
The Battle of Fallujah: Lessons Learned on Military Operations on Urbanized Terrain (MOUT) in the 21st Century

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Military operations on urbanized terrain (MOUT) is defined by the Department of Defense (DoD) as “all [operations] planned and conducted across the range of military operations on, or against objectives within, a topographical complex and its adjacent natural terrain, where man-made construction or the density of noncombatants are the dominant feature.”¹ An urban environment features three main characteristics: a complex man-made physical terrain; a population of significant size and density; and an infrastructure that supports the population and perhaps the region or nation.² With the continuous growth of urbanization all around the world (based on a World Bank study, 79% of the world population lived in an urbanized environment in 2002)³ and change in the nature of warfare in the post-Cold War era, (4th Generation Warfare, or 4GW), it is inevitable that the military will conduct MOUT in the Global War on Terrorism. The Battle of Fallujah differentiates from other MOUT examples in modern military history due to the new technologies of the information era, which add both new advantages and disadvantages into the fighting. The Battle of Fallujah is certainly a milestone in the revolution of warfare.

MOUT in Modern Military History

Although urban fighting has been mentioned as early as about 500 B.C. when Sun Tzu warned that “the worst policy is to attack cities,”⁴ it was not until the 20th Century that the urban combat became common in fighting war. Before the Second World War, both in Napoleonic Warfare and Trench Warfare, most of the main battlefields were found in an open field where the two armies could line up their troops in formation or defense perimeter. In some incidents of siege, the defense would mainly focus on the outer wall of the city and not civilian residences. In other cases, rebels would start firefights in the streets, as the Communist’s rebellion in Germany right after the First World War.

A rare example of urban fighting is the Battle of Shanghai in 1937 between China and Japan. On 11 August 1937, German-trained Chinese 87th and 88th Divisions moved toward Shanghai using trains and trucks along with other mechanized artillery and tank units. The object was to open the second front at Shanghai to avoid any significant campaign in the open fields of northern China that would favor Japan’s mechanized troops

and to gain more international attention, as many Westerners resided in foreign settlements of Shanghai. The Chinese fought the Japanese Special Marines and the 3rd Fleet in Shanghai for more than three months with many modernized combined arms including tanks, artillery, air crafts, and torpedo boats. Despite the heavy casualties, Chinese infantry were able to break through the Japanese defenses many times with German Stormtroop Tactics (*die Stosstrupp Taktik*) under the command of a German advisory group led by General Alexander von Falkenhausen, but failed to hold their positions due to intense Japanese naval gunfire support.⁵ The fighting in the foreign settlements in Shanghai demonstrated, for the first time, the devastating effects that modern warfare had in urban sectors.

However, the concept of fighting in cities did not receive much attention from the major military powers until the middle of World War II. Due to the belated mobilization and modernization of the U.S. Army, Americans focused on basic training to have an adequate number of personnel to meet the needs of the battlefield. Until January 1944, there were no doctrines providing guidelines to the soldiers on how MOUT should be conducted. When the Allies drove through France, the tactic commonly used was rapid movement with massed firepower in an effort to shock the defender and in the hope that the enemy would either be killed or would surrender. However, this tactic would have only worked against a disorganized enemy.⁶ Throughout World War II, only well-coordinated combined arms were able to conquer well-fortified cities like Berlin.

During the Korean War, most fighting did not happen in major cities except in Seoul. The Marine Corps was responsible for the difficult task of retaking Seoul from the hands of well-positioned North Koreans. During the battle, the Marines identified enemy strongholds and guided tanks to break through enemy strong points with firepower. Then Marine riflemen cleared the surrounding area to eliminate any enemy survivors. However, the main focus of the military was still on fighting a possible Communist armored invasion in Europe, not fighting in an urban environment. The situation continued until the Tet Offensive of 1968 during the Vietnam War. Marines in Hue City were caught in an unfamiliar fighting environment for which they were not trained. Most of them had plenty of experience in the natural jungle, but not in the urban jungle.

