Modern Urban Operations

Lessons Learned from Urban Operations from 1980 to the Present



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- Generally speaking, the side that is less concerned with the safety of the civilian population has the advantage,[5] especially if this is coupled with a disregard for reporting the truth and adeptness at manipulating international opinion.

Operational:

- Urban operations are resource-intensive, specifically requiring large numbers of soldiers and units to effectively clear and hold sections of terrain.
- Doctrine, tactics, training, and equipment meant specifically for urban warfare improves military effectiveness in urban environments.[6]
- Rules of engagement must be clear given the ambiguous nature of urban warfare.[7]
- Urban warfare is high-tempo, stressful, and violent, resulting in higher casualties and higher soldier "burn-out".[8]
- Bombing and close-air support can support, but not win by itself, urban operations.[9] Airpower (or other standoff, heavy weapons such as artillery) used alone usually requires the complete destruction of urban areas versus seizing and holding terrain to achieve objectives, but this is often strategically counter-productive.
- Warfare in an urban environment necessitates decentralized, small-unit operations at the tactical level, with junior leaders capable of operating independently using initiative, adaptability, and good judgment.
- Adversaries will use existing civilian infrastructure such as hospitals, schools, churches, banks, and government buildings because they often are in tactically useful locations, command key terrain or lines of communications, and are solidly built.[10] Further, many are considered noncombatant or neutral sites which discourage friendly forces from attacking them.

Tactical:

- Combined arms warfare is essential in urban operations, with armor supporting infantry, infantry supporting armor, and indirect fire and air support supporting both.
- Adversaries can leverage the urban terrain to canalize military forces; negate friendly forces' equipment and technology advantages; and engage with multiple weapon systems, such as IEDs, ATGMs, and snipers, from various concealed positions.
- Adversaries will increasingly use the multi-domain characteristics available in urban environments, such as subterranean, to mask their operations and counter friendly forces' traditional military advantages.
- HUMINT is essential to identify adversaries in urban environments.[11]

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[5] (Marine Corps Intelligence Activity 1999)
[6] Ibid.
[7] Ibid.
[8] Ibid.
[9] Ibid.
[10] Ibid.
[11] Ibid.

OPERATION BANNER, NORTHERN IRELAND: 1969-2007

Background

The contention that led to the planning and execution of OPERATION BANNER started 300 years earlier with the settlement of Scottish Presbyterians in Ulster Province in Northern Ireland. Although tension between Catholics and Protestants was already well-established, there were no major clashes because they lived in separate communities. Aggression toward British (Protestant) rule began to escalate in the 19th century with the development of the political movement called "Sinn Fein" and its associated paramilitary branch called the "Irish Republican Brotherhood".[13] Sinn Fein gained popularity and power but on Easter 1916 was summarily suppressed by the British Army. While Southern Ireland gaining independence in 1922, Northern Ireland remained in the British Empire because the Protestant population retained control despite being the minority.

By 1969, the condition of the Catholic population under the Protestant-led government in Northern Ireland had only worsened. In Northern Ireland, Londonderry was the most deprived city in the United Kingdom with the highest unemployment rate of any UK city. Of the 36,000 Catholics in Londonderry, 33,000 lived in slums that were so crowded that families had to sleep in shifts.[14] This oppression led to the creation of the Northern Ireland Civil Rights Association (NICRA), which conducted marches and protests to drive social reform in areas such as jobs and housing.[15] While NICRA remained peaceful, their presence caused a strengthening of the loyalists in Northern Ireland. On 5 October 1968, a NICRA march clashed with a loyalist Orange Order march, resulting in a larger riot in Londonderry. Several more clashes occurred over the next year as tensions increased between the Catholic and Protestant populace. The tipping point occurred on 12 August 1969 when a Protestant march collided with a Catholic counter-protest, resulting in violence initially in Londonderry that spread to Belfast and several other cities in Northern Ireland. The Royal Ulster Constabulary (RUC) did not have the manpower or experience to regain control. As a result, the British Army was called in to help suppress the violence, beginning the 38-year-long OPERATION BANNER.

Over the course of OPERATION BANNER, the longest in their history, the British Army was tasked with aiding the local police force to manage a hostile population and a resurging terrorist organization, the Irish Republican Army (IRA).

Lessons Learned

Operational:

- Friendly militaries must use a sensitive approach to the use of military force, and avoiding over-reaction, from the outset of an emergency deployment. Popular

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[13] (Operation Banner: An Analysis of Military Operations in Northern Ireland 2006, 2-2)
[14] Ibid.
[15] Ibid.

