next, it will explore the role of the Air Force in COIN through operations in Laos during the 1960s. Each case study will analyze the irregular/unconventional combat with a focus on aircraft capabilities, requirements of aircrew, and the battlefield effectiveness of airpower. From this study, a general list of missions will be developed. I will then analyze the current AFSOC inventory to determine if those particular aircraft capabilities exist or if they have atrophied at the conclusion of a conflict. A recommendation will be made about the generic aircraft types required to support future IW operations. Finally, to meet the expected ongoing need for IW air force capability, the thesis recommends breaking the cycle of dismantling IW capability by having the Air Force develop an aircraft fleet designed specifically to handle IW activities. In addition, the Air Force must decide

[11] U.S. Government Interagency Counterinsurgency Initiative, *Counterinsurgency Guide*, (Washington, DC: GPO, January 2009), 6.

[12] U.S. Government *Counterinsurgency Guide*, 12.

between developing a dedicated IW squadron, group and/or wing or providing airpower through a task force organization tailored specifically to meet the needs of a specific situation.

II. CASE STUDIES: AIRPOWER IN IRREGULAR WARFARE

A. UNCONVENTIONAL WARFARE (UW)

1. Background

The U.S. military began using the term unconventional warfare during the Second World War. Examples of UW are the resistance movements that evolved under Nazi-occupied Europe and in regions of the Far East under the Empire of Japan. Allied support to these operations included the Jedburgh teams. These teams consisted of one U.S. soldier, one UK soldier, and one French soldier who infiltrated occupied Europe and established resistance networks. Once a network was established, they gathered intelligence, sabotaged and harassed German forces, and assisted in recovery of downed allied aviators.[13] Airpower played a crucial role in the success of these UW missions. The Army Air Forces established Carpetbagger units, which provided specialized aircraft (modified B-17 and B-24 bombers as well as C-47 Dakota transports) to infiltrate the Jedburgh teams. The Carpetbaggers resupplied a team by air once it was established behind enemy lines. This resupply system included creating and modifying aerial delivery techniques plus equipment in order to accomplish the mission.[14]

The importance of unconventional warfare during World War II is small compared to the role of conventional warfare. In his book, *The Second World War*, John Keegan states that historians tend to use Yugoslavia to argue "for the effectiveness of partisan warfare and in estimating the contribution of resistance forces to the defeat of the Wehrmacht in Europe in the Second World War."[15] Keegan disputes the claim that Tito liberated his country while tying down significant Axis forces with just Partisans; and that his action significantly impacted the eastern and Mediterranean theaters. Rather, it is

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[13] S. J. Lewis, "Jedburgh Team Operations in Support of the 12th Army Group, August 1944," http://www-cgsc.army.mil/carl/resources/csi/Lewis/Lewis.asp (accessed July 31, 2009).

[14] "USAF Special Operations," http://www.specwarnet.net/americas/usaf.htm (accessed July 24, 2009).

[15] John Keegan, *The Second World War* (New York: Viking Press, 1990), 492.

now accepted that Yugoslavia was liberated in September 1944, as a direct result of the Soviet Army advance.[16] The Germans maintained 20 Divisions (although not front line quality) within Yugoslavia to counter the Partisans. Unfortunately, it is very difficult to measure the exact impact the guerrilla force had on the surrounding theaters.

> …the true worth of a partisan/guerilla operation is not measured in hard numbers. It is best evaluated in those things that are difficult to measure, such as the morale of the enemy and the erosion of their will to fight as a result of a continuing campaign of unexpected partisan/guerilla actions against what are considered safe targets.[17]

For the purpose of this paper, the precise impact of the Partisans on the war in Europe is not important. The key point is the role and impact airpower played in supporting the Partisan force.

2. Framework

The case study of unconventional warfare in this thesis, support to the Partisans in Yugoslavia, occurred while the Air Force was still developing basic theory and doctrine, which focused on strategic bombardment. While strategic bombing was the main focus of airpower, some airmen explored additional roles, missions and capabilities provided by aircraft that were not related to strategic bombing. The Partisans who fought a guerilla campaign against occupation forces from Italy and Germany had questionable success and influence upon the outcome of the conflict in the Balkans. However, one thing is certain, without airpower, the Partisans would have met an unfortunate fate at the hands of the German forces. Analysis will be conducted by using the Seven Phases of U.S. Sponsorship of Unconventional Warfare (Figure 1) to see how and where airpower was able to influence the UW campaign. Despite the technological limitations of the Mediterranean Air Force, which limited their support to Phase VI, airpower does have an important role in each of the seven phases. The aircraft used in this conflict were converted conventional strategic bombers (B-17 and B-24) and modified cargo (C-47) aircraft.

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[16] Keegan, *The Second World War*, 494.

[17] Ben S. Malcom, *White Tigers* (Washington: Brassey's, 1996), 192.

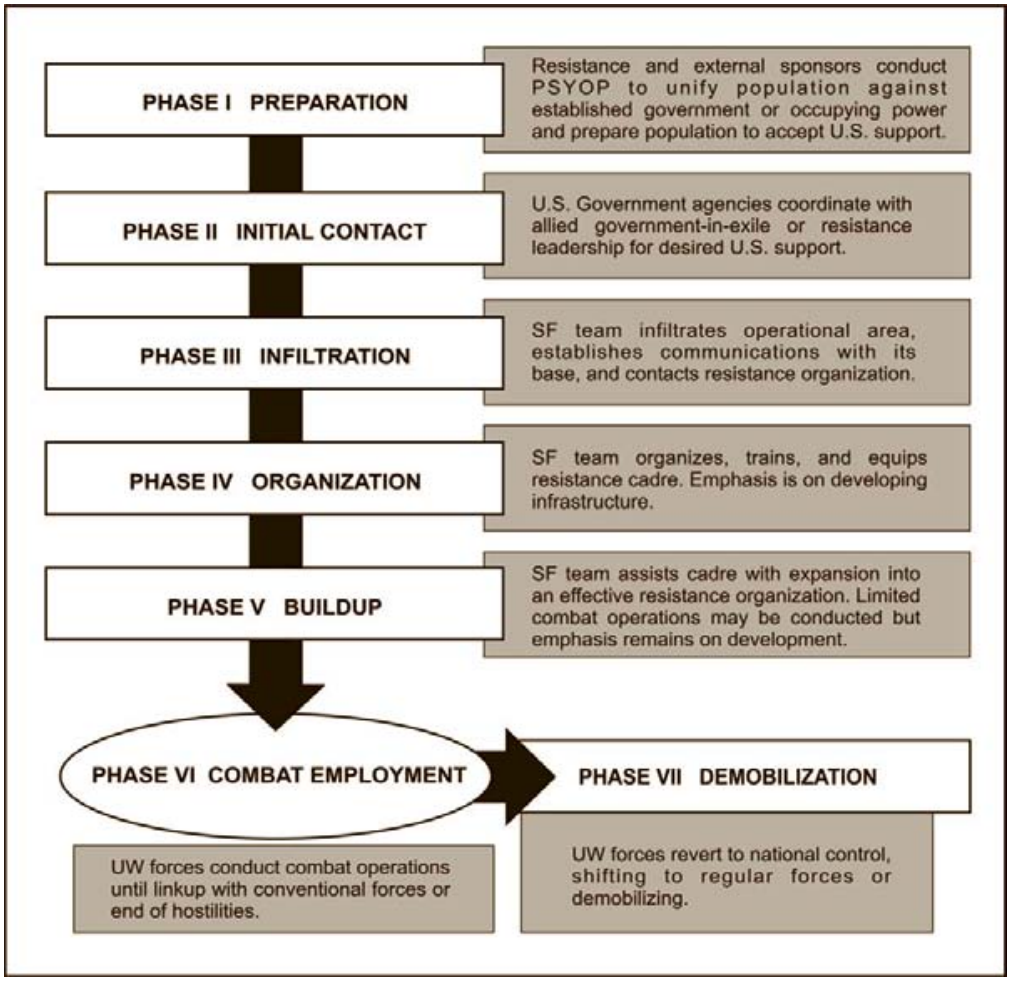


Figure 1. The Seven Phase of U.S. Sponsorship for Unconventional Warfare[18]

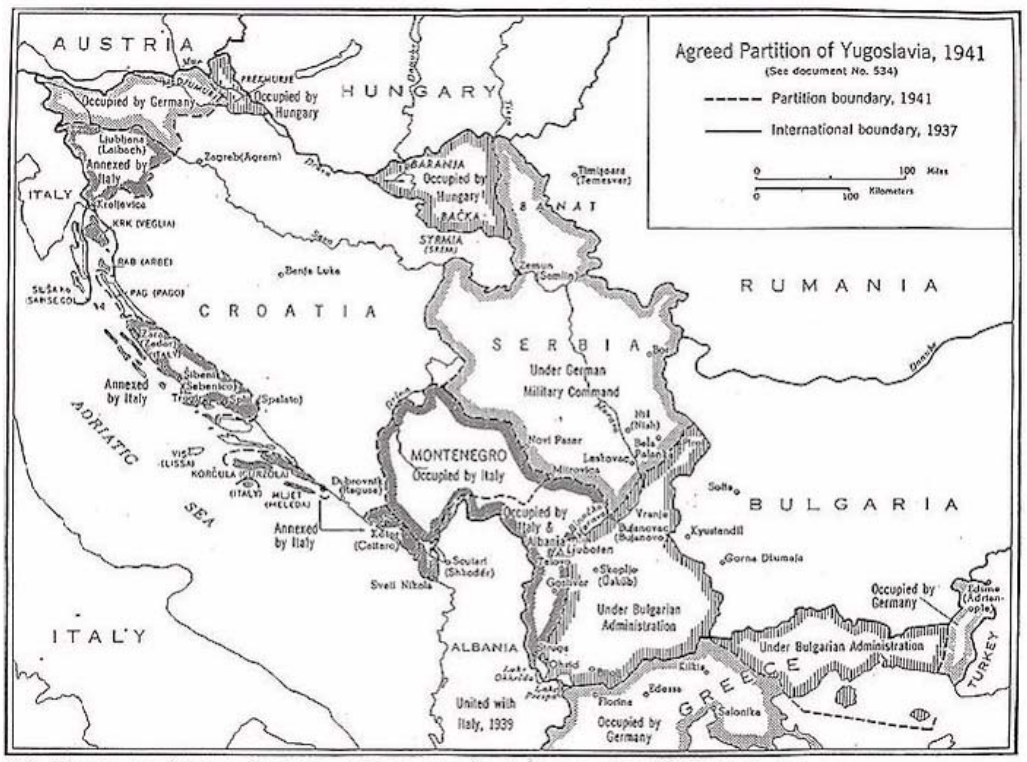
3. UW in the Balkans

In early 1941, Yugoslavia feared an invasion from the European Axis powers, Germany and Italy. In an attempt to prevent an invasion, Prince Paul signed the Tripartite Pact, aligning with Germany and Italy. Two days later, Prince Paul was removed from office by a coup d'état and replaced by Prince Peter. Peter quickly moved to re-affirm the Pact to prevent invasion. However, Hitler suspected Peter was being manipulated by the British and ordered the invasion of Yugoslavia on April 6, 1941.[19] A combined force of fifty-two German, Italian and Hungarian divisions invaded

[18] From Mark Grdovic, "A Leader's Guide for Unconventional Warfare," December 12, 2008, 11.

[19] Philip Anthony Towle, *Pilots and Rebels* (London: Brassey's, 1989), 59.

Yugoslavia. The Yugoslav Army lacked modern equipment, mobility and firepower. The Axis forces quickly overwhelmed the Yugoslav forces through superior firepower coupled with a multipronged invasion. By April 17, 1941, Sarajevo fell and Yugoslavia officially surrendered to Axis forces. Yugoslavia was carved into multiple puppet states under Germany, Italy, Hungary and Bulgaria.[20] Figure 2 depicts the Axis occupied territory of Yugoslavia in 1941.