One battalion commander even tried, hurriedly, to scan through the manuals and review them before he left for the mission. The casualty rate was high; many companies, mounted on trucks, drove straight into the city until they were ambushed. Soon, tactics were improvised, and tanks were utilized. The Marines were able to react due to their outstanding training and organizational structure. After the war in Vietnam, the Army published the Field Manual 90-10, Military Operations on Urban Terrain (MOUT) in 1979, but it failed to integrate lessons learned from history. The responsibility of MOUT still fell solely on the shoulders of the infantry until the late 90s.⁷

Fallujah: The Terrain and People

On 18 March 2003, Coalition forces launched initial air strikes against Saddam Hussein and a full-scale ground invasion of Iraq followed the next day. Within a month, Saddam was overthrown from power, and Pentagon spokeswoman Victoria Clarke announced the termination of Saddam's regime on 14 April.⁸ Most of the Iraqi people celebrated their liberation from Saddam's tyranny on the street, except in cities of the Al Anbar Province, which is also known as the Sunni Triangle. Among the 25 million Iraqis, only 5 million of them are Sunnis. However, ever since the Baath Party was in power in 1959, the Sunnis have controlled the political power in Iraq. The Sunnis refused to believe that Saddam had been overthrown, while the city of Fallujah was a source of Baath Party supporters.⁹

After the defeat of the First Gulf War in 1991, Saddam targeted the weakness of the local tribal system to strengthen his authority by providing just enough privileges and resources to keep those Sunni tribes loyal to him.¹⁰ Saddam's propaganda also instilled hatred and fear against Shiites and Americans within Sunni tribes during that time.¹¹ Fallujah has a long-standing reputation as a city with a tough, exclusive culture. As embedded reporter Bing West describes it, "ask Iraqis about Fallujah, and they roll their eyes: Fallujah is strange, sullen, wild-eyed, badass, just plain mean... Wear lipstick or Western-style long hair, sip a beer or listen to an American CD, and you risk the whip or a beating."¹² Those are the people whose hearts and minds American soldiers and Marines tried to win.

Fallujah is about 40 miles west of Baghdad right next to the Euphrates with about 300,000 local residents living in a 30 square-kilometer urbanized area.¹³ The city itself was well-constructed, with roughly two-thousand blocks of civilian residences, government buildings, industrial sectors, and civil infrastructure, and the six-lane Highway 10 running through the center of the city. Fallujah is also well-known as "the city of a hundred mosques" for the forty-seven mosques in the city, and fifty-five more in the suburban area. The Americans gave nicknames to each section of Fallujah after New York City. The wealthy residence in the north was "Manhattan," the poor section in the south was "Queens," and one of the bridges on the Euphrates, which connects the hospital and the city, was the "Brooklyn Bridge."¹⁴ The highly urbanized terrain and not-so-American-friendly local population made Fallujah an ripe location for insurgency.

The Tension and Pacification

On 28 April 2003, Saddam's birthday, a mob of about one hundred people waged an anti-American demonstration in the city. The mob accused American soldiers of spying on women

with night-vision binoculars and showing pornography to Iraqi children. Gunmen blended into the crowd firing AK-47s into the sky in front of the 82nd Airborne Division headquarters. The security guards from the 82nd Airborne took this as an act to show bravery rather than a hostile move, so the soldiers did not respond. The same night, a platoon-sized 82nd Airborne detachment in a local school was fired upon from the roof of nearby buildings by three identified gunmen. Two separate sergeants reported enemy fire by radio, and the company commander thought the situation was urgent and authorized return fire, which killed 15 civilians including women and children under the fog of war. Although it was proven to be a conspiracy planned by a former Baathist against the Americans six months later, it was already too late. Seven major Western news media had reported the incident and focused on the civilian casualties and cultural conflicts. None of them questioned why those Iraqis protested against Americans just a few days after Saddam was out of office.¹⁵

Iraqi civilian casualties enraged the local population. The next day, angry mobs were screaming: "All Americans leave Iraq!" outside of the mayor's office.¹⁶ The mayor, Taha Bedawi, although he was a supporter of the Coalition himself, could not take the public pressure and asked the 82nd Airborne to leave Fallujah. The unit that came to relieve the 82nd Airborne was a company from the 3rd Armored Cavalry Regiment. The cavalrymen patrolled along the highway and streets everyday and encountered repeated firefights even though Americans tried to keep a low profile. To solve the problem, the highest military authority of all of the coalition force, the Joint Task Force (JTF) decided to make Fallujah "the most occupied city in Iraq,"¹⁷ by replacing the two-hundred man cavalry with the fifteen-hundred man 2nd Brigade, 3rd Infantry Division (3rd ID). Using the intelligence provided by the CIA, the 3rd ID conducted major search-and-sweep operations for weapons and arms-dealers with the support of armored vehicles. Sometimes a whole section of the city could be locked down for hours.