ISRAELI DEFENSE FORCE (IDF) IN LEBANON: 1982-2014

OPERATION PEACE FOR GALILEE: 1982

Background

Following a series of events in the 1970s resulting in Lebanon politically disintegrating and falling under increasing influence of Syria and the Palestine Liberation Organization (PLO), Israel decided to intervene. Not wanting to directly confront Syria, the Israeli government approved a limited operation that would drive only 40 kilometers into Lebanon and last only three days. However, the IDF executed a drive into Beirut to break Syrian influence in Lebanon and drive the PLO out, resulting in a three-month campaign and subsequent year-long occupation of Lebanon. Operation Peace for Galilee commenced on 05 June 1982 with an Israeli Air Force bombing campaign, followed on 06 June with the IDF crossing the border into Lebanon. The ground campaign consisted of three prongs: along the Mediterranean coast to Beirut, through the Lebanese mountains to seize the western heights over the Bekaa Valley, and in the Bekaa Valley in northeastern Lebanon. Only the forces in the west, moving to Beirut, experienced extensive urban fighting.[20]

Lessons Learned

Strategic:

- Urban operations may result in strategically-unacceptable casualty rates. The IDF suffered significant casualties, especially for a small country sensitive to high casualty rates. During three months of fighting and subsequent occupation, the IDF suffered 3,316 casualties (which would be the equivalent of the U.S. military suffering 195,840 casualties). The majority of these casualties occurred in urban operations. For example, the IDF suffered 24% of its dead and 32% of its wounded during the siege of Beirut.[21]

- Adversaries may gain advantages over friendly forces because they are less concerned over civilian casualties. Knowing that the IDF wanted to minimize civilian casualties, the PLO deliberately located its military resources, such as fighting positions, artillery, or ammunition sites, inside civilian areas, including densely-populated areas like refugee camps, or near noncombatant structures such as hospitals or schools. This often slowed, stopped, or otherwise interfered with IDF operations.[22]

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[20] (Marine Corps Intelligence Activity 1999)
[21] Ibid.
[22] Ibid.

- Aircraft provided several roles to support urban operations: air cover, precision bombing to eliminate PLO strongpoints, close air support, air cover against Syrian fighters, helicopter troop and equipment movement, helicopter MEDEVAC, and PSYOPS leaflet drops.[28]

Tactical:

- Urban operations often require equipment not normally found on a unit's MTOE. The IDF required specialized equipment beyond its standard equipment authorizations to fight in the cities. For instance, IDF units required loud-speakers, sniping equipment, and supplemental armor for its tanks.[29]

- Snipers provide a cost-effective tool to counter friendly capabilities in an urban environment. The PLO effectively used snipers as a tool to delay or stall IDF operations. Further, PLO snipers were a psychological weapon against the IDF. Snipers were easier to employ in the urban environment due to the many available locations to emplace sniper hides combined with channelized terrain created by buildings.[30]

- Explosive ordnance disposal (EOD) teams are vital in urban operations. IDF EOD teams neutralized PLO weapons caches and cleared explosive booby traps.[31]

- Armored forces cannot operate in urban environments without dismounted infantry support. While the IDF initially favored using armor only to clear urban areas, they soon learned that unaccompanied armor strikes were more costly in lives and equipment than those with infantry in support. Regardless, tanks still remained central to IDF doctrine for urban operations, specifically using combined arms tactics, due to their firepower, protection, and shock value.[32]

- Direct-fire artillery is useful in urban environments if collateral damage is not a concern. The IDF used point-blank, direct-fire 155mm artillery in Beirut, which was effective in reducing strongpoints and reinforced buildings. However, this technique also often caused entire buildings to collapse.[33]

- Urban operations rely on small unit leadership. The IDF authorized smaller units, company and below, to operate independently; junior officers used initiative, adaptability, and judgment to command in the absence of orders from higher.[34]

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[28] (Marine Corps Intelligence Activity 1999)
[29] Ibid.
[30] Ibid.
[31] Ibid.
[32] Ibid.
[33] Ibid.
[34] Ibid.

and 165 Israelis, including 44 civilians, had died. The two captured Israeli soldiers would eventually be returned in a prisoner exchange on 16 July 2008.[40]

Lessons Learned

Strategic:

- An adversary defending his territory often has the strategic advantage over a friendly force. Hezbollah's strategic goal was simply to "remain intact as a cohesive fighting force while at the same time inflicting as many enemy [IDF] casualties as possible". As a result, Hezbollah had a strategic advantage because they could still achieve their objectives while avoiding protracted confrontation with the IDF. This was especially true in urban environments, where Hezbollah could easily hide amongst the populace to strike IDF when and where they wanted.[41]