U.S. Department of State, *Documents on German Foreign Policy*. Series D (1937-1945), Vol. XII Washington, DC: USGPO, 1962

Figure 2. 1941 Yugoslavia under Axis Control[21]

[20] Keegan, *The Second World War*, 151–157.

[21] From "Yugoslav Front (World War II)," http://en.wikipedia.org/wiki/Yugoslavia_in_World_War_II (accessed October 28, 2009).

4. Phase I: Preparation

Resistance and external sponsors conduct PYSOP to unify population against established government or occupying power and prepare population to receive support.[22]

Prior to the Axis invasion, political turmoil within Yugoslavia caused unrest and division between the royal government and the rising communist party. The growing communist movement created a split within Yugoslavian politics. This division was evidenced by communist opposition to the political treatises signed by the Royal Yugoslav government attempting to secure neutrality for Yugoslavia in Europe's impending conflict. The split finally broke Yugoslavian political solidarity when Prince Peter was removed from power during a coup d'état in early 1941. Compounding the fragile political situation in Yugoslavia was the rising fear of a Europe dominated by Nazi Germany. The coup confused the political situation within Yugoslavia and called into question the ability of the government to honor treaties, which in turn sparked Hitler's invasion.[23]

Immediately following the Axis invasion, the Yugoslav Communist Party formed a military committee headed by Josip Broz Tito. This newly formed group, known as the Partisans, began planning an unconventional warfare campaign against the occupation forces. Forces loyal to the royal government in exile were led by a small band of army officers including Colonel Draza Mihalovic. These soldiers formed another guerilla organization, the Cetnici, to liberate Yugoslavia from the occupation forces. Initially, the Allies provided support to the Cetnici, based on their military experience and loyalty to the royal government in exile.[24] The allies feared getting involved in a civil war between the government in exile and the communists, therefore the Partisans did not receive much initial aid. However, the Axis provided a common enemy that the Cetnici, Partisans and allies could unite against.

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[22] Grdovic, "A Leader's Guide for Unconventional Warfare," 11.

[23] "The Resistance Movement," *Yugoslavia*, http://www.country-data.com (accessed August 14, 2009).

[24] "The Resistance Movement."

The speed of the Axis advance through Yugoslavia prevented allied airpower from performing much of a role in Phase I operations. The following description is what airpower provides to Phase I operations in an "ideal" situation. The primary role of airpower during Phase I is intelligence, surveillance, reconnaissance (ISR) and psychological operations (PYSOPs). ISR operations build the situational awareness picture for both airmen and ground teams who will eventually infiltrate the target country and begin a resistance movement. ISR provides the enemy order of battle as well as exposes weaknesses that can be exploited as the resistance grows. The PYSOP campaign could include, but is not limited to, information operations conducted by both air and ground assets of the Air Force. These operations may include leaflet drops, radio and television broadcasts, and cyberspace activities all of which are designed to solidify the resistance and establish an environment conducive for growth of the resistance.

5. Phase II: Initial Contact

Government agencies coordinate with allied government-in-exile or resistance leadership for desired support.[25]

The British government contacted the Royal Yugoslavian government in exile following the Axis invasion. Initially, the Cetnici appeared to be better organized and better equipped to form a resistance organization. The Cetnici acquired their arms from the Yugoslavian Army stores and had many former Yugoslavian military officers in their ranks. Therefore, the British determined the Cetnici would receive the bulk of aid dedicated to the Balkans. The British also contacted Tito to support his Partisans; however, this support was significantly less than what was given to the Cetnici. The Partisans relied primarily upon weapons smuggled into the country prior to the invasion by Germany as well as acquiring arms from the extended supply lines that fed the Axis front lines. Initially, both resistance organizations requested explosives and demolition charges that would aid in sabotage from the allies.

During Phase II, airpower continues Phase I operations in addition to requiring light mobility assets. Depending on the location of the government-in-exile or resistance

[25] Grdovic, "A Leader's Guide for Unconventional Warfare," 11.

leadership, small transport aircraft with short takeoff and landing capabilities (STOL) or rotary wing aircraft provide the necessary transportation of U.S. officials to meet with the resistance leadership. Depending on the political situation, it may be desirable to use small, unmarked aircraft, including those indigenous to the area. Additionally, communication links will be established between the leaders of the resistance and the U.S. government agencies handling the UW campaign. With these links, the resistance can begin to detail their requirements and the U.S. agency can develop a plan of how to support their needs and requests. The U.S. agencies begin coordination with the resistance leadership for possible drop zones and landing zones as required. ISR assists with this identification process as well as builds a bigger intelligence picture of the situation in the target country.

6. Phase III: Infiltration

Teams infiltrate operational area, establish communications with its base, and contact the resistance organization.[26]

Prior to the Axis forces securing the coastal regions, the British transported a considerable amount of agents and supplies by sea to assist with the unconventional warfare campaign. The allies ignored internal Yugoslav politics and supplied aid to both the Cetnici and the Partisans, focusing on defeating the Axis powers first.[27] By supplying both resistance groups, the allies determined to decide the fate of internal Yugoslav politics at a later date. Despite increasing indications the Cetnici were switching to the Axis side, the allies continued supply them into 1942.

In Phase III, airpower is used to infiltrate the agents from the U.S. agencies who are sponsoring the UW campaign. Critical to this phase is the desire of the U.S. government to maintain the UW campaign as a covert or clandestine mission. If the desire is to ensure the mission remains covert, then the infiltration platforms need to be unmarked and as similar to the indigenous aircraft of the region as possible. Another factor that impacts aircraft selection is the air defense threat posed by the government

[26] Grdovic, "A Leader's Guide for Unconventional Warfare," 11.

[27] "The Resistance Movement."

force or occupation power. Aircraft defensive suites may impact the desire to involve certain smaller mobility aircraft in environments where the air threat is considered significant. Additional factors for consideration include landing operations vs. airdrop options; load capacity of the aircraft; and required cargo capabilities just to name a few.

7. Phase IV: Organization

Team organizes, trains and equips resistance cadre. Emphasis is on developing infrastructure.[28]

The allies focus was not on the initial organization of the resistance, which had already formed in Yugoslavia. Rather, the focus was on the link between the resistance and the allies to coordinate logistic requests and establish the drop zones (DZ) so supplies could be brought into Yugoslavia. The results of this organization will be highlighted in Phase VI, combat employment.

Phase IV is predominantly a building phase of the resistance movement. The teams infiltrated in Phase III establish contact with the resistance and begin forming them into a stronger organization. These teams should include air advisors and/or airmen who are capable of employing airpower, such as the joint terminal attack controllers. These airmen are the conduit between the ground forces and the airmen flying overhead. The infiltrated teams need periodic resupply of materials. The teams plan for additional air missions by confirming DZs and landing zones; establishing the role attack aircraft will provide; mobility to reach outlying groups or rapid movement to bring forces (leaders) together. Developing strong communications networks in this phase assists with the development and growth of the insurgency (Phase V) and actual combat operations during Phase VI.

[28] Grdovic, "A Leader's Guide for Unconventional Warfare," 11.

8. Phase V: Buildup

Team assists cadre with expansion into an effective resistance organization. Limited combat operations may be conducted but emphasis remains on development.[29]

From the Allies perspective, the resistance served two purposes. First, by its mere existence, the resistance created a need for more Axis troops to pacify the country—the more troops (even second rate) left in Yugoslavia, the fewer troops on the front lines in Africa, Russia, and occupied Europe. The second purpose was to inflict as much damage upon the Axis forces as possible. Desirable action included assassinations, demolitions, work stoppages, and sabotage of war related material. Encouraging additional resistance movements and raising the morale of the occupied population were additional objectives.

Despite the allied agents and aid flowing into Yugoslavia, the Cetnici failed to create a significant impact as a resistance organization. Mihalovic refused to attack the Axis powers unless his Cetnici forces had a distinct tactical advantage, which never seemed to materialize. The Partisans attacked more frequently than the Cetnici, which caused a brutally harsh reprisal by the Nazis: for every Axis soldier killed, 100 civilians would be killed, and for every Axis soldier wounded, 50 civilians would be killed.[30] In order to avoid civilian deaths, the Cetnici ceased insurgent activity and began to openly collaborate with Axis forces. Further political discord between the royalists and the communists existed until November 1941, when the Cetnici directly attacked the Partisans. Once the Cetnici were exposed as true collaborators with the Axis forces, all allied personnel and the supply effort shifted to supporting Tito's Partisan units.[31]

Airpower during Phase V supports the growth of the resistance movement. This can be in the form of continued PYSOP application; mobility assets transport members to training and meeting sites as well as provide the necessary supplies (food, water, clothing, arms, munitions, etc) to sustain the growing militia. The size of the movement will determine the amount of supplies needed and the frequency of required resupply.

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[29] Grdovic, "A Leader's Guide for Unconventional Warfare," 11.

[30] "The Resistance Movement."

[31] "The Resistance Movement."

Additional requirements for airlift develop as forces require transportation closer to the battlefield area or need to evacuate sick or wounded resistance fighters from the area. The Partisans used airlift to evacuate sick and wounded members to hospitals in Italy, permitting the guerilla force to focus on fighting rather than caring for their infirm.[32]

9. Phase VI: Combat Employment

UW forces conduct combat operations until linkup with conventional forces or end of hostilities.[33]

In July 1941, Hitler made the strategic decision to invade the Soviet Union. The Nazis used their forces from Yugoslavia for the invasion of Russia, leaving a primarily Italian occupation force in Yugoslavia. Tito used this opportunity to expand his operations and further engage the remaining Axis forces. The Partisans enjoyed minor success early in the campaign by capturing the city of Uzice and holding it for several weeks. The Partisans were eventually driven out by a combined German and Cetnici force.[34]

It took nearly 600,000 Axis forces to occupy the country and ensure supply routes were maintained to Greece and North Africa. By the end of 1942, the Partisans had expanded to 150,000 troops, organized into two corps, three divisions, and thirty-one brigades.[35] Due to the size and the growth of the Partisan force, the Axis forces launched several offensives to crush the Partisans. The Partisans were able to out maneuver and avoid these large-scale frontal confrontations by dividing and hiding in the mountains.

Meanwhile, Italian forces were suffering setbacks on multiple fronts, including the invasion of Sicily in July 1943. At the same time, the Partisans pressured the occupying Italians in Yugoslavia, which forced Mussolini to remove his forces. With captured and abandoned Italian arms, Tito successfully armed eight corps and twenty-six

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[32] "Special Operations: AAF Aid to European Resistance Movements 1943–1945" in U.S. Air Force Historical Study No. 121, (Maxwell AFB, AL: GPO, June 1947), 120.

[33] Grdovic, "A Leader's Guide for Unconventional Warfare," 11.

[34] "The Resistance Movement."

[35] "World War II," *Yugoslavia*, http://www.country-data.com (accessed August 14, 2009).

divisions (estimates range from 220,000 to nearly 300,000 men).[36] Following the Italian Army's departure, the Germans had to fill the void, and rushed additional forces to Yugoslavia in order to retain control. German expansion was finally reversed as North Africa and Italy fell to the Allies, and the Russians advanced in the East.

