Modern Urban Operations

Lessons Learned from Urban Operations from 1980 to the Present

Asymmetric Warfare Group
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EXCUTIVE SUMMARY

<u>Introduction</u>

Urban warfare is not a new phenomenon. The U.S. Army saw urban combat in the Revolutionary War, the War of 1812, the Civil War, and elsewhere. Starting with World War II, overall armed conflict began to occur around centers with a high population density. This new backdrop for conflict has caused a whole new set of challenges, especially in an era of public scrutiny. The "Army's capacity to engage, fight, and win major urban combat operations will determine the success of future operational and strategic endeavors."[1]

<u>Purpose</u>

To illuminate best practices to execute urban operations in Iraq, AWG identified lessons learned from modern urban warfare from 1980 to the present. AWG's lens was similar to JFCOM's 2004-06 joint experiment Urban Resolve: "How can [the U.S. Army] fight in urban terrain against an intelligent, determined, well-equipped adversary and win quickly without unacceptable casualties to ourselves or our allies, unacceptable civilian casualties, or unacceptable destruction of infrastructure?"[2] To that end, AWG looked at the following examples:
- British operations in Northern Ireland (1980-98)
- Israeli Defense Force (IDF) operations in Lebanon (1982-2006)
- The Siege of Sarajevo, Bosnia and Herzegovina (1992-95)
- The Battle of Mogadishu, Somalia (1993)
- Russian operations in Grozny, Chechnya, Russia (1994-95 and 1999-2000)
- U.S. operations in Baghdad and Fallujah, Iraq (2003-04)
- Lebanese Armed Forces operations in Nahr al-Bared, Lebanon (May-Sep 2007)
- The Russo/Georgian War, Georgia (2008)
- IDF operations in the West Bank, Israel (2014)
- The Second Battle of Donetsk, Ukraine (2014-15)

<u>Lessons Learned</u>

Strategic:
- Urban operations are seldom short-lived or low-cost.[3]
- Civilian casualties are a major concern in urban operations. However, concerns over collateral damage (civilian casualties and property damage/destruction) generally decline as friendly military casualties increase.[4]

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[1] (Felix, et al. 2015)

[2] Ibid.

[3] (Marine Corps Intelligence Activity 1999)

[4] Ibid.

- 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.

- Units must adapt for urban operations: task organizing as appropriate (including enabler integration), equipping beyond MTOE authorizations, and reducing soldier load to increase mobility and agility.[12]

IMPLICATIONS

- Civilians will be on the urban battlefield. Commanders must balance operational necessity with minimizing civilian casualties and collateral damage.
- Urban operations frequently result in higher casualty rates. Commanders must plan appropriately to mitigate this. However, commanders should not allow casualty rates to reduce attempts to limit civilian casualties.
- Urban operations are resource- and Soldier-intensive. Commanders must plan adequate quantities and types of forces to successfully conduct urban operations. Because urban operations are fast-paced, violent, and stressful, commanders must plan for the relief or replenishment of forces.
- Urban operations are a combined arms fight. Commanders should use armor and infantry together. Indirect and air firepower should be used to support ground fighting. Appropriate enablers, such as engineers, should be used to ensure freedom of movement for maneuver forces.
- Urban operations are multi-domain. Adversaries will use all aspects of physical and virtual domains to mitigate friendly technological and other advantages. Commanders must do the same.
- Urban operations are often a decentralized fight. Small-unit commanders must be resourced and empowered to operate independently based on mission command.
- Enabling efforts such as information operations and intelligence are often more than just supporting but instead vital to the success of urban operations.
- Urban operations do not end upon completion of hostilities. Commanders must plan for post-operation support to the populace, to help ensure a return to normalcy for civilians in the urban centers.