- Excessive devastation or disruption often counters strategic aims. The IDF's actions to clear and hold urban areas ended up being counter-productive to their strategic goals. As one senior U.S. officer commented, "Almost 100 bridges and overpasses have been bombed in a country that is only 4,000 square miles. The entire southern section of Beirut has been leveled—home to over 300,000 people. Most of Lebanon south of the Litani is flattened. It looks like Dresden." Such level of devastation not only failed to destroy Hezbollah but in fact resulted in increased Lebanese support to them. This was further intensified when Hezbollah, not the Israeli government, moved in to support the affected Lebanese populace.[42]

- Adversaries may gain advantages over friendly nations because they are less concerned over civilian casualties. Knowing that the IDF would want to avoid civilian casualties, Hezbollah prepared a first line of defense in southern Lebanon consisting of "friendly" villages used for safe haven, fighting positions, and equipment and weapons storage and staging areas. Further, Hezbollah "built its facilities in towns and populated areas, used civilian facilities and homes to store weapons and to carry out its activities, and embedded its defenses and weapons in built-up areas."[43]

Operational:

- Adversaries will leverage urban environments—their home turf—to canalize friendly forces and negate technological advantages. The IDF "voluntarily chose a strategy of fighting" that was on Hezbollah's terms. As a result, the IDF found themselves attacking Hezbollah at its strongest forward positions in static, head-

[40] (Wikipedia n.d.)
[41] (Cordesman, Sullivan and Sullivan 2007)
[42] Ibid.
[43] Ibid.

missiles against IDF tanks and massed infantry, usually by "swarming"—firing multiple rounds at the same target at the same time. This was made easier in urban environments where Hezbollah anti-armor teams could establish multiple firing points in adjacent buildings along predictable routes. Hezbollah anti-armor teams consisted of two highly-skilled gunners supported by two to three "porters".[49]

- Adversaries will increasingly use natural and manmade subterranean avenues to hide their presence. Hezbollah used tunnels initially to move weapons and other supplies and later used them to launch attacks against the IDF. For example, they used tunnels to support the cross-border attack and kidnapping of Corporal Shlit at the Kerem Shalon Gaza border crossing. The IDF had established a "tunnels unit" in 2002 to detect and destroy tunnels. Hezbollah's use of tunnels forced the IDF to use this unit and others to clear these tunnels.[50]

[49] (Cordesman, Sullivan and Sullivan 2007)
[50] Ibid.

demand for dismounted infantry and the expected casualty rates that would follow.[53]

- Armored vehicles must be supported by infantry, otherwise adversaries can use the urban terrain to easily defeat them. Armored columns operating in an urban setting were very susceptible to infantry. Infantrymen with the most basic anti-tank weapons can use buildings along roads to gain access to armored vehicles' vulnerable flanks and rears without exposing themselves.[54]
- Urban terrain already has canalized and sometimes limited routes; rubbling, vehicle destruction, and other effects of urban warfare can create further obstacles. The number of navigable routes within Sarajevo began to decrease as destroyed vehicles and buildings clogged up the routes. Neither side had adequate engineer support to clear routes that had been blocked.[55]

[53] (King n.d.)
[54] Ibid.
[55] Ibid.

of two Blackhawks exceeded TF Ranger's contingency support and changed the focus of the entire mission.[60]

- Armor provides firepower and protection to in support dismounted infantry in the urban environment. The nature of TF Ranger's mission—a surprise raid to capture Aidid's lieutenants—may not have necessitated armor. However, U.S. military leadership in Somalia had requested M1 Abrams and M2 Bradleys as part of the force package, which could have augmented a quick reaction force (QRF) for TF Ranger. However, this request was denied for political reasons: armored vehicles present an image that counters the peace-keeping role of the U.S. forces. In the end, it was Pakistani tanks and Malaysian armored personnel carriers that rescued TF Ranger.[61]

Tactical

- Helicopter gunships can provide more precise close air support to ground forces in an urban environment. TF Ranger effectively called for support from MH-6 Little Birds to keep Somali fighters at bay. TF Ranger Soldiers used hand-held IR lasers during the night and M203 and M79 grenade launchers to mark locations. This enabled the support helicopters to effectively identify friendly and enemy locations. In similar operations supporting TF Rangers, OH-58D Kiowa and AH-1 Cobra attack helicopters would use IR lasers to mark targets and obtain verification before engaging.[62]

- Setting patterns in an urban environment can be deadly. TF Ranger conducted several successful raids against Somali fighters prior to this raid, which demonstrated its effectiveness. As a result, the raid against Aidid's lieutenants used the same pattern as before. However, this allowed Somali fighters to predict where TF Ranger was going to go and how they were going to operate.[63]

[60] (Bowden 1999)
[61] Ibid.
[62] (Baumann, Yates and Washington 2004, 156)
[63] (Bowden 1999)

resulted in significant civilian losses, resulting in popular backlash from the population. If the Russians had a more effective IO campaign against the Chechen militants, Chechen civilians would have viewed the Russians more as liberators than suppressors.