Once the resistance engages in combat operations, the need for ISR, mobility/infil/exfil (around the battlefield as well as resupply) and attack assets will increase. The ISR occurs throughout the operation, feeding information regarding troop movements and passing targeting information to both ground and air assets. Mobility is used to ensure the resistance maintains the necessary supplies and arms to conduct operations. A distinct advantage is the ability to rapidly shift forces around the battlefield in order to exploit enemy weaknesses or holes. Finally, attack assets provide additional firepower that the resistance would not normally be able to access. Tito's Partisans occasionally enjoyed allied air support during major offensive operations. Once airfields in Italy were secured, the allies coordinated with imbedded agents to provide air cover during large Partisan operations. These missions lacked the close coordination required to make them extremely effective, although they were able to keep the Luftwaffe from attacking the Partisans. As was seen in the opening months of Operation Enduring Freedom (OEF), American Special Operations Forces (SOF) embedded with the Northern Alliance quickly defeated the Taliban and al-Qaeda forces in Afghanistan through the use of precision firepower deployed by the U.S. Air Force.[37]

10. Phase VII: Demobilization

UW forces revert to national control, shifting to regular forces or demobilizing.[38]

The UW in Yugoslavia was multifaceted and complicated by Yugoslavian politics. The Allies' strategic goal was to defeat the Axis powers. The Partisans saw the conflict as an opportunity to gain control of the country once the occupation forces were removed. For the Cetnici, it was a struggle to overthrow the occupation forces and an

[36] "Special Operations: AAF Aid to European Resistance Movements 1943–1945", 12.

[37] Rothstein, *Afghanistan and the Troubled Future of Unconventional Warfare*, 12–13.

[38] Grdovic, "A Leader's Guide for Unconventional Warfare," 11.

opportunity to defeat the political opposition—the communists. Mihalovic played a dangerous political game and allied himself with whoever appeared to be wining at the time between the Axis and the Allies. The Partisans exposed the Cetnici as forces aiding the Axis, and the Yugoslav government in exile removed Mihalovic as Chief of the Yugoslav Army and replaced him with Tito. After Yugoslavia was liberated, the royal government returned to power and the Partisans were reorganized as the official army of Yugoslavia.

Once the insurgency has developed into an organization that is large enough to challenge the power structure, a shift from guerilla warfare to more conventional means of combat occurs. This transformation must occur to legitimize the insurgents as the new power structure that will occupy the government positions of power. The guerilla force now transitioned into the standing military and police force of this newly established government. The Partisans did not disburse; rather they remained under arms and formed the new Yugoslav Army. Airpower permits the new government to control territory through rapid movement of officials and the ability to bring needed supplies and material into regions that need infrastructure repair. Airpower also provides a means to control borders and ensure state sovereignty.

11. The Influence Airpower in Yugoslavia

a. Assets and Organization

In October 1943, the Joint Commanders-in-Chief Committee, Middle East Forces, emphasized re-supplying the Partisans from their newly acquired bases in Italy. Tito's forces now confronted seventeen German divisions and eight Bulgarian divisions within Yugoslavia.[39] The Allies thought if the Partisan forces could increase their pressure in Yugoslavia, more German divisions might be diverted from the Russian and Italian fronts. Tito's Partisan force had grown into a significant army that still waged a guerilla campaign exploiting hit-and-run tactics and utilizing the mountains as secure bases. His army desperately needed supplies and up until this time had relied primarily

[39] Keegan, *The Second World War*, 362.

on captured Axis equipment. The list of supplies needed by the Partisan's included: arms, from pistols to Sten guns to light artillery; munitions, explosives, demolition equipment, incendiaries, and sabotage devices; medical supplies such as bandages, litters, drugs and instruments; signal equipment such as small radios; food and clothing; money; and even mules.[40]

The British, American, Polish, South African, Italian and Russian air forces all supported the special aerial operations in the Mediterranean Theater. The British aerial supply of the Partisans began in May 1942, with a flight of four Liberators. The demand for supplies far exceeded the capabilities of these aircraft and in March 1943, 14 Halifaxes were brought in to assist with resupply.[41] These planes were initially based out of Tocra, Libya. In November 1943, the Americans supplied three B-17s and seven B-25s for the special operations mission. The Polish Air Force also arrived in North Africa with four Halifaxes and two Liberators dedicated for resupply missions. Following the Allied advance in Italy, and the Italians switch to the Allied side, new airfields closer to the Balkans were available from which to base operations. The Royal Air Force (RAF) formed the 334 Wing to support special operations missions in the Balkans. This multinational wing included:

RAF: 36 Halifaxes
Polish Air Force: 8 Halifaxes
Soviet air group: 12 C-47s
Italian Air Force: 36 Cant-1007-Zs and SM-82s
Army Air Corps: 24 C-47s; 7 B-25's and 3 B-17s[42]

The Allied air effort to supply Tito's Partisan Army expanded into the Balkan Air Force by December 1944. In addition to the special operations wing, the Balkan Air Force also included 21 fighter squadrons, eight medium bomber squadrons and two heavy bomber squadrons.[43] The creation of the Balkan Air Force provided a significant boost to the Partisans. First, the aircraft dropping supplies could now be

[40] "Special Operations: AAF Aid to European Resistance Movements 1943–1945," 9.

[41] "Special Operations: AAF Aid to European Resistance Movements 1943–1945," 19.

[42] "Special Operations: AAF Aid to European Resistance Movements 1943–1945," 19–20.

[43] "Special Operations: AAF Aid to European Resistance Movements 1943–1945," 22.

escorted into Yugoslavia by fighter aircraft rather than facing the Luftwaffe alone. Second, the bomber and ground attack aircraft provided an aerial offensive capability that enabled the Partisans to take more conventional approaches to operations. In order to successfully coordinate these offensive air operations with Partisan action, Allied agents had to infiltrate Yugoslavia and link up with Partisan forces.

b. Aircraft Modifications

The Army Air Corps had to make minor modifications to their aircraft in order to perform the special missions into Yugoslavia:

> The nose of the C-47 was enlarged slightly to provide greater room in the pilot's compartment, and occasionally special floors and bracing were installed to take care of certain types of cargo. Few other changes were required of the C-47s beyond fitting them with racks to hold containers and the installation of "Rebecca" equipment. The Rebecca set is a radar directional air-ground device which records radar impulses on a grid and directs the navigator toward the ground operator. By varying the intensity or frequency of the "blips," the ground operator, whose set is called "Eureka," can transmit signal letters to the aircraft….Shortage of Rebecca/Eureka sets limited the use of this equipment in the Mediterranean theater, but by December 1944, practically all special operations aircraft had Rebecca.[44]

The Rebecca/Eureka equipment enabled night precision airdrops without having to fly over a drop zone to confirm it, then circle back to perform the airdrop.

The heavy bombers used as special operations aircraft had more radical modifications. The ball turret on B-17s and B-24s were replaced by a cargo hatch through which packages (or personnel) were dropped. Jump lights, handrails, and jump panels were also installed. Equipment that was required for bombing only was removed. A monorail and roller-mounted safety belt were installed in the rear fuselage. Blackout curtains were installed over the waist-gun windows, blisters for the pilot's and co-pilot's

[44] "Special Operations: AAF Aid to European Resistance Movements 1943–1945," 38–39.

windows provided greater visibility, modification of bomb bays to fit British containers, separate compartments for the bombardier and navigator, and finally the planes were painted a shiny black.[45]

c. Aircrew Training

Additional training was required for both the C-47 and bomber aircrews. The Army Air Corps C-47 aircrew required little additional training. They received specialized training in the operation of the specialized navigation equipment known by its codenames: "Rebecca" and "Eureka." The Eureka device was a small transmitter that agents on the ground behind enemy lines (the Jedburgh teams in Europe or the agents aiding the Partisans) would use to mark drop zones. The field agent would set the Eureka with a specific code at the drop zone while the inbound resupply aircraft used the Rebecca equipment to decipher the code and hone in on the drop zone location. This transmitter device enabled more accurate night airdrops and limited the exposure of the aircrew to hostile threats. The aircraft that did not have the Rebecca equipment flew over the drop zone once to verify the correct zone, then circle back to make the drop, increasing the possibility of compromising both the ground party and exposing the crew to additional enemy action. They also spent extra time developing accuracy in low altitude, slow speed airdrops. The heavy bomber crews spent time learning how to handle the bombers at near stall speeds for airdrop and resupply missions. They also focused on flying both day and night operations. All special operations aircrew received additional ground training (lectures) in security, flying control, standard operating procedures, ditching, air-sea rescue, flak intelligence, escape and evasion, and how to plan supply missions. Radio operators and navigators also received additional training in their specialties.[46]

[45] "Special Operations: AAF Aid to European Resistance Movements 1943–1945," 39–40.

[46] "Special Operations: AAF Aid to European Resistance Movements 1943–1945," 40.

d. Planning Supply Missions

The Office of Special Services (OSS) prepared a monthly statement on the estimated number of sorties required to deliver the supplies. OSS field agents (imbedded with the Partisans) would submit requests for supplies based on Partisan plans for future operations. The number of sorties requested was based on the load-carrying capacity of the Halifax bomber. These requests were submitted to the Special Operations Section, G-3 at Air Force Headquarters (AFHQ). The G-3 reviewed, screened and consolidated requests as required and then sent it to the Mediterranean Air Force. This headquarters determined the total number of sorties and the available aircraft. If the request exceeded the capability of the force, the Special Operations Committee, which consisted of the American State Department, British Foreign Office, special agencies, Mediterranean Air Force, Commander-in-Chief Mediterranean, G-2 and G-3 AFHQ would consider political, tactical, strategic and economic considerations to determine the final sortie allocation. The sorties were allocated once a decision was reached and the squadrons were tasked with specific missions. The squadron commanders were given the flexibility to spread the requests out over the month. This mission flexibility permitted surging forces to take advantage of favorable weather, maintenance or tactical needs, while decreasing workloads in times of unfavorable conditions.[47]

On average, a single C-47 would drop supplies to 15 targets per mission. The standard tactic was to have between one and three C-47s provide a supply drop per target. Ideally, no more than four C-47s would drop at the same drop zone. The tactical importance, weight of the cargo requested and the degree of darkness would determine the number of planes involved in a single drop. When a mission was scheduled, the British Broadcasting Company (BBC) would broadcast a special code, which notified the agents in country of the number of planes and expected targets.[48]

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[47] "Special Operations: AAF Aid to European Resistance Movements 1943–1945," 41–42.

[48] "Special Operations: AAF Aid to European Resistance Movements 1943–1945," 85.

e. Reception Committee

The aircrew and the reception committee ensured that the supplies reached Partisan hands. The reception committee was staffed by an Allied liaison officer, a small number of troops and Partisans. These committees controlled all of the DZs in Yugoslavia. The liaison officer served as the conduit between the OSS and the Partisans. His duties included passing along Partisan requests for supplies as well as ensuring drop zones were clear of enemy forces. They also would light signal flares or lay out marking panels to mark the DZ, and arranged for the recovery of the supplies once dropped.[49] In the Balkans, nearly every DZ was located in the mountains. The special operations pilots were trained to drop their cargo from 600 feet above the ground, which put them three to five thousand feet below the peaks.[50] The most dangerous part of the mission was not facing the enemy, but flying low and slow in sometimes uncharted mountainous terrain.

Not all supplies were air dropped. As the Partisan strength grew, they were able to secure semi-permanent airstrips for significant amounts of time.[51] Larger quantities of supplies could be easily delivered when the aircrew would land to offload the cargo. The advantage of the C-47 was in its rugged design. It could withstand landing on dirt fields that the Partisans carved out of the countryside.

12. UW Summary

Each UW campaign is unique due to political, economic, military, social, and geographical reasons. Therefore, the roles and missions that airpower provides in support of each campaign must be specific to each situation and require creative adaptation of assets. This analysis described how airpower can influence each phase of the UW campaign. The list of missions described below should not be taken as a complete list, but rather a sample of potential uses of airpower within each phase of an UW campaign.

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[49] "Special Operations: AAF Aid to European Resistance Movements 1943–1945," 53.

[50] "Special Operations: AAF Aid to European Resistance Movements 1943–1945," 54.

[51] "Special Operations: AAF Aid to European Resistance Movements 1943–1945," 56.