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[12] (Marine Corps Intelligence Activity 1999)

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.

perceptions will be formed in the first 100 days of a campaign, and they will be critical to military success.[16]

- Countering insurgencies, especially in urban environments, requires vigorous, proactive action across all lines of government activity to address the causes of major unrest as soon as it is apparent, to prevent disorder turning into an insurgency, terrorism, or civil war. This requires not only a pan-government comprehensive approach, but also a single campaign authority so that responses are coordinated effectively.[17]

- Urban operations require developing first-rate intelligence structures, processes, and capabilities so that military operations may be intelligence-led and non-military initiatives properly planned and directed. Effectiveness will be judged by what can be gathered and by how well the product is shared and used.[18]

- Pre-deployment training, relevant to the environment, is a must. There is value in a dedicated operational training system with the right team of quality instructors who frequently visit the operational theater to ensure troops are trained appropriately and have confidence in their preparation. It is important, however, that this pre-operational tour training is complemented by further education, related to the theater and the campaign, for commanding officers, company commanders, and key staff officers.[19]

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[16] (Operation Banner: An Analysis of Military Operations in Northern Ireland 2006, 8-15)
[17] Ibid.
[18] Ibid.
[19] 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.

Operational:

- Appropriate doctrine is essential for urban operations. Based on prior urban operations in the 1960s and 70s, the IDF developed doctrine for urban warfare that focused on using armor, either in the lead or supporting infantry. However, the IDF favored using armor above infantry, which meant the IDF did not adjust their task organization to provide enough infantry to conduct urban operations.[23]

- Appropriate training for urban operations enhances unit success and soldier survivability. While the IDF developed excellent training for urban operations, not all Israeli soldiers received it. "Units with such training better understood the hazards of fighting in a city and appeared more confident than units without such training." However, only the regular army received this training; the reservists, who represented the majority of the fighting force, did not. As a result, reservists performed poorly and suffered more casualties.[24]

- Rules of engagement (ROE) may cause conflict in balancing minimizing civilian casualties with minimizing friendly casualties and completing the mission. The IDF had difficulties balancing the ROE with the nature of urban operations. IDF commanders had to minimize civilian casualties while simultaneously minimizing their own, but urban operations made it difficult to accommodate both. As a result, ground commanders often found ways around the ROE because there was no method for enforcement. As fighting continued, concerns over civilian casualties decreased as IDF casualties increased. Ground commanders determined that maintaining fast operational tempo while avoiding IDF casualties meant using artillery and close air support, even at the expense of collateral damage.[25]

- Urban operations are fast, violent, and stressful. The intensity and tempo of combat operations in urban environments resulted in high stress levels for IDF soldiers, effectively burning them out. Ten to 24% of IDF soldiers suffered psychological problems resulting from their combat experience.[26]

- Noncombatants present a unique obstacle in urban environments. First, there is a strategic imperative to minimize civilian casualties which often impacts military operations. Second, noncombatants often do not behave sensibly. For instance, the IDF found large numbers of civilians who refused to leave their homes despite the ongoing combat. Third, when noncombatants do flee, they often interfere with military operations. For example, 30,000 noncombatants fleeing Tyre clogged roads and prevented the IDF from attacking PLO strongpoints. Similarly, noncombatants fleeing Beirut slowed IDF operations into the city.[27]

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[23] (Marine Corps Intelligence Activity 1999)
[24] Ibid.
[25] Ibid.
[26] Ibid.
[27] 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.

- Urban operations need not stop during nighttime. The IDF conducted limited night operations in urban terrain. First, they had a limited number of night vision devices. Second, their soldiers frequently slept during the night to recover from the highly stressful urban operations during the day.[35]

Israeli-Hezbollah War: 2006

Background

On 12 July 2006, Hezbollah launched diversionary rocket attacks against various military positions and towns, including Zar'it and Shlomi. Simultaneously, they infiltrated the border into Israel near Zar'it, attacking an IDF patrol and killing three soldiers, wounding two, and capturing two. Hezbollah had carried out their threat of seizing Israeli soldiers to swap them for four Lebanese prisoners held by Israel. Because Hezbollah launched their raid from Lebanon, the Israeli government held the Lebanese government responsible.[36]

Israel initiated with artillery and airstrikes against key roads and bridges, military bases, and rocket and missile stockpiles. In response, Hezbollah fired around 4,000 rockets, mostly Katyusha 122mm rockets, into Israel, with approximately one-quarter striking Israeli cities and urban areas. When Israel ceased airstrikes against Lebanon, Hezbollah ceased rocket attacks; likewise, when Israel resumed airstrikes, Hezbollah resumed rocket attacks.[37]