The 3rd ID also tried to win the "hearts and minds" of the local people by making personal contacts with the local population, although the presence of armored vehicles was intimidating. Americans found the less wealthy Fallujans from south of Highway 10 to be much more friendly than the northern communities. However, smashing down a door in the middle of the night to search for insurgents and foreign fighters was not the best entry tactic. It often terrified the families and created more hostile Fallujans. The 3rd ID also helped with local infrastructure repairs and tried to create more job opportunities. However, the insurgents also worked hard to sabotage the results and frighten the American-friendly civilians. In one incident, when the men of 3rd ID spent days to build a soccer field in downtown Fallujah for the local people, insurgents destroyed the field soon after Americans left. "What kind of people loot dirt?" an American soldier asked.¹⁸ Even the mayor himself feared that acting pro-American could get him in trouble.

The 3rd ID also ran into trouble when they only had a budget of 150,000 dollars per week, while Fallujah needed 150 million dollars to reconstruct the infrastructure and local economy. There were also 70,000 unemployed Fallujans, an easy recruiting source for the insurgents. The Fallujans expected Americans to do more, while 3rd ID already offered everything

they had. Neither the State Department, nor the new Iraqi Government had provided enough support for the military in the pacification process. The local authority had failed to gain the support of the people over the terrorists because the people followed their tribe and mosque leaders, not the mayor.¹⁹ By September, when the 3rd ID turned authority over to the 82nd Airborne again, Fallujah still had a broken economy and tribal war, and was “the most hostile place in Iraq.”²⁰

On March 2004, then Lt. Gen. James T. Conway had led the 1st Marine Expeditionary Force (I MEF) back to Iraq from the States to replace the 82nd Airborne.²¹ Gen. Conway and the Commanding General of the 1st Marine Division (1st MarDiv), then Maj Gen. James N. “Mad Dog”²² Mattis made their plan for Fallujah while they were back in the States. The tactics the Marines focused on were showing Iraqis respect and training new Iraqi forces. The Marines of 1st MEF started working toward these goals before deployment. They were taught how to live and train with the Iraqis by Vietnam Veterans, learned simple Arab phrases and local customs from experts, and were required to read the Marine Corps Small War Manual. Marines even prepared cases of toys for the Iraqi children from the States. Unfortunately, when the 1st MEF had just taken over Fallujah from the 82nd Airborne in the last week of March, an unexpected incident changed the plan.²³

On 31 March 2004, four American Blackwater security operators, who made a shortcut through Fallujah without informing the Marines during a supply run for a UN food contractor, were ambushed by insurgents at the northwest part of the city. The Blackwater operators were ex-special forces veterans, but all four of them were killed, and their burned corpses were mutilated at the “Brooklyn Bridge.” Because the Marines were not informed ahead, the only thing they could do was to get an Unmanned Aero Vehicle (UAV) launched to transfer real-time image from the scene to the headquarters. The picture of burned American corpses hanging on the “Brooklyn Bridge” spread around the world, and a political decision was made: Americans needed a quick retaliation to deter their enemies. Regardless of Gen. Conway’s stance against any hasty reaction, the order came from the top of the chain of command. Hence, the Marines had to throw their original stability and support operations (SASO) plan away and prepare to attack a city of 280,000 people.²⁴

From 5 April to 30 April 2004, the Coalition forces launched “Operation Vigilant Resolve” as the response to the death of the four Blackwater operators.²⁵ The operational goal was to eliminate insurgency within the Al Anbar Province. Other supporting operations were also conducted in areas around the Syrian border and the suburbs of Baghdad to isolate insurgents from foreign support.²⁶ Operation Vigilant Resolve was also the first MOUT conducted by Americans since Hue City that specifically used tank-infantry combined tactics. On the next day, the 1st Battalion, 5th Marine Regiment (1/5) and 2nd Battalion, 1st Marine Regiment (2/1) started moving into Fallujah supported by Company C, 1st Tank Battalion, and the newly formed Iraqi National Guard (ING).²⁷ Many Marines did not understand why they were being ordered to attack a city without any solid strategic plan, such as post-combat SASO and public service restoration.²⁸ At the same time, fighting broke out all around the Al Anbar region, such as in the city of Ramadi.