Final determination for how to employ airpower in a given situation must be made whilst considering all of the unique characteristics of the particular UW situation at hand.

The following is a list of the general missions that airpower provides in support of the UW campaign:

1. Intelligence gathering, including persistent ISR (the unblinking eye)
2. Information operations
    a. PYSOPs
    b. Exploitation of media sources
3. Precision attack
    a. Close Air Support (CAS)
    b. Interdiction
4. Mobility / Transportation
    a. Medical
    b. Battlefield mobility
    c. Supply / Logistics
5. Air superiority
6. Building insurgent air capability (if necessary)
7. Command and Control

These missions are not listed in any particular order, as their importance shifts depending on what Phase of the UW campaign is being worked.

In UW, the resistance movement or insurgent forces are usually weaker in size and capability than the occupying or government forces. In these situations, the capability of the resistance to exploit the advantages airpower brings to the fight may be enough to achieve victory.

In the Balkans, Tito's forces were harassed and Partisan operations were hampered by German airpower. Once the Balkan Air Force was established, the 21 fighter squadrons swept the Axis air force from the sky and permitted the Partisans to engage in offensive operations supported by eight medium and two heavy bomber squadrons.[52] Under the cover of airpower, the Partisan's combat effectiveness grew from minor harassment of Axis forces to gaining and holding territory. Predominantly, the Balkan Air Force used offensive capabilities to protect the mobility transports from Axis fighters while on their resupply missions. Occasionally, the Partisans coordinated for air

[52] "Special Operations: AAF Aid to European Resistance Movements 1943–1945," 22.

support in conjunction with major offensive action. Very limited close air support was used due to the required coordination between air and ground assets. Instead, airpower concentrated on keeping the Luftwaffe out of the battle and interdicting the Axis reinforcements prior to battle.

The organizational structure of the Balkans Air Force was a traditional, combined composite wing. The aircraft that were primarily responsible for the resupply of the Partisans were normal aircraft found in the Army Air Corps. However, the aircraft went through modifications to permit their use to perform the unique missions associated with supplying the Partisans and infiltration of agents.

B. COUNTERINSURGENCY (COIN)

1. Background

COIN is designed to aid a legitimate government in retaining power through defeating the insurgent or resistance movement that threatens its existence. The focus is on civil and military action working together to achieve the desired end state. The civil action can be divided further between social, political and economic spheres. The U.S. government further describes COIN as activity that:

> …integrates and synchronizes political, security, economic, and informational components that reinforce governmental legitimacy and effectiveness while reducing insurgent influence over the population. COIN strategies should be designed to simultaneously protect the population from insurgent violence; strengthen the legitimacy and capacity of government institutions to govern responsibly and marginalize insurgents politically, socially and economically.[53]

The COIN case study presented here will explore the role airpower plays in the defense of the legitimate, Royal Laotian government. Having gained independence in 1954, the Royal Laotian government immediately was attacked by communist insurgents. The U.S. government came to the assistance of the Royal Laotian government, providing a bulk of assistance through airpower. For the purpose of this paper, the success or failure of the

[53] U.S. Government *Counterinsurgency Guide*, 12.

Laotian government to properly use the military, social, political and economic aspects is not important. The key point is the role and impact airpower played in supporting the Laotian military and preventing the communist takeover until U.S. forces were withdrawn in 1975.

2. Framework

Despite the Air Force's conventional and technological focus in Vietnam, it also supported the Central Intelligence Agency (CIA) and the secret war in Laos, combating the Pathet Lao (communist insurgents) and conventional North Vietnamese army units. The focus of COIN is the successful defeat of an insurgency. As with UW, each insurgency operates under its own unique conditions. Therefore, it is critical for the government to identify what conditions have given rise to the insurgency and move to counteract that particular condition. The desired end state of a COIN operation is to establish control over the environment—to ensure the will of the people support the government and not the insurgency. The government must provide capacity building and reform the issues that enabled the insurgency to develop in the first place. Therefore, the three components that develop the political strategy are information, economic development, and security, as depicted in Figure 3. Airpower can play an important role in all three of these components. In the case of Laos, airpower provided limited information/intelligence gathering, while concentrating primarily on security. Unfortunately, by ignoring the political, social and economic aspects, the overall political strategy was weakened which ultimately led to the failure of the COIN strategy.

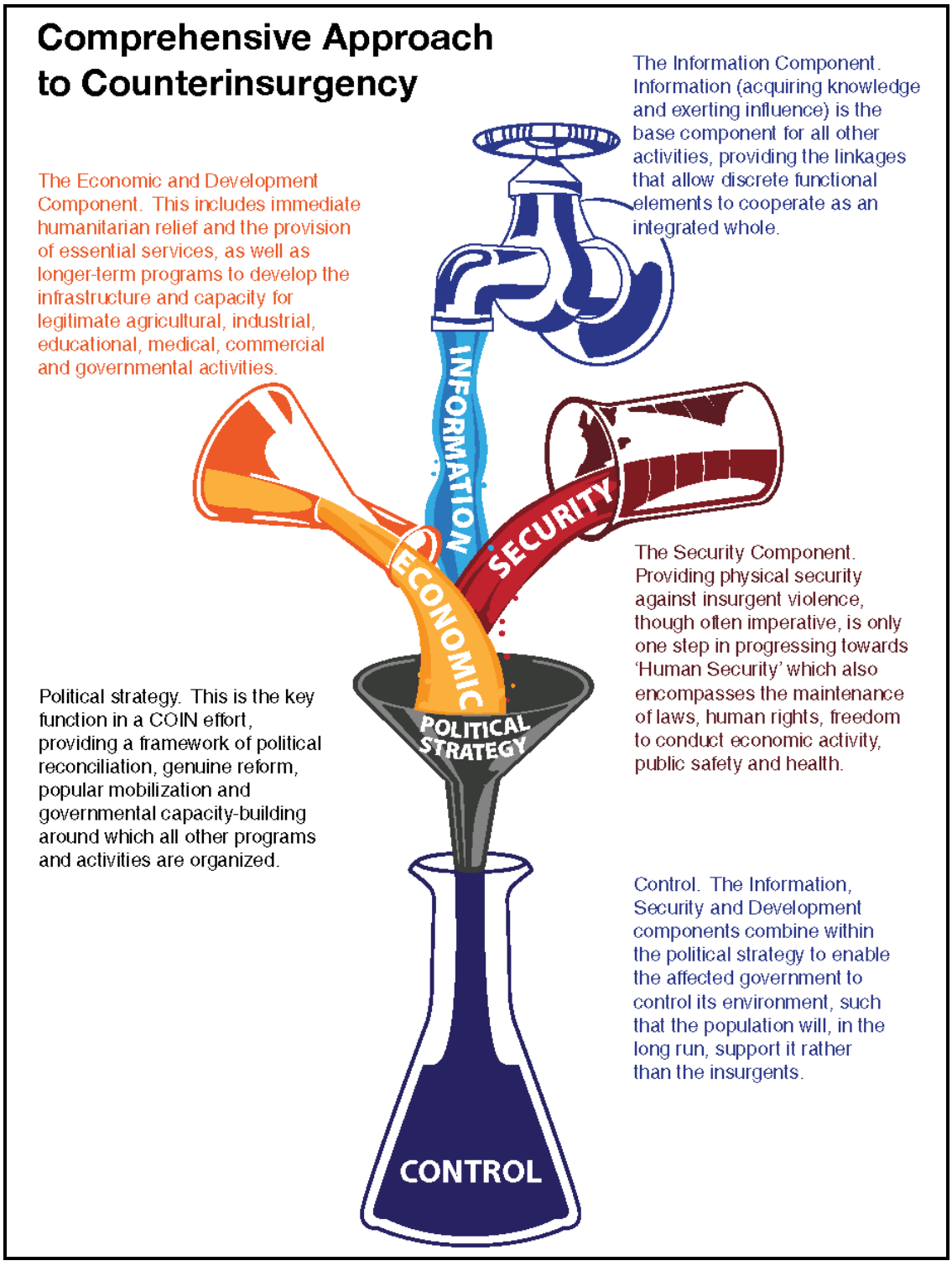

Figure 3. U.S. Government Comprehensive Approach to Counterinsurgency[54]

[54] From U.S. Government *Counterinsurgency Guide*, 17.

3. COIN in Laos

Following World War II, France attempted to re-establish its colonial power over Indochina. By 1946, Ho Chi Minh's Viet Minh made a bid for independence in Vietnam by attacking the French forces stationed in Vietnam. The conflict quickly spilled over into neighboring Laos. The border region between Vietnam and Laos had been traditionally contentious, and as the nations in Indochina vied for independence, this border region dispute became an issue again.[55] In 1947, the French made the Kingdom of Laos a constitutional independent state within the French Union. Laotian separatists formed a communist government under the name Pathet Lao. The Pathet Lao allied themselves with the Viet Minh (permitting the latter to operate inside sovereign Laotian territory) to completely remove French influence from Laos and Vietnam. The Geneva Conference of 1954 secured the independence of French Indochina and recognized democratic governments in Laos and South Vietnam.[56] With French influence ousted from Indochina, the communist Viet Minh turned their attention to the border between North Vietnam and Laos. Throughout the late 1950s, the North Vietnamese attempted several infiltrations into Laos, in conjunction with the Pathet Lao forces. Thus, the North Vietnamese could not be accused of invading Laos. In addition to aiding the Pathet Lao, the North Vietnamese established a supply route, popularly known as the Ho Chi Minh Trail, that cut south (in Laos) from North Vietnam to South Vietnam. This supply route provided the Viet Cong (South Vietnamese communist guerillas) with desperately needed supplies for their war against South Vietnam.

While the communist forces were moving through Southeast Asia, the U.S. focused on countering the main communist threat, the Soviet Union. This drove many in the Air Force to desire an all-jet aircraft fleet and rely upon technologically advanced weapons. This caused an over-reliance and misguided beliefs in the ability of technology to overcome any combat situation presented. Despite this drive for technology, the Air Force inventory of the 1960s included aircraft from World War II, so it had an inventory

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[55] "Laos," http://countrystudies.us/laos (accessed August 14, 2009).

[56] "Laos History," http://www.asia-discovery.com (accessed August 14, 2009).

that included everything from propeller driven aircraft to modern jet aircraft. The aircraft that were best suited for COIN in Laos were the same planes (Cessna O-1) used in Vietnam for forward air control, although stripped of any Air Force markings. The strike aircraft were a combination of Laotian Air Force (T-28) and U.S. Air Force (A-1, AC-47/119/130, B-52, C-123/130, CH-3/34, F-4/105) assets.

4. Early Intervention

The increased communist activity in Laos made the U.S. government aware of the need to focus on how to counter the communists' insurgency. The insurgency in Laos, while less organized than the insurgency in South Vietnam, had developed from the nationalist movement that gripped the country post World War II. By the late 1950s, the insurgency had grown beyond local police control and now threatened the government of Laos. In 1959, the Army deployed 107 Special Operations Forces to Laos to assist with the training and development of the Laotian Army. Laos was considered a neutral territory between the United States and North Vietnam; therefore, the U.S. forces had to operate without uniforms and were only "advisors." This covert advisory mission to Laos was known by its code name, Project 404. The purpose of this project was to train both the Royal Laotian Army and indigenous Hmong and Yao tribesmen to fight the Pathet Lao communist insurgency.