- Military commanders must identify appropriate objectives, based on centers of gravity, to ensure urban operations do not become prolonged sieges. The Russian strategists failed to identify the key terrain necessary to break the will of the rebels. Moscow assumed that capturing the Presidential Palace would immediately quell the uprising and eliminating the leader of the resistance would break their will to fight. However, this did not happen.

Operational:

- Military forces must account for the effects of urban terrain on command, control, and communications. The Russians failed to maintain proper command and control of their columns moving through the streets of Grozny. While capturing dominant high ground to the south of the city and establishing necessary command nodes upon entry to the city, these positions were not adjusted to account for the effects of dense urban terrain on communications assets.

- Military forces must task-organize appropriately for the urban fight. The Russians adjusted their task organization seven days into the fight to adjust for Chechen tactics but only after heavy losses and significant damage to morale and equipment.[68]

- The urban environment necessitates the use of reconnaissance assets to identify adversaries, but those assets must be protected. Russian forces employed scouts and reconnaissance teams to clarify the picture of the Chechen defenses but were largely ineffective in protecting these assets, allowing them to engage in open conflict with minimal support. These assets were effectively limited by Chechen tactics and could not keep up with the Chechens' ability to use subterranean, high-rise structures, and concealed ground level movements in the urban environment.

Tactical:

- Commanders must acknowledge that the urban guerilla often has the advantage of knowing the terrain and therefore prepare their units accordingly for a potentially difficult fight. Russian tactical-level commanders suffered from a hubris and blatant lack of regard for Chechen abilities.[69] Soldiers were not prepared for any resistance, frequently sleeping or maintaining poor situational awareness even during the assault. Most vehicle crews lacked the necessary

[68] (Rupe 1999)
[69] (McCafferty 2000)

Operational:

- Indirect fire and airstrikes can support ground operations in an urban environment to limit casualties. Implementation of fires and air superiority were massive changes from the prior battle which enabled the Russians to limit friendly casualties and fight at a distance. With the US strategy in Kosovo as an example and using (so-called) "precision" fires, Russia decimated Chechen forces in Grozny before moving into the city.

- The urban fight often requires providing assets and enablers down to the tactical level. Russia task organized dedicated fires elements down to the maneuver company level, allowing for decentralized and more responsive fire control. This prompted more efficient and decisive actions for tactical level commanders within the city.

- Reconnaissance assets must be used appropriately to identify adversaries. The Russians more effectively used their reconnaissance assets prior to the assault of the city. Forward sniper and scout elements were more effective in tracking Chechen movements and communicating updates from forward positions. Recon elements effectively called for fire on enemy positions.

Tactical:

- Appropriate training for urban operations enhances unit success and soldier survivability. Russian soldiers were more effectively trained and equipped to maneuver within the streets of Grozny. As a result, they better understood urban operations and appreciated the enemy. Leaders took more frequent tactical pauses to allow soldiers to study maps, building layouts, and subterranean utility systems to understand the movements of Chechen fighters and possible alcoves that would be used for defense.

- Combat engineers are valuable in urban operations to reduce obstacles. The Russians used combat engineers more effectively, which assisted in eroding the two defensive rings within Grozny. Engineers were more deliberately employed to destroy fortifications and limit Chechen freedom of maneuver within the city.

- If tanks are not used in direct fighting, they can still play a role. Russian armor units were never directly involved in the fighting within Grozny.[72] The Russians instead used tank in a support-by-fire role from outside the city to leverage their firepower but limit their exposure in close quarters combat.