The major engagement continued until 2000 hours on 9 April, when all of the Coalition forces ceased fire and regrouped in anticipation of peace talks between the provisional Iraqi government, Fallujah leadership, and the insurgent representative.²⁹ At the same time, 2/2 and 3/4 had been called to Fallujah to support the operation in case the peace talks failed. Co. B, 1st Tank Battalion, was also on its way to cover the shortage of tanks, but did not arrive until late April.³⁰ The local residents used the time to evacuate the wounded and the dead. A local hospital official claimed that there were already 600 civilians killed with 1,250 more wounded.³¹ Iraqi government criticized the U.S. military’s action as “illegal and totally unacceptable...It is a form of mass punishment.”³² Regardless of the fact, an Iraqi official had sent an e-mail to American Ambassador Bremer to urge the Americans to continue the attack two days earlier.³³ U.S. military spokesman Brigadier General Mark Kimmitt insisted that the Coalition forces were doing everything they could to minimize the collateral damage, but the insurgents were firing from civilian buildings and holding residents as human shields.³⁴

It was confirmed during the time there were about 20,000 insurgents in Fallujah using hit and run tactics against Marines as an act of attrition. During the cease-fire period, insurgents continued to launch provocative attacks. Some Iraqi Police and National Guard were also helping insurgents by smuggling ammo and weapons into Fallujah. Insurgents also used Red Crescent Ambulances to drop off ammo and weapons and then pick up dead bodies.³⁵ On 19 April, the Coalition forces claimed that they had reached an agreement with the local Fallujah leaders to defuse tension in Fallujah. However, the fighting resumed the next day while the Sunnis claimed that they had already turned in the heavy weapons as agreed.³⁶ The local leader had little control over many insurgents as they were not organized and came to Fallujah in small groups with their own leaders.³⁷ Due to political concerns, during the rest of Operation Vigilant Resolve, Marines were ordered to hold the cordon, but not to advance despite encountering fierce engagements.³⁸ The whole operation ended with an agreement of transferring the security responsibility to the hastily formed Fallujah Brigade (FB) to collect the weapons from insurgents.³⁹

Operation Al Fajr

After Marines pulled out of Fallujah, the FB failed to accomplish its mission and turned over a few truck-loads of unserviceable rifle and mortars. The insurgents then had total control of the entire city. However, due to the failure of the FB, the Iraqi government could no longer blame Americans for the chaos in Fallujah. Marines saw the opportunity and launched a campaign of psychological operations (PsyOps) around Fallujah, which successfully turned the hearts and minds of the residents against the insurgency. At the same time, Al Qaeda leader Abu Musab al-Zarqawi, local insurgent leaders Abdullah Janabi, and Omar Hadid had turned Fallujah into the supply center of terrorist and suicide-bombers in Iraq. Fortunately, due to the lack of American presence in the city, different groups started fighting each other for dominance. During the summer, one of the battalion commanders of the FB, Lt. Col. Sulieman was beaten to death by the insurgents. The continuous theft of

weapons, vehicles, and equipment from the FB bases signaled that the FB had already lost its ability to function. The death of Lt. Col. Sulieman and other pro-coalition officers further softened the Iraqi government's support of local Fallujan leaders. In September, the Coalition Forces started to prepare for the assault on Fallujah.

The operation was originally named Phantom Fury by I MEF during planning, but was later renamed by Iraqi Prime Minister Ayad Allawi as Operation Al Fajr (meaning "new dawn" in Arabic).⁴⁰ Phase I of the operation included converting Camp Fallujah into I MEF Headquarters, and Navy combat engineer "Seabees" built the East Fallujah Iraqi Camp for the arriving Iraqi battalions. 1st Force Service Support Group (1st FSSG) started the build up of supplies for supporting I MEF operations for no less than 15 days. PsyOps group started urging the residents of Fallujah to leave the city in an effort to reduce the civilian casualties, while releasing deceiving information on the operation to mislead the insurgents. PsyOps went well, and there were fewer than 500 civilians left in the city when the Coalition forces charged in. Ninety-one embedded reporters representing 60 press media were allowed to acquire any information that did not risk the mission. The public affairs section was ready with press releases to give an update on the operation and counter any possible enemy propaganda from sources such as Al Jazeera. Seven Marine battalions and two Army battalions started moving toward Fallujah. Six ING battalions would fight side by side with the Americans, unlike Operation Vigilant Resolve where the majority of the ING refused to be deployed. The total number of assault forces, including air support, was about 12,000 personnel. Coalition forces in the province also conducted operations to seal up Fallujah, which expanded the total personnel in the area from 32,000 to 45,000 people.⁴¹