From 1961–1962, the Laotian government officially requested United States military aid, which made U.S. presence in Laos "official" and the U.S. forces were permitted to wear their uniforms openly.[57] By mid-1962, Laos officially reaffirmed their neutrality and the U.S. forces in Laos once again were forced to operate covertly. By this time, the communist insurgents had increased in size to the point they moved from guerilla warfare to more conventional methods of combat. These conventional capabilities were augmented by the North Vietnamese military incursions into northern Laos. With Laotian neutrality officially declared, overt U.S. military action was undesirable as it could widen the conflict in Indochina and invoke further communist

[57] "White Star," http://specialoperations.com/History/Cold_War/White_Star/Default.htm (accessed July 31, 2009).

aggression. Therefore, the responsibility of conducting a secret war was passed to the CIA, which operated directly for the U.S. Ambassador to Laos, William Sullivan. The CIA used both proprietary airlines, Civil Air Transport (CAT) and Air America, in their secret war in Laos.[58] These aircraft were used to resupply and transport forces, and for rudimentary intelligence gathering. At the height of the "secret war in Laos," the Agency only had 225 personnel, which included 50 case officers in Laos.[59]

The CIA airline, Air America, provided resupply airdrops for General Pao's forces as well as the regular Laotian Army. Air America assets also shuttled the Laotian Air Force trainees to Thailand to attend pilot training, and brought them back to their bases in Laos. Additionally, the helicopters of Air America provided critical battlefield mobility for General Pao's Commando forces. Regular Army units engaged the Pathet Lao or North Vietnamese regulars while Pao held his commandos in reserve. As needed, he sent his forces on helicopters to shore up Laotian Army lines that were on the verge of collapse. He also sent his commandos to expand a breech in enemy lines. The Air America helicopters provided rescue services for Pao's commandos as well as the U.S. Air Force pilots shot down bombing the Ho Chi Minh Trail, or the forward air controllers who had crash-landed from engine failure or enemy action.

As the Pathet Lao gained strength, men and supplies flowed into Laos from North Vietnam. The Royal Laotian Army needed additional firepower and military assistance to repel the combined Pathet Lao and North Vietnamese forces. Airpower offered the combat edge that could tip the scales in favor of the Laotian government. Airpower provided not only firepower, but reconnaissance capabilities and mobility support. The American solution was to provide the rugged T-28 aircraft to the Royal Laotian Air Force.[60] These were originally designed as training aircraft. It was easy to teach Laotian Air Force members to fly and maintain the T-28. Simple modifications added bomb racks, capable of holding bombs or rockets, to the undercarriage. These simple

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[58] Ralph Wetterhahn, "Ravens of Long Tieng" in Air & Space Magazine http://www.airspcaemag.com/military-aviation/ravens (accessed August 14, 2009).

[59] "The Secret War," http://countrystudies.us/laos (accessed July 31, 2009).

[60] "Beginning of Air Operations in Laos," http://chancefac.net/Laos (accessed July 31, 2009).

modifications made the former training aircraft an excellent light attack plane, providing the Royal Laotian Air Force with a multi-purpose aircraft that flew both close air support and interdiction missions in addition to aerial reconnaissance missions.

In 1964, the U.S. Air Force received authorization for mid- and low-level flights over Laos to perform reconnaissance of the Ho Chi Minh Trail and to assess the infiltration routes of men and material from North Vietnam into South Vietnam. These missions were flown under the code name Yankee Team.[61] The United States President or the Ambassador to Laos personally authorized fighter-bomber aircraft to bomb sections of the Ho Chi Minh Trail that traversed southern Laos as well as to conduct retaliatory bombing strikes against known concentrations of North Vietnamese forces inside Laos.[62] Overtly, the U.S. government denied dropping bombs in Laos, as it was a neutral nation. In reality, the Laotian government requested and received U.S. Air Force bomber support to interdict communist positions throughout the country. The Yankee Team missions provided critical battlefield intelligence of the communist logistics trail that feed the Viet Cong in South Vietnam as well as the North Vietnamese Army incursions into northern Laos. The Air Force used a low and slow propeller aircraft (O-1) to identify targets for the jet fighter-bomber aircraft. The O-1 was piloted by a Forward Air Controller (FAC) who would often fly low enough he could visually identify his targets, he would then circle back and mark the position with a smoke rocket. The FAC directed the fighter-bombers to deploy their ordinance in relation to his marking smoke. The Air Force selected FACs for the secret war in Laos from combat-proven FACs flying in South Vietnam.

5. Airpower

a. Assets and Organization

In 1961, to address these wars of liberation, the Air Force Chief of Staff, General Curtis LeMay, created the 4400th Combat Crew Training Squadron (CCTS) at

[61] "Beginning of Air Operations in Laos."

[62] Wetterhahn,, "Ravens of Long Tieng."

Hurlburt Field, Florida with the mission of counterinsurgency training and combat operations. During the Cold War, the Soviet Union confronted the U.S. militarily through "wars of liberation." In 1961, to address the Soviet threat, the Air Force Chief of Staff, General Curtis LeMay, created the 4400th CCTS at Hurlburt Field, Florida with the mission of counterinsurgency training and combat operations. These airmen, known as Air Commandos, focused on development of foreign internal defense tactics and techniques for building counterinsurgency capabilities in Third World nations. Squadron aircraft included the U-10, C-46, C-47, B-26 and AT-28. In November 1961, a detachment of the 4400th deployed to Vietnam on Operation FARMGATE and flew combat missions. The squadron expanded into a group in March 1962. In April, the U.S. Air Force Special Air Warfare Center was established at Eglin AFB, Florida. The Special Air Warfare Center continued to acquire additional aircraft and by the mid 1960s the fleet included O-1, O-2, A-26, A-37, A-1, C-123 and C-130 aircraft, as well as several types of helicopters.[63] The Air Force's special operations capability continued to grow as involvement in Vietnam increased.

Air Commandos secretly entered Laos and began the Butterfly Program. This program included the employment of Air Force Combat Control Teams (CCT)to direct tactical air strikes as well as train Laotian pilots to perform FAC duties. Due to the difficulty and hazardous nature of forward air control, the Americans resorted to flying the mission while a Laotian "spotter" coordinated with friendly ground units and identified enemy positions. This program eventually gave way to the Steve Canyon Program, which formalized the process for bringing U.S. Air Force FACs into Laos from Vietnam.[64]

The Steve Canyon Program was the cover name for the FAC missions in Laos. At the midpoint of their tour in Vietnam, a FAC was briefed about a highly classified program that he could volunteer for, or he could continue his last six months in Vietnam and return home. After volunteering for the program, he was reassigned to

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[63] "Air Force Special Operations Command," http://www.globalsecuirty.org/militray/agency/usaf/afsoc.htm (accessed 7 August 2009).

[64] Christopher Robbins, *The Ravens* (New York: Crown Publishers, Inc. 1987), 87.

Udorn Air Force Base, Thailand. There, he would shed his Air Force uniform and report to a hanger in civilian attire. An Air America plane (airline of the CIA) transported the volunteers to the new assignment. The airmen reported into the air attaché's office at the U.S. Embassy in Vientiane, Laos. Here they were given U.S. Agency for International Development (USAID) identification cards and told that "officially" they were forest rangers attached to USAID.[65] Over the course of the Steve Canyon Program, the U.S. Air Force had no more than 22 FACs in Laos at any given time.[66] Beyond the small numbers of airmen making such a huge impact on combat operations, it reduced U.S. costs, as Senator Stuart Symington was quoted as saying "…the CIA in Laos was spending in a year what the U.S. Army was spending in a day in Vietnam."[67]

The Royal Laotian Air Force was small, with a limited number of AT-6 and T-28 aircraft. The United States enhanced this tiny air force through the Steve Canyon Program FACs. These FACs, known by their radio call sign Raven, enjoyed relative freedom of action as they operated under a convoluted chain of command. Officially (according to the U.S. Air Force) they were assigned to the 56th Special Operations Wing based at Nakhon Phanom, Thailand with records and pay being handled by Detachment 1 at Udorn. Operationally, they were "on loan" to the air attaché in Vientiane, Laos and therefore fell under the control of the ambassador. Once they reached their airfields in Laos, they fell under direct control of the CIA and native generals. The Ravens enjoyed this command structure as it permitted them to play agencies off one another as necessary in order to achieve the greatest tactical success. [68]

b. Aircraft Modifications

Initially, the Royal Laotian Air Force received six AT-6 aircraft from the United States in 1961. These aircraft were modified training aircraft with machine guns, and equipped to fire rockets and drop bombs. The American advisors determined the

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[65] Robbins, *The Ravens*, 30.

[66] Robbins, *The Ravens*, 193.

[67] Robbins, *The Ravens*, 121.

[68] Robbins, *The Ravens*, 31.

best option for the Laotian Air Force to be trainer aircraft. These aircraft were easier to fly and more forgiving in case of pilot error. They had excellent visibility from the cockpit, which aided in the dual role of the aircraft as a reconnaissance aircraft as well as a light attack plane. In late 1963, the Royal Air Force accepted four T-28 aircraft. These aircraft also were modified with machine guns, rocket pods and bomb racks.[69]

In May 1964, the United States Embassy released the bomb fuses, which permitted the Royal Air Force to begin bombing the communist forces.[70] Ideally, the embassy wanted the Royal Air Force to use both the AT-6 and T-28 as reconnaissance aircraft, perform FAC duties and attack missions. However, the complexity of these missions exceeded the capabilities of the Laotian pilots, so the American pilots had to fly the forward air control missions with Laotian spotters. Eventually, the forward air controllers used O-1 and U-17 (Cessna 185) spotter aircraft and the occasional T-28 to mark targets.[71] The only other modification that the aircraft received was during the transfer from the United States Air Force to the Laotian Air Force. The planes were flown to Thailand, where they were stripped of all Air Force and unit markings. Only the tail number remained. An Air Force representative, usually a colonel, would "sell" the aircraft to a Steve Canyon Program pilot for a dollar; have him sign a sheet that stated the aircraft was sold as military surplus to a private pilot.[72] The pilot then received a classified flight plan and transferred the airplane to secret bases inside Laos.

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[69] "Beginning of Air Operations in Laos."

[70] Robbins, *The Ravens*, viii.

[71] "The O-1 'Bird Dog,' the toughest dog in the fight, 'our little flivver'" Web post, March 26, 2006 http://www.talkingproud.us/HistoryBirddog11.html (accessed July 31, 2009).

[72] Robbins, *The Ravens*, 26.

c. Aircrew Training

The CIA operated in Laos from 1961, secretly recruiting, arming and training Hmong tribesman as a counter-insurgency force.[73] "Under the control of the CIA, the Special Forces (SF) were able to engage in operations exploiting their unique capability of organizing guerilla-type units to fit against the adversary."[74] In 1962, several hundred Laotian tribesmen were sent to Thailand to train at secret bases as commandos. The tribesmen adapted well to the ground commando warfare. They did however, struggle with technological skills taught in flight school. By 1964, the Laotian government recognized the advantage airpower provided to combat operations and formally requested that the United States provide assistance to the Royal Laotian Air Force through training programs. On April 1, 41 airmen from Detachment 6, 1st Air Commando Wing established Operation WATERPUMP at Udorn Royal Thai Air Force Base to train Laotian pilots.[75] Besides training Laotian pilots, this program provided an avenue for Thai pilots to volunteer to fly for the Royal Laotian Air Force, similar to the Eagle Squadrons of Americans who flew for the British Royal Air Force (RAF) in World War II. The secondary mission of the airmen was to provide emergency air cover for friendly forces (forward air controllers) in case of a renewed Communist offensive.

d. Forward Air Control and Reconnaissance

Similar to Vietnam, Laos was divided into several military regions. Ravens were assigned to each region, with the most desired spot being a secret airfield at Long Tieng. This was the headquarters of General Vang Pao, who led the Hmong Special Guerilla Units that had been trained by the U.S. Special Forces in Laos and

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[73] From Wetterhahn, "Ravens of Long Tieng," The Hmong people were primitive mountain dwellers who used slash and burn agricultural methods, growing rice and poppies and raising pigs. The poppies were used for heroin and opium. The Hmong tribesmen also remained armed to protect themselves from their ancient lowland rivals – the lowland Lao. As communism spread throughout Indochina, the Pathet Lao (Laos communists) secured a foothold in the lowland Lao population and made peace overtures with the North Vietnamese communists. The Hmong supported the non-communist government in Vientiane while countering their rivals of the lowland Lao and became the welcomed allies of the CIA in Laos.