Israel also launched a ground invasion into southern Lebanon. Hezbollah countered with guerilla-style warfare, mostly in urban areas, using small, well-armed units. These elements were trained and equipped to more effectively fight in the urban environment. One Israeli soldier is quoted as saying the Hezbollah fighters "are nothing like Hamas or the Palestinians" and "trained and highly qualified", which "kind of surprised" the IDF.[38] Hezbollah focused simply on inflicting losses on the IDF, assuming that this would defeat Israel's public will.[39]

The war ended following the approval of United Nations Security Council Resolution 1701 on 11 August 2006. UNSCR 1701 called for the disarmament of Hezbollah, the withdrawal of the IDF from Lebanon, and the deployment of the Lebanese Armed Forces and a UN security force in southern Lebanon. By 01 October 2006, most of the IDF had withdrawn from Lebanon. Between 1,200 to 1,300 Lebanese, mostly civilians,

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[35] (Marine Corps Intelligence Activity 1999)
[36] (Wikipedia n.d.)
[37] Ibid.
[38] (Erlanger and Oppel 2006)
[39] (Wikipedia n.d.)

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-

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

on operations in close urban warfare. This limited the IDF's advantages in weapons and technology.[44]

- Telegraphing plans, using predictable avenues, and unnecessarily delaying allows adversaries time to prepare defenses. The IDF unnecessarily delayed their ground operations, allowing Hezbollah to adequately prepare its defenses. For instance, Israel waited for two weeks—until the signing of a cease-fire that would bring in a multi-national peacekeeping force—to begin an offensive toward the Litani River. Hezbollah, anticipating this, used the time to prepare ambushes along predictable lines of attack that resulted in significant IDF armor losses and casualties, including 34 soldiers in the last two days of the war.[45]

- While air power is useful in urban operations, it cannot win the fight by itself. The IDF initially thought they could use air power alone to achieve their strategic and operational goals. However, air power by itself was not effective, especially in urban environments. An asymmetric threat such as Hezbollah presents few lucrative targets for air attack. The IDF specifically focused on targeting Hizbollah leadership, fighting forces, and weapons which were all hidden in populated areas, which negated the potential advantage of air power (given collateral damage concerns). Air power must support ground forces to clear and hold urban environments.[46]

- Adversaries will use civilian patterns of life in an urban environment to their advantage. Hezbollah used normal civilian life to shield their activities. They were easily able to mask their patterns of life, including weapons movements, using civilian activities and traffic. IDF intelligence, including IMINT, was often unable to differentiate between Hezbollah and civilian activity in a timely manner, especially without supporting HUMINT.[47]

Tactical:

- Adversaries are adapting their task organization and adopting mission command appropriate to the urban environment. Hezbollah organized their fighters into "small, self-sufficient teams capable of operating independently and without direction from high authority for long periods of time". This was different from the typical hierarchal command structures seen in the Middle East. However, it is much more appropriate from the urban environment, offering flexibility to proactively adjust or rapidly respond to IDF operations.[48]

- Understanding that tanks are effective in urban environments, adversaries will use anti-armor weapons to defeat them. Hezbollah effectively used anti-armor

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[44] (Cordesman, Sullivan and Sullivan 2007)
[45] Ibid.
[46] (Kreps 2007)
[47] (Cordesman, Sullivan and Sullivan 2007)
[48] 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]

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

SIEGE OF SARAJEVO: 1992-1995

Background

Following the death of President Josip Broz Tito, Yugoslavia collapsed into various republics desiring independence. As these countries began to develop, underlying ethnic tensions found new purpose as groups vied for power; eventually, this tension developed into armed conflicts. In Bosnia-Herzegovina, unlike Croatia and Serbia, no one ethnic group had a majority to gain control of the government. As fighting broke out between ethnic groups in Bosnia, Sarajevo became the focal point because it was the symbolic center of the country and nexus for Bosnian highways.[51]

In the history of modern warfare, the siege of Sarajevo is the longest siege of a capital city, lasting three times longer than the Battle of Stalingrad. For 1,419 days, the civilian population of Sarajevo, along with the Bosnian government defense forces (ARBiH) stationed in the city, were subjected to indiscriminate shelling by Serbian forces. When the siege lifted on 29 February 1996, thousands of buildings were destroyed and the infrastructure decimated. The National and University Library of Bosnia and Herzegovina, a major cultural center for the Balkans, had been intentionally bombarded with incendiary shells in an attempt to destroy all that it contained. Even more horrific was the number of casualties sustained: 13,952 people, including 5,434 civilians, were killed, an average of ten people per day.