After careful operational planning and reconnaissance, starting on 7 November 2004 at 1900 hours (7:00 p.m.), Phase II of Operation Al Fajr consisted of 12 to 24 hours of electronic, aviation and artillery attacks on specific insurgent targets that were identified during Phase I. I MEF intelligence estimated about 3,000 to 4,500 insurgents in the city with 306 identified defense positions (Pillboxes). Thirty-three mosques were used by the insurgents. The initial strike would soften the insurgents' defenses and exhaust them both physically and mentally before the Army and Marine battalions launched the ground assault. The last part of Phase II was conducted by a combined task force to control the two bridges on the Euphrates to completely prevent insurgents from escaping.⁴²

The next morning, six Army and Marine battalions and six Iraqi battalions under Regimental Combat Team 1 (RCT-1), and RCT-7 broke into Fallujah from the northern side of the city and started Phase III of the operation. Army 2nd Calvary Squadron, 7th Regiment, 1st Calvary Division (2-7, 1st Calv.) and 2-2, 4th ID were the penetrating forces, which broke enemy defense like two hammers. The tanks and Bradley fighting vehicles provided superior fire power and armor protection. Marine and Iraqi battalions followed and cleared insurgents from house to house. The original plan was to reach the center of the city within 72 to 96 hours, but the assault troops gained momentum in action. RCT-7 achieved the goal in just 14 hours, and RCT-1, in 43 hours. The RCTs were able to reach the southern side of the city on 11 November and started the

search and attack period of the operation. The Coalition forces divided the city into different sectors and searched them one by one. While Phase III continued until 23 December 2004, Phase IV had already initiated in the sectors that were cleared.

Phase IV focused on humanitarian relief and reconstruction in Fallujah. I MEF established a civil-military operation center (CMOC) at the old government center and three humanitarian distribution sites to provide relief supplies to the returning residents. I MEF estimated that 87,620 residents of Fallujah received supplies from those distribution sites. Seabees and civil-affairs teams entered the city to help the residents return to their homes and repaired the infrastructure in Fallujah. On 23 December, I MEF claimed that the city would officially reopen for Fallujans. Vehicles and personnel entering the city were searched for security purposes. Iraqi government workers and civilian contractors flooded into Fallujah for the reconstruction effort, which helped lower the 60% unemployment rate in Al Anber Province.⁴³ The Coalition completely regained control of Fallujah. About 3,000 insurgents were either killed or captured in the final siege of Fallujah.⁴⁴ Unfortunately, al-Zarqawi had escaped from Fallujah before the final siege had commenced.⁴⁵ Seventy Americans were killed in action and 609 were wounded in Operation Al Fajr. The total American casualties in Fallujah from April to December were 151 dead and more than a thousand wounded.⁴⁶

Lessons Learned: Combined Arms in MOU

Although the use of armored vehicles had great success in Fallujah and other Iraqi cities, armors are not necessarily invincible in MOU, as evidenced by the Russian attack on the Chechen city of Grozny on 31 December 1994. The 131st "Maikop" Brigade was the first unit to enter the center part of the city. There was no initial Chechen resistance when Russians entered the city at noon. The Russian infantry then dismounted from the vehicles and moved into the local train station. The armored vehicles were parked along the streets as a reserve force. The Chechens suddenly started firing rocket-propelled grenades (RPGs) from the roofs and basements of nearby buildings. The Chechens first destroyed the lead and rear vehicles to block the street with wreckage. The Russian armor column were trapped in the street and hopeless as the tanks could not point their guns either high or low enough to fire at the Chechens, and the infantry fighting vehicles (IFVs) and armored personnel carriers (APCs) failed to support the tanks. By the time the brigade managed to break away from the city, the Russians had lost almost 800 men, 20 out of their 26 tanks, and 102 of their 120 other armored vehicles.⁴⁷

The Russian experience is a perfect example of the consequences when the armor and infantry fail to coordinate in a combined arms operation in an urban environment. During the Cold War, Russians also forgot their World War II MOU experience of Stalingrad and Berlin. It took the Russians a total of five years to remember the history and to develop equipment and tactics specifically based on their experiences in World War II and Grozny. In 1999, Russia retook Chechnya with combined arms tactics.⁴⁸

During the search and attack phase in Fallujah, Marine Corps tanks advanced through the streets while riflemen cleared the surrounding houses. Marines would always call up tanks for direct fire support when they encountered enemy pillboxes

in Fallujah. Forward observers and scout/snipers helped to guide the tanks forward into positions to fire at insurgent strongholds.⁴⁹