[72] (Thomas 2000)

Operational:

- The nature of urban operations requires intelligence that is timely and relevant. Units must have the ability to act on intelligence rapidly, in minutes, instead of days and even hours.[78]

- The presence of civilians necessitates the use of precision fires to limit collateral damage. U.S. forces were able to deliver devastating damage to enemy positions with precision, which spared civilian lives and civilian infrastructure.[79]

- Overmatching power is more important than overwhelming force. In the past, force tended to be measured in terms of mass—the number of troops that were committed to a particular conflict. In the 21st century, mass may no longer be the best measure of power in a conflict.[80]

- The complex urban environment necessitates the use of various capabilities to achieve objectives. As U.S. operations in Baghdad demonstrated, operational objectives could be met by integrating ground maneuver, special operations, precision lethal fires, and non-lethal effects.[81]

Tactical:

- Armor works in an urban environment, if used as part of a combined arms team.[82]

- UAVs are required in an urban environment to acquire targets and provide real time situational awareness, thereby saving lives.[83]

- Dismounted infantry provided marking fires (with M203 grenade launcher or M-16 service rifle with tracers) to provide target guidance for tanks, reducing the risk of hitting the wrong target.

- Given the always-complex and increasingly-combined nature of urban operations, a single, common, unclassified situational awareness tool to visualize the urban area is valuable.[84]

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[78] (A. Cordesman 2003)
[79] Ibid.
[80] Ibid.
[81] Ibid.
[82] (Chang 2007)
[83] Ibid.
[84] (Howcroft 2014)

FALLUJAH, IRAQ: 2004

Background

After the invasion of Iraq in 2003, the transition of security responsibilities and implementation of the transitional Iraqi Government presented several challenges to the Multinational Forces (MNF). MNF allocation of forces throughout western Baghdad, Ramadi, and Fallujah were sparse and undermanned for the vast swaths of land in between population centers. What arose in Fallujah was an intent of the insurgents to expel MNF and Iraqi forces from the city and maintain a stronghold on the outskirts of the capital. Early responses included Operation Vigilant Resolve (First Battle of Fallujah, 2004) which was severely constrained by civilian considerations inherent to an urban battle-zone.[88] With pending ceasefires launched within a month of the battle's beginning, Iraqi locals proposed the formation of the Fallujah Brigade, a local militia with the intent of expelling foreign fighters from the city. Sadly, this strategy was ultimately doomed as the brigade was continuously infiltrated and subject to corruption. As a result, U.S. Marines were tasked with leading the charge into the city, clearing and holding territory to transition to the Iraqis for security and governance. After this first attempt, the Second Battle for Fallujah began in late 2004 and capitalized on lessons learned from the abbreviated Operation Vigilant Resolve earlier in the year. Marines were able to clear the city after intense urban combat, solidifying their hold on western Baghdad and enabling the control of lines of communication (LOCs) from western Iraq and Syria.

Lessons Learned

Strategic:

- Information operations were essential to the successful operation in Fallujah's urban terrain.[89] Integration of civil and military operations from planning through execution enabled the Marines to control the narratives originating from the battle. IO prior to the battle's beginning convinced many citizens within the city to leave the city, limiting the effects on the populace and the assaulting force. IO also maintained support for the battle in Iraq and at home, justifying the high cost to seize the city and controlling the narrative. Evidence indicated that effective IO campaigns also divided the insurgent ranks, causing them to suspect informants in their ranks and weakening their formations.

- Integration of Civil Affairs personnel into the assault echelon provided continuous feedback on population atmospherics and allowed the Marines to maintain some degree of control over the local population and possible insurgent support base.[90] Compensation and civilian aid prevented the active and passive population support from escalating into an additional adversary throughout the fight.

[88] (Ballard 2005)
[89] Ibid.
[90] Ibid.

NAHR AL-BARED, LEBANON: MAY-SEP 2007[95]

Background

The Nahr al-Bared Palestinian refugee camp is home to 30,000 displaced Palestinians and situated 16 km north of Tripoli, Lebanon. In May 2005, Fatah al-Islam (Fal) militants from the camp were responsible for bombings and other criminal activity in Lebanon, resulting in a police raid on a house in Tripoli on 20 May. The police raid resulted in a running gun battle, triggering clashes in the vicinity of the Nahr al-Bared camp. Militants attacked a Lebanese military post at the gate of the camp, slaughtering the soldiers while they slept. This slaughter resulted in the deployment of Lebanese Armed Forces (LAF) on the outskirts of the camp and shelling of specific Fal positions on the periphery of the camp. Throughout the month of June, the LAF conducted three attacks into the camp to dislodge militants who were located on the outskirts of the camp. They were eventually successful but suffered heavy casualties as they attempted to conduct standard building clearing operations and encountered booby-trapped buildings, bunkers, and subterranean networks. Additional assaults into the camp were required in July and August after renewed threats and the firing of Katyusha rockets from within the camp into neighboring villages. Finally, on 7 September, the camp was cleared of the final militants at the cost of the camp totally destroyed, over 50 civilians killed and 30,000 displaced, and 170 LAF killed and more than 400 wounded. All this in a camp that covered an area no bigger than 600 by 800 meters.