[74] Sam C. Sarkesian, *Unconventional Conflicts in a New Security Era* (Westport, CT: Greenwood Press, 1993), 109.

[75] "Beginning of Air Operations in Laos."

Thailand. General Pao was the most successful Laotian general on the battlefield, preventing the communist forces from taking over Laos. His units were the most capable fighters and he had a firm grasp of what airpower could provide to his forces.[76] Each night, the case officers from the CIA would join the senior Raven and General Pao for dinner. Following dinner, the General would lead the planning for the following days' operations.[77]

The American advisors in Laos found it more expedient to provided aerial resupply and battlefield mobility with the CIA aircraft from Air America than wait for the Laotian Air Force to develop those capabilities. Both the Air America pilots and the Ravens provided aerial reconnaissance capabilities ranging from reconnoitering enemy positions to bomb damage assessment following air strikes. The Ravens marked targets and directed air assets from the Royal Laotian Air Force as well as the U.S. Air Force to support ground operations. The Ravens controlled assets ranging from the Laotian AT-6s and T-28s to the U.S. Air Force AC-47s, fighter-bombers and even the B-52.[78]

Each year following the rainy season, the North Vietnamese invaded Laos and pushed towards the Plain of Jars. Pao's forces halted the advance and pushed the communists back in what seemed to be a never-ending tug of war. In 1969, the Laotians were to have one and a half times the total number of air sorties dedicated to Vietnam. The deluge of airpower was designed to liberate the Plain of Jars and provide Pao with confidence that with airpower, he would be successful. Unfortunately, Pao's ground forces failed to secure the area once the communists were routed by airpower. The communists were able to re-infiltrate the area and the Air Force bombed the same targets day after day.[79]

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[76] Robbins, *The Ravens*, 31.

[77] Robbins, *The Ravens*, 39.

[78] Robbins, *The Ravens*, 13–14; 220–221.

[79] Robbins, *The Ravens*, 154–157.

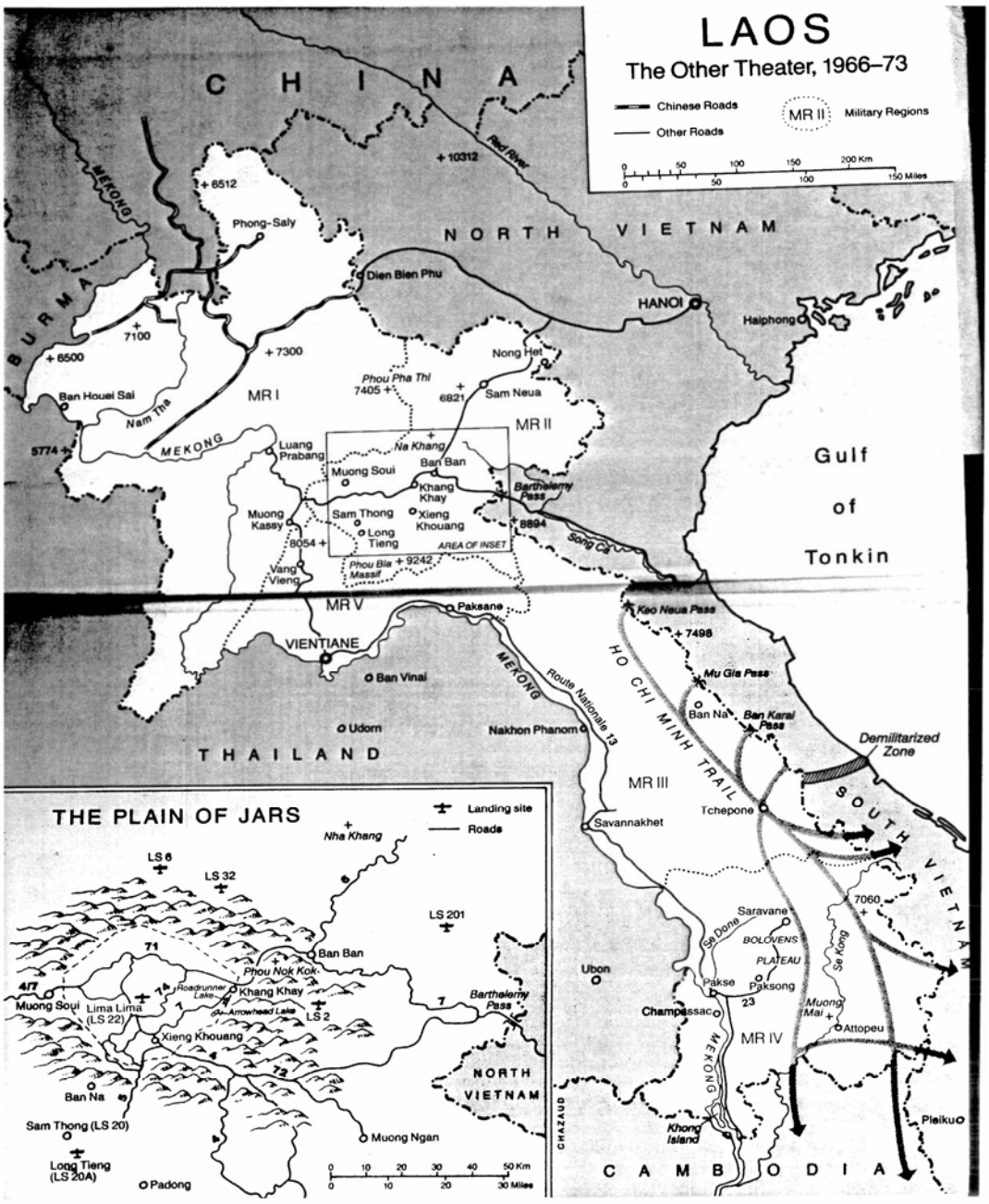

Figure 4. Laos Military Regions (MR) During 1966–73.[80]

The Ravens provided forward air control, but more importantly, they provided critical intelligence gathering capabilities. The pilots quickly became familiar with the region they were assigned. They flew with a Hmong observer (volunteer from

[80] From Robbins, *The Ravens*, Inside cover.

the Laotian Army) as a backseater or "spotter." These liaisons provided translation services when communicating with Laotian ground units and could also provide information on the villages they were flying over. They understood the ground situation better than anyone else, and could help identify enemy and friendly troop concentrations or patrols.[81] Figure 4 depicts the Military Regions the Ravens were assigned. The inset shows the Plains of Jar, the operational area dominated by General Vang Pao's commandos.

6. COIN Summary

Like UW, each COIN campaign is unique. The factors of political, economic, military, social and geography also impact COIN. Therefore, the roles and missions that airpower provides in support of each campaign are tailored specifically to meet each situation and require creative adaptation of assets to fill unique missions. This analysis focused on how U.S. airpower assisted militarily in a COIN campaign. The list of missions described below should not be taken as a complete list, but rather a sample of potential uses of airpower in COIN. The host nation government must attack the insurgency through all sources of power, including economic, social and political. Reliance upon only the military is dangerous, as the Laotians discovered when the communists' forces took control of the country in December 1975.[82]

Airpower provided critical battlefield advantages to the Laotian forces and ensured Pao's commandos had the edge in firepower. However, this edge was dulled when the Laotian government failed to address the economic, political, and social aspects of the insurgency as well as the military threat. In addition to that, the U.S. government faced rising anti-war sentiment in America, and a deteriorating situation throughout Southeast Asia, leading to the complete withdrawal of forces.

The following is a list of the general missions that airpower provides in support of the COIN campaign:

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[81] Wetterhahn, "Ravens of Long Tieng."

[82] Robbins, *The Ravens*, xi.

1. Intelligence gathering, including persistent ISR (the unblinking eye)
2. Information operations
    a. PYSOPs
    b. Exploitation of media sources
3. Precision attack
    a. Close Air Support (CAS)
    b. Interdiction
4. Mobility / Transportation
    a. Medical
    b. Battlefield mobility
    c. Supply / Logistics

As with UW, the importance of these missions is dependent upon the current situation. Over time, each one will rise or fall in level of importance and thus receiving varying levels of attention, however each one has role to play in the successful completion of a COIN operation.

Offensive airpower in Laos controlled the battlefield. The use of FACs to control airstrikes against concentrations of communist forces enabled the outnumbered Hmong tribesman to thwart the communist advances. General Vang Pao, "had become an early and zealous convert to airpower…"[83] Vang Pao even wished for an entire squadron of attack T-28s with native Hmong pilots. Unfortunately, attrition through the training pipeline coupled with combat losses prevented the Royal Laotian Air Force from ever sustaining any appreciable growth in their pilot corps.

The organizational structure of the Air Force in Laos was unclear. Due to the secret nature of the mission, the airmen were assigned to Thailand bases and attached to the air attaché in Laos. Once at their operating location, they worked directly with the CIA and Lao military. This arrangement permitted great latitude to operate and maximized airpower's ability to halt communist military advances. As proven in Laos, failing to address the civil, economic and political situations in addition to the military action that gave rise to the insurgency will ultimately doom the COIN campaign.

[83] Robbins, *The Ravens*, 251.

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III. CURRENT AIR FORCE SPECIAL OPERATIONS COMMAND CAPABILITIES

A. PRECISION AIRPOWER

The irregular warfare (IW) case studies demonstrate a need for airpower to be used in missions supporting one of the following broadly defined roles of attack, mobility, or reconnaissance. One critical aspect of the application of airpower is precision capability. Modern technology has developed to the point airpower can delivery munitions or supplies with pinpoint accuracy. This accuracy is just as critical to IW campaigns as it is to conventional campaigns. Some may even argue precision in IW is even more critical.

Attack aircraft of today have a wide range of precision capabilities to employ munitions with impressive accuracy. In counterinsurgency (COIN), it is critically important to limit collateral damage. One example of a COIN strategy that relied on technology (airpower and artillery) but failed to comprehend the true nature of the insurgent problem is the early phases of American involvement in Vietnam. The U.S. advisors provided the South Vietnamese Army (ARVN) access to airpower and artillery to fight the communist insurgency led by the Viet Cong. While this technology provided the ability to reach out with deadly accuracy, the ARVN failed to employ it judiciously. Rather, they indiscriminately used airpower and artillery against villages and hamlets suspected of supporting the insurgency. They used it many times as a show of force for the South Vietnamese government. The ARVNs indiscriminant use of American-supplied firepower further alienated the population from the South Vietnamese government. This misuse of power drove the population they were supposed to be protecting into the waiting arms of the Viet Cong as they sought methods to avenge their families.[84] Thus, the government in power must ensure they are truly making an effort to protect the population from the conflict. In an unconventional warfare (UW) campaign, the insurgents must not drive the population towards the government or occupying

[84] Neil Sheehan, *A Bright Shining Lie* (New York: Vintage Books, 1988), 107–9.

power. One goal of the insurgency would be to get the government to react indiscriminately and draw the population to the insurgency by offering and providing protection from the government. Therefore, attack aircraft that can place weapons precisely on target and avoid unnecessary collateral damage will provide more benefit to the COIN fight than indiscriminant bombing.