Some of the small Marine units (platoon and squad level) in Fallujah used concepts similar to the Stormtroop tactics that Germany first put into action in 1918, later used by the Chinese in Shanghai in 1937 and then in the German Blitzkrieg in World War II. Those well-trained small units infiltrated the insurgent defense lines and then launched surprise assaults with high speed and well-coordinated fire support, which destroyed enemy defenses and helped the main assault. Then Marines would call in superior firepower to support those platoons or squads to maintain momentum. Eventually Marines rooted out insurgents from isolated strongholds or hideouts if the insurgents chose to hold position. Despite the fact that maneuver warfare was emphasized in the Marine Corps as one of the fundamentals, many Marines and soldiers were trained to fight from house to house in MOUT, which resulted in many casualties due to the close range of combat. Maneuver warfare seemed to be another alternative as enemy small units would be either isolated in pockets or retreat, which may have subsequently lowered the collateral damage on civilian properties.⁵⁰

The M-1 Abram tanks in Fallujah demonstrated superior armor protection against insurgents' RPGs unlike the Russian tanks.⁵¹ However, there were still things to be improved as the Army developed tank urban survival kits (TUSK) to ensure the survivability of the crews and the M1A2 tanks in the age of rapid urbanization. TUSK focus on providing better protection for the crews while manning the machine guns and better night vision/thermal/optic devices, which is similar to the Firepower Enhancement Program (FEP) Marines have for the M1A1s.⁵² While the tank-infantry phone on the Marine M1A1 FEP proved very useful during the Battle of Fallujah, the best way for infantry to guide the tank against identified targets would be either a M203 grenade launcher or a M-16 service rifle with tracers. Without direct guidance on target, tanks will have to risk the chance of firing at the wrong target, which creates collateral damage. It is also too risky for a single tank to operate by itself. Isolated tanks will be an easy target if the infantry fails to clear the surrounding buildings fast enough. Tanks in pairs can cover each other with fire power and rescue the disabled tank if needed. It is vital for infantry and tanks to coordinate and support each other for mutual survival in MOUT; good communication is the key.⁵³ From experience, the 120mm main gun with high-explosive anti-tank (HEAT) round is the best weapon for armor in MOUT to minimize collateral damage as the 12.7mm machine gun with armor piercing rounds often penetrate through too many walls. A 120mm gun with HEAT rounds can restrict damage to a single room while killing everyone in the room.⁵⁴

The shoulder-launched multipurpose assault weapon (SMAW) has proven its value as the best weapon the infantry currently has to breach a hole in the wall or direct fire into small windows, which the insurgents were firing from. In Fallujah, Marines preload the SMAW before maneuvers to provide instantaneous suppressing fire when they encounter ambush. SMAW teams would usually occupy high ground to fire at any insurgent they saw. Marines have suggested that more SMAWs be deployed, and current ammunition be improved. The crews

also demand the M-4A1 Carbine as the secondary weapon since the M-9 pistol has too short an effective range and the M-16 service rifle is too long for a SMAW team to carry around. Due to the design of the warhead, the M-136 AT-4 anti-armor weapon also proved to be ineffective in an urban environment except against enemy armored vehicles.⁵⁵

The AC-130U gunship demonstrated its great value to the boots on the ground. Its precision fire support from the sky during both day and night suppressed fortified moving insurgent targets. The sophisticated fire control system with massive amounts of ammunition on board gives AC-130U the ability to provide a steady close air support (CAS) without the need of forward air control (FAC) unlike other fixed-wing aircrafts. Ground units only need to provide both friendly and target positions, and the gunship will take care of the rest.⁵⁶ Different cannons on AC-130U provide more choices of weaponry with smaller blast radii than bombs; hence they have lower risk of damage to friendly units and civilians.

With the UAV technology today, it is even easier to acquire target coordination and real-time footage without risking the lives of Marines.⁵⁷ The victory of Operation Al Fajr was the result of a joint effort from all three services. Due to the complex terrain of MOUT, it is very hard for high-speed fixed-wing aircraft such as the F-18 to identify friendly units and enemies on the ground. Hence ground units still need FCS and good joint operation capabilities, which require junior officers to understand the organizational structure and capabilities of the Army and Air Force. Creating liaison officer training or even an officer exchange program can help tie the three services closer together and benefit joint operations, such as coordinating CAS from different branches. Some suggested the creation of an Army/Air Force liaison officer training program in The Basic School (TBS).⁵⁸

Lessons Learned: Civil Affairs in Counter-Insurgency

Civil-military operation was something the Coalition forces did not prepare for when they charged into Iraq. Neither the 82nd Airborne nor 3rd ID really understood the tribal system nor conducted SASO properly. Thus, tension with the local people tightened, which gave certain local factions and terrorists opportunities to control the local people either through fear or bribery and so started the insurgency.⁵⁹ An unstable society caused local economic downfall and the tribal war caused great friction in the reconstruction of economy and infrastructure. Those factors created more unemployment, which fueled the insurgency.