Lessons Learned

Operational:

- Military units must adequately prepare for urban operations before haphazardly initiating. The LAF lacked both quantity and quality of sufficient firepower in the first weeks of the battle.
- Proper intelligence is vital in urban operations. The LAF lacked good intelligence on the enemy and the camp.
- Civilian and military actions must be coordinated across the whole of government to maximize effect in urban operations.

Tactical:

- Adversaries will use unconventional tactics to defeat friendly forces. In Nahr al-Bared, entire houses were booby-trapped resulting in the death of many well-trained soldiers.

[95] (Riedel and Saab 2007)

RUSSIA/GEORGIA WAR (TSKHINVALI, GEORGIA): 2008

Background

Following the collapse of the Soviet Union in 1991, Georgia declared its independence and attempted to assert authority into the Abkhaz and South Ossetia regions. These two regions had separatist forces attempting to gain semi-autonomy, particularly after the 2003 Georgian election that saw a more pro-western government take hold. By 2008, these tensions came to a boil, with South Ossetia separatists beginning to attack Georgian villages and positions. Seeing a need to quell the violence and an opportunity to gain territory, Russia launched a "peace enforcement"[96] operation to subdue "aggression against South Ossetia".[97] The conflict was over within 5 days, with the Russian forces overwhelming the Georgians and formally recognizing the regions of Abkhazia and South Ossetia.

The urban setting within the conflict was Tskhinvali, which was seized by South Ossetian separatists. The Georgian military responded by shelling and attempting to retake with ground forces. Their advance was repelled by separatists, Russian peacekeepers, and an influx of Russian reinforcements that were able to infiltrate the city through the Roki Tunnel.[98] The arrival of 10,000 Russian reinforcements quickly repelled the Georgian advance and that momentum carried forward with Russia capturing multiple Georgian border towns. This conflict marked the first Russian military action since the Chechen conflict of 1999-2000 and is considered by many as the first European war of the 21st century. Despite the overwhelming victory, Moscow took the opportunity to evaluate and adjust their modernization plans, with many lessons learned coming from the five-day war.

Lessons Learned

Strategic:

- Observations gained from the 2008 Russo-Georgian War were used to readjust the modernization, reform, and rearmament programs already in place.[99] All combat formations and troop units were to be brought to a permanent readiness status, which was previously not a priority for reserve, some conventional, and paper forces. Other reforms included:
    - Raise the effectiveness of Command and Control systems
    - Improvement of Officer training, education, and military science
    - Modernization of weapons systems and precision munitions development
    - Improvement of military pay, housing, and amenities

[96] (McDermott 2009)
[97] (Anonymous, Russo-Georgian War 2016)
[98] Ibid.
[99] (McDermott 2009)

OPERATION PROTECTIVE EDGE, ISRAEL: 2014

Background

On 12 June 2014, three Israeli teenagers were kidnapped from a bus stop in the Israeli-occupied West Bank. The Israeli government, believing that Hamas was responsible, initiated OPERATION BROTHER'S KEEPER to locate the teenagers. On 30 June, the teens' bodies were found north of Hebron in the West Bank, possibly shot shortly after the kidnapping. On 23 September 2014, two suspects in the kidnapping were killed by the IDF while on 06 January 2015, a third suspect was sentenced to prison for the murders.[103]

In response to Israeli raids and arrests of Palestinians while searching for the kidnapped teenagers, Hamas began firing rockets from Gaza against Israeli cities and infrastructure. From 12 June to 05 July, Hamas had fired 117 rockets from Gaza into Israel, and by 07 July, had fired an additional 100. In an attempt to stop these rocket strikes, the Israeli air force launched approximately 80 airstrikes against Hamas targets in Gaza.[104]

A temporary ceasefire went into effect on 17 July; however, the IDF spotted armed Hamas militants exiting a tunnel from Gaza inside Israel's borders. After destroying this tunnel, the IDF began a ground offensive into Gaza to identify and destroy other tunnels crossing the Israeli border. On 03 August, the IDF withdrew most of its ground forces from Gaza, having destroyed 32 tunnels. Throughout August, several ceasefires were brokered to allow negotiations between Israel and Hamas; these ultimately broke down and resulted in continued Hamas rocket fire and Israeli air strikes against each other. On 26 August, Israel and Hamas finally agreed to a final cease-fire.[105]

Lessons Learned

Strategic:

- Adversaries will increasingly use information operations and international public opinion to their advantage. Hamas leveraged international condemnation to further its goals, knowing that IDF responses to their violations of the laws of war would be against Israel. Civilian casualties were more advantageous for Hamas, so they often used noncombatant facilities or locations to shield their operations. Any casualty resulting from Israeli action drew international condemnation, increasingly pressuring Israel to stop military action while simultaneously allowing Hamas and/or Hezbollah to depict themselves as protectors of Lebanese civilians. Similarly, Hamas used UN facilities as launching points for attacks, resulting in IDF military response. To further this, Hamas ensured they recorded

[103] (Wikipedia n.d.)
[104] Ibid.
[105] Ibid.

SECOND BATTLE OF DONETSK, UKRAINE: 2014-15

Background

The Ukrainian revolution in February 2014 resulted in the ousting of pro-Russian Ukrainian president Viktor Yanukovych. Shortly after, on 27 February, the Crimean peninsula was occupied by "unmarked" Russian troops and later annexed as part of the Russian Federation. Russia used political protests in the Ukraine to affirm their position to protect ethnic minority Russians living abroad. Following the annexation of Crimea, rebel factions in Donbass and Luhansk, backed by regular Russian forces, attempted to gain more autonomy within Ukraine. This led to a "de-facto" civil war in Ukraine, with the Donetsk People's Republic and Luhansk People's Republic forces, backed by Russian forces, engaging regular Ukrainian forces for control of their areas. During two years of fighting, the most intense urban combat between Ukrainian and Separatist/Russian forces has occurred in the city of Donetsk, with the airport a central engagement zone between the two forces. There have been two "battles" or periods of intense fighting on this key terrain, with the second being the most decisive and resulting in Ukrainian forces withdrawing to Pisky, outside of the city. Adaptations and adjustment of tactics were seen on both sides, with the Ukrainian forces severely unprepared for an open military conflict at the onset of the war. Russian forces and their separatist counterparts created a modern day adaptation of hybrid warfare, integrating newer Russian technologies into their strategies to test new systems and tactics. While the conflict is still ongoing, the Second Battle of Donestk Airport in 2014 displayed the most modern example of hybrid warfare in an urban setting.

Lessons Learned

Strategic:

- Information operations continue to remain essential to the success of any urban campaign. Control over media messaging and use of social media to perpetuate narratives has proven vital to Russia's continued involvement in Ukraine. Russia can continue to use the "protection of ethnic Russian minorities" to justify military action in foreign sovereign states to great effect. As seen in Georgia previously, Ukraine at present, and potentially other border countries, Russia justifies their actions through effective messaging and inspiring internal conflict within the opposition nation.

Operational:

- Navigation in the urban environment can be difficult, especially if navigation tools are inoperable. GPS spoofing has had great effects on Ukrainian forces, limiting navigation accuracy and causing confusion in the Ukrainian forces.[110]

[110] (TRADOC 2015)

THE CURRENT FIGHT, MOSUL AND BEYOND: 2016-

Background

As forces move into the city of Mosul to liberate the populace after two years of brutal Islamic State (IS) control, the attrition associated with entering urban combat has taken full effect. IS has used a campaign of unconventional and asymmetric capabilities to stymie the advance, including vehicle-borne IEDs (VBIEDs), improvised armed drones, conventional-style fortifications and obstacles within the city, and unethical human shielding. The effects on friendly forces during the assault into Mosul have proven difficult, but solidifying gains and transitioning to an occupational force role after gaining and holding control of the city could prove just as challenging. Below are some insights into the potential future of Mosul post-IS and the strategic level analysis of past mistakes and their applicability to the current situation.

Lessons Learned

Operational:

- Adversaries can leverage the complex urban environment to hide and survive even after apparently friendly force tactical victories. IS could maintain a robust and underground support network with the capability to blend with the populace and survive for extended periods of time.[115] Similar insurgent capabilities were noted the US Iraqi counter-terrorism operations in Mosul from 2004-2009.[116] IS essentially played "under the radar" and waited out the major military presence, not emerging in their original form until 2010[117]

- Intelligence, specifically HUMINT, is vital to identify and capture adversaries in an urban environment. U.S. forces can begin planning to influence the civilian population and gain intelligence to better understand IS's underground capabilities and their support zones.[118] Key IS leaders will maintain a low profile to coordinate IS intelligence, security, finance, and command capabilities in a limited or degraded state.[119] These operations will rely heavily on active and passive support from the local population. U.S. forces should use all intelligence collection disciplines to decipher the network of operatives that may be left behind to maintain IS in the city.