B. ATTACK AIRCRAFT

> A high-performance jet flying at eight hundred knots and carrying bombs as its ordinance was not the most effective instrument to use against truck convoys that were moving at a snail's pace down the muddy Ho Chi Minh Trail under triple canopy tree cover. They could not linger long enough to identify their targets, and they could not aim accurately enough to destroy them. What we needed was something that was slow-moving, could see a target, and could zero in on it and stay with it until it had destroyed it with Gatling guns or cannon.
>
> — William H. Sullivan, U.S. Ambassador to Laos[85]

The AC-130 gunship provides close air support (CAS), air interdiction and force protection. CAS includes: troops in contact, convoy escort and urban operations. Air interdiction missions are conducted against pre-planned targets or targets of opportunity. Force protection includes air base or facilities defense. Air Force Special Operations Command (AFSOC) currently has eight AC-130H gunships, which have one 40mm and one 105mm cannon. AFSOC also has 17 AC-130U gunships, with one 25mm Gatling gun, one 40mm and one 105mm cannon.[86] These side-firing weapons are integrated with advanced navigational equipment and sensor suite. The sensors consist of both infrared and television cameras. The AC-130U includes a synthetic aperture strike radar for all-weather targeting capability.

The gunship was developed to fight in the jungles of Vietnam. Side firing weapons were first employed from the AC-47, a converted C-47 transport aircraft. Additional transport aircraft such as the C-119, C-123 and C-130 were converted to side-firing gunships. Light observation aircraft also carried side-firing weapons, but were

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[85] Robbins, *The Ravens*, 115.

[86] U.S. Air Force Fact Sheet, "AC-130H/U Gunship," http://www.af.mil/infomration/factsheets (accessed October 16, 2009).

deemed too small to be an effective gunship. As enemy defenses improved the gunship increased their self protection capabilities. One method of protection was to fly at higher altitudes, above the threat envelope of the air defenses. As the gunship flew higher, its sensor and weapons effectiveness decreased. The Air Force turned to technology to overcome these new limitations, placing larger weapons on the gunship and developing new sensors. Finally, the C-130 emerged as the aircraft that combined all the requirements of the Air Force for survivability, sensor and weapons effectiveness, and loiter time.

The Phoenix Cycle once again took hold of the Air Force special operations aircraft fleet when the U.S. withdrew from Vietnam in 1975.[87] All variations of the gunship were discarded except the C-130 version. Some of the discarded gunships found homes in other nation's air forces, such as Cambodia, Laos, South Africa, South Vietnam, and Thailand, all of whom maintained a version of the AC-47. Today, only Columbia and El Salvador maintain their AC-47 aircraft.[88] With the advanced technology that drives the C-130 airframe and the additional gunship specific modifications, the AC-130 has become too expensive for smaller nations to operate. Instead, the C-47 aircraft with its side firing machine guns is both affordable and successful for these smaller nations.

Although not a direct attack (kinetic) platform, the EC-130J Commando Solo aircraft is another valuable AFSOC asset. This aircraft conducts information operations (IO), psychological operations (PYSOP), civil affairs (CA) broadcasts in AM, FM, HF, TV, and military communications bands.[89] Originally developed in the 1960's, the mission of broadcasting information in support of IO, PYSOP, and CA missions has played a vital role in the U.S. military effort.

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[87] Phoenix Cycle: The repeated historical destruction and subsequent rebirth of the USAF's ability effectively fight irregular warfare. The cycle is named for the Phoenix, a mythical Greek bird that would repeatedly die in fire and rise again from the ashes.

[88] James S. Corum, "The Air War in El Salvador," *Airpower Journal* – Summer 1998, http://www.airpower.au.af.mil/airchronicles/apj/apj98/sum98/corum.html, Accessed on October 20, 2009.

[89] U.S. Air Force Fact Sheet, "EC-130J Commando Solo," http://www.af.mil/infomration/factsheets (accessed October 16, 2009).

The EC-130 has been involved in modern military action as IO has taken a more important role in U.S. military. The following list shows a small example of the operations the EC-130 has been involved in:

Grenada (1983)
Panama (1989)
Desert Storm (1990–91)
Haiti (1994)
Bosnia–Herzegovina (1997)
Allied Force (1999)
Operation Enduring Freedom (2001)
Operation Iraqi Freedom (2003)[90]

Unlike kinetic strikes that have visible indications of success or failure, the IO, PYSOPS, CA mission results are ambiguous and lack tangible evidence of success. Despite the apparent lack of identifiable marks of success or failure, the EC-130 provides the critical capability to influence a population through targeted messages on radio and TV. Influence of the population has an important effect on the success or failure of both UW and COIN operations.

C. MOBILITY/RESUPPLY

Airpower provides critical mobility and resupply capabilities to guerilla forces operating in the UW environment. It is, perhaps, the most critical advantage of airpower. Rapid mobility around the battlefield ensures the commitment of reserve forces at the critical juncture and point of battle. Further, as field units expend supplies, ammunition, food, clothing, etc., the timely replenishment of those supplies can mean the difference between success and failure in the campaign.

For Tito's Partisans, aerial resupply allowed his force to maintain fighting strength and vastly improved morale among his forces. When a Partisan fighter was wounded, they were evacuated to Italy to receive care from Allied medical personnel. Initially, the Partisans had to rely on captured weapons to arm their forces. Many of the Partisans weapons were acquired as the Italians withdrew forces from Yugoslavia and abandoned their stores. The Balkan Air Force was able to provide supplies (especially

[90] U.S. Air Force Fact Sheet, "EC-130J Commando Solo."

cloths and food) to the Partisans in their mountain hideouts during the winter months. In other theaters during World War II, airpower also provided explosives, radios, munitions, food, clothing and advisors that were desperately needed to effectively harass occupation forces and sustain the insurgencies. The MC-130 is AFSOC's primary mobility aircraft used for: infiltration, exfiltration, and resupply of special operations forces and equipment in hostile or denied territory. Additional MC-130 missions include: refueling special operations vertical lift assets, forward arming and refueling, specialized ordinance delivery, airdrops supporting psychological operations and limited command and control capabilities.[91] Specialized navigation equipment permits all weather operations and the MC-130H has a terrain following radar to permit low-level penetration of hostile or denied territory.

As with the AC-130, the MC-130 fleet has undergone modifications with extensive self-protection features and a host of mission specific features. These aircraft modifications include: re-enforced doors for high-speed airdrops, enhanced navigation equipment to permit low altitude penetration missions and precision airdrop, aerial refueling pods to provide gas to vertical lift assets, and include the ability to receive fuel airborne from both KC-10 and KC-135 refueling aircraft. This refueling capability extends the flight range of the MC-130, enabling quicker worldwide deployment. However, it is these additional features that make the MC-130 fleet more expensive to operate, which in turn makes the MC-130 aircraft an unrealistic purchase for foreign nations. As technology continues to develop, the cost of operating high-tech aircraft rises. For many small nations' air forces, even the C-130 is cost-prohibitive.

AFSOC needed an aircraft that could provide smaller lift capability but operate in more austere locations, including short and unimproved surfaces. The solution was to acquire a fleet of PC-12 aircraft, renamed the U-28A. The single-engine U-28A has been certified to land on dirt and grass strips. It can carry up to nine passengers with a maximum cargo weight of 3,000 pounds.[92] This aircraft was acquired specifically to

[91] U.S. Air Force Fact Sheet, "MC-130E/H Combat Talon I/II; MC-130W Combat Spear; MC-130P Combat Shadow," http://www.af.mil/infomration/factsheets (accessed October 16, 2009).

[92] "U-28A," http://www.globalsecurity.org/military/systems/aircraft (accessed October 21, 2009).

provide Special Operations Forces (SOF) with intra-theater airlift that did not require the use of the C-130. Another transport aircraft AFSOC is currently acquiring is the title rotor CV-22, a hybrid aircraft that lands like a helicopter but flies like and airplane.

When the MH-53J Pave Low III helicopters were retired in 2008, AFSOC lost its vertical lift capability. To replace that capability, AFSOC invested in the CV-22 Osprey, which reached initial operating capability in early 2009. This aircraft is designed to conduct long-range infiltration, exfiltration and resupply of special operations forces by combining vertical takeoff/landing and hover qualities with long-range, fuel efficiency and speed characteristics of turboprop aircraft. Similar to the Special Operations C-130 fleet, the CV-22 includes integrated threat countermeasures, terrain-following radar, and a forward-looking infrared sensor in addition to modern avionics. [93]

The CV-22 still has many system bugs that must be worked out. The aircraft has a turbulent history with multiple high profile crashes during development and testing.[94] These accidents stir some concerns about the basic concept of a vertical lift machine that transitions to level flight. Over time, these concerns will be addressed and further technological advances will enable vertical lift/level flight capability. This is still a new aircraft, so airmen have yet to explore the complex weapons system. It will be telling to see how it performs in combat situations as well as what innovative tactics are developed to exploit the design of this aircraft.

Vertical lift capability is vital to IW operations. Helicopters are a cheap airpower alternative to acquiring the more expensive fixed wing aircraft which also require a much larger logistical and operational footprint. The helicopter can be used as a gunship, flying low enough to be right overhead the infantry as they advance, providing gun, rocket and bombing capabilities. In addition, these vertical lift aircraft provide battlefield mobility and the capability to quickly retrieve forces that may have been cut off or surrounded. The helicopter and its vertical lift capability permits it to reach areas traditional airplanes cannot. This is a capability that can be critical to the success of an operation.

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[93] U.S. Air Force Fact Sheet, "CV-22 Osprey," http://www.af.mil/infomration/factsheets (accessed October 16, 2009).

[94] U.S. Air Force Fact Sheet, "CV-22."

Helicopters have also provided vitally important medical airlift in combat situations. This capability is not limited to conventional combat, but is also critical to IW activities. For example, the El Salvadorian military received six medical evacuation helicopters from the U.S. and had assistance in building a first-rate medical facility. The medical facility treated wounds that in previous conflicts would have been fatal for the soldier. The addition of having the medical evacuation helicopters saved many soldiers' lives. Dr. James Corum contends that this combination of medical aid and evacuation capabilities did more to increase the military effectiveness of the forces than any other aid provided by the United States. Further, he states that when a soldier knows there is a dedicated helicopter to evacuate them to a hospital if he is wounded in battle, not only will it raise his individual morale, it will raise the morale of the unit. In El Salvador, such units also experienced a significant increase in aggressiveness on the battlefield.[95]

D. AERIAL RECONNAISSANCE

Aerial reconnaissance began years ago when observers hanging over the side of an airplane with a pair of binoculars observed enemy positions. Today, both manned and unmanned aircraft provide aerial reconnaissance. Manned aircraft that are best suited for this mission are those that have forward-looking infrared cameras. Manned aircraft for aerial reconnaissance include the risk of exposing the crew to enemy fire or possible mechanical failure. The advantages of manned reconnaissance include real-time decision making regarding the progress of the mission; the ability to redirect the mission as required; and to fly with a native observer who can provide a better picture than what is viewed through the sensor lens. As the unmanned aircraft become more plentiful, and the capabilities expand, they will eventually assume a majority of the aerial reconnaissance roles.

Airpower provides critical reconnaissance capabilities to the ground forces. Typically, in UW, the resistance force faces a large, organized force. This force is

[95] James S. Corum, "It's not Just Air Control Anymore: The Historical Evolution of Airpower in Counterinsurgency" (lecture, Air Force Counterinsurgency Symposium 2007, Maxwell AFB, AL, April 25, 2007).

susceptible to exploitation through aerial reconnaissance to monitor troop strength and movements. The ability to blend into the general population is the guerillas advantage. In addition, the guerillas can choose their place and time of engagement with the government forces. With aerial reconnaissance, the guerillas have advanced warning of government forces concentrating and they can exploit weak or undefended territory and outposts.