The incident on 28 April 2003, might have been avoided if there had been civil-affairs units specializing in crowd control. Unfortunately, there was no solid plan for SASO. Looting on government and Baath Party buildings happened all around Iraq (except the Sunni Triangle) when Saddam's regime collapsed. Units such as military police, civil affair teams, or other government agencies could handle this kind of situation much better than infantry could, whose primary mission is to suppress the enemy with firepower.⁶⁰

It is important to understand that the U.S. military can help establish a democracy, not be the democracy. The military is specialized in fighting war, not governing. As a famous quote from the 1995 film *Crimson Tide* states: "We are here to preserve democracy, not to practice it!"⁶¹ Other governmental

or non-governmental organizations that specialize in politics, economics, or culture need to be more involved in Iraq. It is true that those organizations are vulnerable against insurgents. Sometimes they can even interfere with the military chain of command. However, the military can only be a force to assist in nation building.⁶² Once the insurgency is removed, organizations such as the United Nations and Red Cross should move in to help get the lives of local residents back on track. The State Department needs to provide more experts in language and culture, sometimes even diplomats to help the military in civil-affairs operations and international joint operations as there is an urgent need for professional civil-affairs personnel.

Project Metropolis (ProMet) of the Marine Corps Warfighting Laboratory (MCWL) continues developing tactics, techniques, and procedures (TTP) to meet the needs of Marines in MOUT. MCWL provides pre-deployment exercises to help familiarize Marines with MOUT and SASO. Marines are now better prepared for combining civil affairs with conventional arms, which increases the chance to defeat insurgency around Iraq and win the hearts and minds of the Iraqi people.⁶³

Whether to communicate with Iraqi government personnel or improve relationships with the local community, basic linguistic skills are required as not all Iraqis, whom Marines encounter, speak English. Pre-deployment language training for simple phrases in Arabic has many positive effects on different operations in Iraq. The most significant effect of better linguistic skills is the improved relationship with the local community, which is the fundamental key of winning hearts and minds.⁶⁴ A greeting or simple dialogue in Arabic decreases the cultural differences and once the communication bridge is built, acquiring human intelligence (HumInt) from local people in support of SASO is possible. HumInt exploration teams that specialize in interrogation and Arabic obtained a tremendous amount of insurgent information in Fallujah from April to November. Based on the intelligence, the Coalition forces were able to identify insurgent locations, plan precise air/artillery strikes to destroy those targets, and eventually liberate Fallujah from the hands of insurgents.⁶⁵ I MEF's pre-deployment training made differences in the civil affairs operation aspect in Fallujah compared to the previous Army units.

The military is already losing the information operation in Iraq. Negative images from Iraq flood into the States, cause controversy, and make it difficult for Americans to support the war. In April 2004, the media coverage on the fighting in Ramadi focused on the number of American lives lost, not that the insurgents had failed in their planned offensive. The insurgents successfully used the press to create a second Tet Offensive.⁶⁶ In the other incident, Marines called in air support to stop the continuous insurgent shooting from a mosque in Fallujah. When the Marines got into the mosque half an hour later, insurgents had already cleared casualties and corpses from the scene. Four embedded reporters reported the same story in their respective papers. However, the footage of the air strike being repeatedly played in America, and Al Jazeera reported twenty-six civilians killed in the strike. Therefore, the lead press story on 7 April was that the Americans bombed a mosque and killed civilians.⁶⁷ On the other hand, when the Coalition

forces ceased fire for peace-talks two days later, it received little notice from the media.⁶⁸

Between 6 and 13 April, the Coalition Provisional Authority counted 34 stories on Al Jazeera that "hyped, misreported or distorted battlefield events."⁶⁹ As censorship is one of the social taboos today, the military needs to take the initiative to rebut those negative reports. Fallujah presented a great example of information warfare with the military granting maximum information to the embedded reporters. According to Gen. Conway, 95 percent of the news coverage from embedded reporters was accurate.⁷⁰ The Military should consider providing more opportunities for embedded journalists within deployed units for a more balanced coverage on Iraq.