- Re-establishing governance in the city, with an eye towards basic human services will be essential in maintaining popular support. As has been seen previously in Lebanon with Hezbollah, the first element to reinstitute normalcy for the population, including satisfying basic human needs, will generally gain

[115] (Ryan and Johnston 2016)
[116] Ibid.
[117] Ibid.
[118] Ibid.
[119] Ibid.

REFERENCES

Anonymous. 2016. *Russo-Georgian War.* NOV 18. https://en.wikipedia.org/wiki/Russo-Georgian_War.

—. 2015. *Second Battle of Donetsk Airport.* Accessed 11 18, 2016. https://en.wikipedia.org/wiki/Second_Battle_of_Donetsk_Airport.

Ballard, COL John R. 2005. *Lessons Learned from Operation Al Fajr: The Liberation of Fallujah.* Academic, Washington DC: 4th Civil Affairs Group.

Baumann, Robert F., Lawrence A. Yates, and Versalle F. Washington. 2004. *"My Clan Against the World": US and Coalition Forces in Somalia, 1992-1994.* Fort Leavenworth: Combat Studies Institute Press. http://www.benning.army.mil/Library/content/Clan.pdf.

Bowden, Mark. 1999. *Blackhawk Down.* New York City: Atlantic Monthly Press.

Bowman, Steve. 31 Mar 2003. *Iraq: US Military Operations.* Foreign Affairs, Defense, and Trade Division, Congressional Research Service, Washington, D.C.: The Library of Congress.

Burton, CPT. 2004. *Post Fallujah Armor AAR.* After Action review, Fallujah: Unknown.

Chang, Tao-Hung. 2007. "The Battle of Fallujah: Lessons Learned on Military Operations on Urbanized Terrain (MOUT) in the 21st Century." Edited by Andrew Niles and Harshika Satyarthi. *Journal of Undergraduate Research* (University of Rochester) 6 (1). http://sa.rochester.edu/jur/issues/fall2007/chang.pdf.

Cohen/Hamilton. 2011. *The Russian Military and the Georgian War: Lessons and Implications.* Strategic Report, Strategic Studies Institute.

Cordesman, Anthony H., George Sullivan, and William D. Sullivan. 2007. *Lessons of the 2006 Israeli-Hezbollah War.* Center for Strategic and International Studies, Washington, D.C.: The CSIS Press.

Cordesman, Anthony. 2003. *The Lessons of the Iraq War: Main Report.* Washington, D.C.: Center for Strategic and International Studies. https://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/media/csis/pubs/iraq_instantlessons.pdf.

Donovan, COL George T. 2009. *Russian Operational Art in the Russo-Georgian War of 2008.* Strategy Research Project, Carlisle Barracks, PA: United States Army War College.

Erlanger, Steven, and Richard A., Jr Oppel. 2006. "A Disciplined Hezbollah Surprises Israel With Its Training, Tactics and Weapons." *The New York Times*, August 7. http://www.nytimes.com/2006/08/07/world/middleeast/07hezbollah.html.

Rupe, CPT Chad A. 1999. "The Battle of Grozny: Lessons for Military Operations on Urbanized Terrain." *Armor Magazine*, May-June: 20-23.

Ryan, Patrick, and Patrick B. Johnston. 2016. *After the Battle for Mosul, Get Ready for the Islamic State to Go Underground.* 10 18. Accessed 11 21, 2016. http://warontherocks.com/2016/10/after-the-battle-for-mosul-get-ready-for-the-islamic-state-to-go-underground/.

Thomas, Mr. Timothy L. 2000. "Grozny 2000: Urban Combat Lessons Learned." *Military Review*, July-August: 1-11.

TRADOC. 2015. *Russian Perspective on the Ukrainian conflict.* Lessons Learned Observations/ Recommendations, TRADOC.

Wikipedia. n.d. *2006 Lebanon War.* Accessed November 19, 2016. https://en.wikipedia.org/wiki/2006_Lebanon_War.

—. n.d. *2014 Israel–Gaza conflict.* Accessed November 19, 2016. https://en.wikipedia.org/wiki/2014_Israel%E2%80%93Gaza_conflict.

—. n.d. *2014 kidnapping and murder of Israeli teenagers.* Accessed November 19, 2016. https://en.wikipedia.org/wiki/2014_kidnapping_and_murder_of_Israeli_teenagers.

—. n.d. *United Nations Operation in Somalia I.* Accessed 11 22, 2016. https://en.wikipedia.org/wiki/United_Nations_Operation_in_Somalia_I.