Today, the MQ-1 Predator Unmanned Aircraft System can fly over the battlefield, providing persistent surveillance through an unblinking eye. These aircraft collect battlefield imagery; carry light attack munitions for instantaneous strike capability; and provide real-time imagery linked directly to manned weapon systems either on the ground or on other airborne assets.[96] With simple modifications, the MQ-1 imagery can be linked directly to an AC-130 gunship. This enables the gunship crew to observe the target area and plan their attack profile enroute. The amount of time saved identifying friendly positions, enemy positions, potential targets, etc. is critical. By decreasing the time the gunship needs to acquire targets, it can limit the time an AC-130 is exposed to potential ground threats. Additionally, reducing acquisition time enables the crew to engage enemy forces faster, making the difference between limiting friendly force casualties and a friendly position being overrun by enemy ground forces.[97]

The AC-130 also provides aerial reconnaissance capabilities with targeting cameras. The Infrared and TV cameras, as well as the pilots using night vision goggles, can observe the battlefield and alert ground units to possible enemy movements or concentrations. One advantage the AC-130 currently has over the MQ-1 is the ability to communicate directly with ground forces to confirm targets and friendly positions, while remaining in position to engage the enemy. The MQ-1 armament is limited to two laser guided Hellfire missiles while the AC-130 weapons can fire 1,800 rounds per minute from the 25mm Gatling gun; 100 rounds per minute from the 40mm and 6–10 rounds per

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[96] U.S. Air Force Fact Sheet, "MQ-1 Predator," http://www.af.mil/infomration/factsheets (accessed October 16, 2009).

[97] Author's personal experience while deployed to Operation Enduring Freedom, March–May 2004. The modification added a flat screen TV and antenna that enabled AC-130 crews to receive real-time intelligence imagery from the MQ-1.

minute from the 105mm howitzer.[98] The bullets have a smaller blast radius than the Maverick missile, which limits collateral damage. For reconnaissance purposes, the smaller MQ-1 provides a limited noise signature compared to the larger, four engine C-130.

Both the AC-130 and MQ-1 can provide reconnaissance of drop and landing zones to mobility pilots. Depending on the capability on the transport aircraft, these reports may have to be passed over the radio. Both platforms can pass this information to the mobility aircraft. Additionally, the AC-130 has two sensors searching the ground targets while the pilot uses night vision goggles to search a broader region. As friendly forces maneuver on the ground, the overhead surveillance platforms provide them with information on their position, and more importantly the intelligence, surveillance, and reconnaissance (ISR) aircraft can help identify enemy forces in the area that may be establishing ambush points or maneuvering to engage the friendly forces. Airborne ISR enables the soldier on the ground to see over the next hill or around the corner and down the next block in order to better prepare for contact with the enemy. Both manned and unmanned platforms provide critical battlefield intelligence as well as strike capabilities.

[98] U.S. Air Force Fact Sheet, "AC-130H/U Gunship."

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IV. CONCLUSION

The role airpower plays in unconventional warfare (UW) and counterinsurgency (COIN) operations is both critical and indispensable. Airpower has the capability to erode an opponent's power, will and influence. It can enhance "government legitimacy, projects national sovereignty into remote areas, accelerates a nation's overall development and provides an asymmetric advantage over adversaries."[99] Further, airpower "bolsters all instruments of national power and provides visible, practical and effective means to consolidate governance and provide for the populace."[100] Finally, airpower enables governments to:

- Provide political leaders immediate, unimpeded access to all territory to demonstrate governance and legitimacy by delivering goods, services, and humanitarian relief.
- Mitigate the traditional advantages of insurgents and terrorists: surprise, speed, stealth, maneuver, and initiative.
- Strengthen internal security mechanisms that transcend fragmented tribal/ethnic geography by providing air mobility, aerial resupply, intelligence, surveillance and reconnaissance (ISR); command and control; and strike.
- Prevent insurgents from massing on the battlefield, and provides an option to strike them if they do.
- Patrol and assist in securing porous border areas.
- Deny insurgents and terrorists sanctuary in ungoverned and remote areas.
- Complement and extend the reach of ground forces and internal security units.
- Deter and defeat external aggression by presenting flexible and adaptable options in projecting capability beyond national boundaries.
- Promote civil sector advancement, since air and cyber infrastructure is inherently dual-use. Most notably, it enables technological and economic advancement, and fosters national identity and pride.[101]

Due to the uniqueness of each UW and COIN situation, a cookie-cutter approach for the use of airpower is not feasible. Rather, general characteristics of mission

[99] Headquarters, U.S. Air Force, "The 21st Century Air Force: Irregular Warfare White Paper," (Washington, DC, April 7, 2008), 3.

[100] Headquarters, U.S. Air Force, "The 21st Century Air Force: Irregular Warfare White Paper," 3.

[101] Headquarters, U.S. Air Force, "The 21st Century Air Force: Irregular Warfare White Paper," 3.

requirements exist, and it is a matter of applying the correct air asset, sometimes in a unique fashion. Traditionally, airpower designated to support these missions has been victims of the Phoenix Cycle post conflict. In order to break this cycle the U.S. Air Force must acquire new irregular warfare (IW) aircraft.

Despite Air Force Special Operations Command's (AFSOC) fleet of C-130 aircraft and CV-22 tilt rotor aircraft, the command is lacking small aircraft that can operate successfully in a wide range of IW environments. Specifically, the largest constraint that the Air Force faces today in worldwide application of airpower for IW is airfield restrictions. Austere fields pose a significant hazard to modern jet engines due to damage caused by small rocks or other debris that often cover the field. Future trouble spots have a preponderance of small airfields. These airfields are generally less than 3000 feet in length and/or have low weight-bearing capacity, which significantly limits the type of aircraft that can land.

In a Deputy Secretary of Defense memorandum, 42 "priority countries" were listed as having the potential to be future hotspots. Throughout these 42 countries, 10,326 active airfields were identified. Of those, 90% were unable to handle a C-130 due to pavement strength, or load classification number (LCN). A total of 84% of the airfields could not support the C-27J due to pavement strength. Finally, 45% of the runways were less than 3000 feet.[102] These percentages are depicted in figure 5.

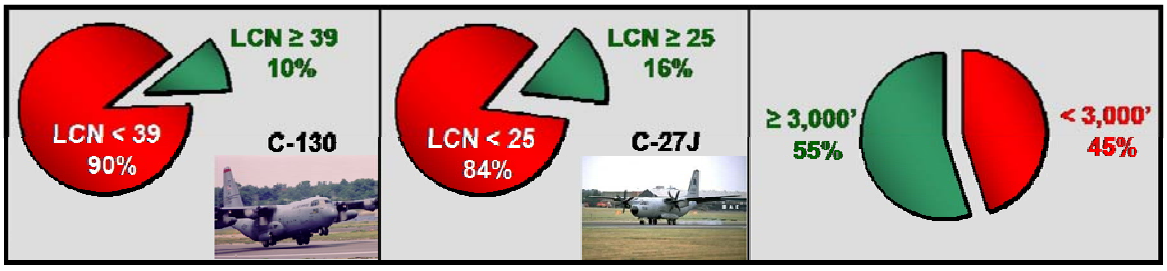

Figure 5. Operational Constraints (runway strength & length)[103]

[102] Headquarters, U.S. Air Force, "Posturing the Air Force for the Long War: A Strategic Perspective," (pre-decisional briefing, Air Staff, Pentagon, September 13, 2006).

[103] From Headquarters, U.S. Air Force, "Posturing the Air Force for the Long War: A Strategic Perspective."

With these operational constraints, the current AFSOC fleet is inadequate to perform worldwide missions in support of IW. The most economical solution to develop a fleet of IW aircraft would be to focus on short take-off and landing capabilities, rugged design to enable austere operating locations and turboprop aircraft to minimize hazards when operating from the austere locations. Additionally, turboprop aircraft are easier to maintain than jet aircraft.

The ideal IW aircraft must be versatile and able to perform several missions. For example, a light attack aircraft can perform close air support (CAS), interdiction and intelligence, surveillance and reconnaissance (ISR) missions. A multi-role utility aircraft must be able to perform ISR, command and control, light cargo, medical evacuation and even CAS. A mobility asset should be able to carry light vehicles and up to an infantry platoon. Finally, vertical lift aircraft should be able to perform any mixture of the above missions.

In addition to the new aircraft, the Air Force must decide on how to organize for an IW campaign. One option for organization would be to stand up a separate IW squadron, group, and/or wing. Another option would be to distribute the newly acquired IW assets and bring them together to form an IW composite group as the need arises.

Organizationally, the Air Force could establish a new IW squadron, group, and /or wing. This new organization's task would be to maintain the U.S. Air Force's capability to support IW missions. The organization would be extremely flexible and have a worldwide focus. Once the decision is made to engage in an IW campaign, the organization will tailor its training program to focus on the selected country. A major drawback to this proposal is the cost associated with development of an entire new organization. General administration functions would duplicate effort of organizations already in existence throughout the Air Force.

If standing up a new organization is infeasible, the Air Force should consider spreading the IW capability throughout the current force structure. This enables the IW airmen to rely upon already established support features. In times of crisis, the IW specific aircraft would be selected based on the needs of the situation. This organization

would resemble the Task Force structure that is currently used by special operations forces. The ability to draw upon what resources are necessary to accomplish the mission at hand is what makes the Task Force concept both economical and militarily potent. Ideally, the necessary capabilities in aircraft will be developed and procured in a timely manner. This will ensure that when a Task Force must be created, all necessary parts will be available to meet the missions as required. Another advantage to this system would be that the IW capability is throughout the Air Force spreading knowledge about IW capabilities, which will permit airmen to become more familiar with IW as a concept. Hopefully, the U.S. Air Force will reach a point at which it will no longer have to reinvent the wheel each time a crisis occurs.

The airmen assigned to IW billets must be expert aviators who can employ these smaller aircraft in austere conditions, and be prepared for lengthy engagements with the forces the U.S. is supporting. The airmen would also benefit from training with the U.S. Army Special Forces (SF) counterparts who will engage the resistance leaders in the UW campaign. Depending on the situation that develops for COIN, a combination of IW airmen working with the SF advisors would provide the biggest benefit. It cannot be stressed enough; each UW and COIN situation is unique and must have tailored application of airpower as well as ground interaction for success.

APPENDIX

Asymmetric Warfare: a conflict between two foes of vastly different capabilities where belligerents can differ in essence and in the struggle, interact and attempt to exploit each other's characteristic weaknesses. This is in contrast to symmetric warfare, where two powers have similar military power and resources and rely on conventional warfare tactics that are similar overall, differing only in details and execution. [104]

Clandestine Operation: an operation sponsored or conducted by governmental departments or agencies in such a way as to assure secrecy or concealment. A clandestine operation differs from a covert operation in that the emphasis is placed on concealment of the operation rather than on concealment of the identity of the sponsor.[105]

Covert Operation: an operation that is so planned and executed as to conceal the identity of or permit plausible denial by the sponsor. A covert operation differs from a clandestine operation in that the emphasis is placed on concealment of the identity of the sponsor rather than on the concealment of the operation.[106]

Generations of Warfare:
1st Generation: tactics of line and column; developed in the age of the smoothbore musket.

2nd Generation: tactics of linear fire and movement, reliance on indirect fire.

3rd Generation: tactics of infiltration to bypass and collapse the enemy's combat forces rather than seeking to close with and destroy the enemy; defense in depth.

4th Generation: tactics of secrecy, terror, and confusion to overcome the asymmetrical gap characterized by a "stateless" entity fighting a state. [107]

Guerilla Warfare: a method of combat where a small group of combatants use mobile tactics (ambushes, raids, etc) to combat a larger and less mobile formal army. The guerilla army uses ambush (stealth and surprise) and mobility (draw enemy forces to terrain unsuited to them) in attacking vulnerable targets in enemy territory. [108]

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[104] Irregular Warfare Center of Excellence.

[105] JP 1-02, 91.

[106] JP 1-02, 134.

[107] Irregular Warfare Center of Excellence.

[108] Irregular Warfare Center of Excellence.

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