The challenge now would be to minimize loss of civilian life and property in MOUT since the Global War on Terrorism will most likely continue fighting in urban terrain. Civilian casualties have multiple negative effects on the war. On the home front, with the technologies of today's media, the news of any civilian casualties can spread world-wide instantly and cause a possible disaster on information operation. At the frontline, one single civilian casualty can create a more hostile local population regardless of the cause, which will make everything difficult for the American military to proceed with its mission. The support from the American public and the Iraqi people is the center of gravity in this war against insurgency. Without the support of either one, the Marines will never come home with victory.

New Technologies in MOUT Revisited

On 4 September 2004, in Tal Afar, Iraq, an OH-58 D Kiowa Warrior reconnaissance helicopter went down. Both pilots were injured but managed to escape the wreckage and crawled to a nearby rock wall for cover. Scout platoon, 5th Battalion, 20th Infantry Regiment, 2nd Infantry Division (Scout Plt., 5-20 INF, 2nd ID) Stryker Brigade Combat Team followed the GPS guided electronic map and found the downed helicopter. Thanks to GPS technology, the scout platoon was able to check the location of the friendly convoy in real-time base. UAVs constantly updated the newest enemy strength and location. Co. B 5-20 INF, 2nd ID, rushed its way into the city, toward the crash site. Insurgents attempted to set up road blocks to delay Co. B in an effort to gain time for the others to overrun the scout platoon. Learning the situation from images provided by UAVs, Co. B immediately coordinated with the joint tactical air controller for CAS. An F-16 fighter dropped a GBU-31 GPS-guided Joint Direct Attack Munitions (JDAM) and leveled the roadblock that was in Co. B's way along with the insurgents guarding the roadblock.

With Co. B rushing into the crash site, the insurgents on the streets and the roof-tops were wiped out by automatic weapons. Army infantry then cleared the surrounding buildings room-by-room with the support of Stryker Fighting Vehicles. Because of the Interceptor Body Armor (IBA) with Small Arms Protect Insert (SAPI) plates, the casualties of Americans were minimized. Then a heavy expanded mobility tactical truck (HEMTT) and a palletized load system flatbed truck along with the Army recovery team came in and recovered the downed helicopter.⁷¹ It was nothing like Operation Erin on 3-4 October 1993, at Mogadishu, Somalia: no more convoys getting lost in the city, and no more American corpses being

dragged on the street. The entire mission went quickly and smoothly due to the technological improvements and lessons learned from Somalia. The Tal Afar operation again proved that with the proper use of technologies, MOUT is no longer an equivalent of disaster.

Conclusion

The Battle of Fallujah was an ultimate test for the U.S. military improvement in MOUT after the disaster in Somalia 1992. Many argued that the military is still spending too much on Cold War era equipments and not enough in preparation to fight the 4GW. However, ill-equipped insurgents and terrorists or some undeveloped third-world-country may not be the only enemy the United States may engage in the future. To completely transform current military for 4GW may mean losing the flexibility when facing an unexpected need in the future. The experience in Fallujah along with other Iraqi cities showed that some of the conventional weapons are still very useful in fighting small wars. Some enhancements or modification may be needed on both equipment and training for the conventional units, but nothing major. The 4GW has limits and weaknesses as well. The insurgent cannot escape if surrounded. Their supply will be cut off, and conventional forces like infantry and armor are required to root the insurgents out in Fallujah.

The MOUT doctrines and TTP are being updated by MCWL and the Marine Corps Center of Lessons Learned (MCCLL) as well as other service branches. The Small War Manual has proven very useful for the current situation in Iraq and is being recommended by many veterans such as Gen. Conway who came back from Iraq.⁷² In the Battle of Fallujah, there was no revolutionary change in the modern warfare, but only lessons learned and problems confirmed from experience and history as a process of evolution. From Fallujah, the counter-insurgency came to a new page as Gen. Mattis said: "Shoulder to shoulder with our comrades in the Army, Coalition Forces and maturing [Iraqi] Security Forces, we are going to destroy the enemy with precise firepower while diminishing the conditions that create adversarial relationships between us and the Iraqi people."

While keeping in mind the Battle of Fallujah as a milestone in the evolution of warfare, the Marines, Sailors, Soldiers, and Airmen need the support of American people to accomplish their mission regardless of different points of view on the war in Iraq. Troops do not just want to go home, they want to go home with the feeling that they have done something good for the world.

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