Lessons Learned

Strategic:

- Urban centers can be leveraged by adversaries for strategic messaging. The Serbian leadership saw Sarajevo not only as a military objective, in and of itself, but also as a tool to curry international support. The Serbians left roads to Sarajevo open to allow international aid in to gain international favor.

Operational:

- The size of urban environments makes it difficult and resource-intensive to clear and hold. The urban terrain in Sarajevo made peacekeeping almost impossible due to the need to control so many buildings and other key terrain in the city. The number of peacekeepers needed to accomplish this would be prohibitive.[52]

Tactical:

- Urban fighting usually results in high casualty rates, which often prompts adversaries to resort to indiscriminate, highly-destructive indirect fire. Serbian forces did not engage in a street-to-street fight for the city due to the high

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[51] (King n.d.)
[52] Ibid.

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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]

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

BATTLE OF MOGADISHU, SOMALIA: 1993

The early 1990s saw Somalia in a state of chaos. A civil war between various internal factions and a drought had created a humanitarian disaster. In 1992, the United Nations established UNOSOM (United Nations Operation in Somalia) to provide relief supplies and monitor a ceasefire.[56] Despite the UN's best efforts, the supply convoys were difficult because warlords ignored the ceasefire and saw controlling food supplies as a way to bolster their own power and control. The continuing deteriorating situation in Somalia prompted a more aggressive reaction from the United States when it became clear that force would be necessary to ensure humanitarian relief supplies reached the people in need.

America's involvement increased as more military personnel were deployed in an attempt to keep humanitarian supply secure. The death of several US military personnel in 1993 resulted in the deployment of TF Ranger, whose purpose was to cripple warlord Mohamed Farrah Aidid's organization.[57] On the afternoon of 3 October 1993, TF Ranger launched a mission to capture two of Aidid's lieutenants. During the operation, Somali militia successfully shot down two UH-60 Blackhawks with RPGs. This changed the nature of the mission, as now TF Ranger had to secure and recover the crews of both helicopters. This turned an hour-long mission into an overnight fight as the almost 100 Soldiers of TF Ranger had to fend off thousands of Somali militia members and othe armed civilians. In the end, TF Ranger lost 18 Soldiers while inflicting 1,500 to 3,000 Somali casualties. 160th Aviation Regiment pilot Michael Durant was captured and held for 11 days.[58]

Lessons Learned

Strategic

- Tactical urban operations can quickly have adverse strategic effects. While the Battle of Mogadishu was a tactical victory for TF Ranger, the televised results of the battle, specifically the desecration of dead U.S. Soldiers, ultimately resulted in the end of the U.S. mission in Somalia. Unlike prior urban battles, there were not excessive U.S. casualties; however, public outcry over the limited casualties that did occur was enough to alter U.S. strategy.[59]

Operational

- While air power can support urban operations, adversaries will see targets such as helicopters as high-payoff. In Mogadishu, the Somali militia deliberately targeted the Blackhawks knowing that downing them would radically change TF Ranger's tactical plans and could have broader messaging impacts. The downing

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56 (Wikipedia n.d.)

57 (Baumann, Yates and Washington 2004, 140)

58 (Bowden 1999)

59 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]

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

GROZNY, CHECNYA, RUSSIA: 1994-95, 1999-2000

The First Battle of Grozny: 1994-95

Background

After the fall of the Soviet Union in 1991, the republic of Chechnya in the Caucuses region of Russia attempted to break away and form its own independent state. As a result, Russia mobilized a force of approximately 25,000 troops to suppress the uprising with the ultimate goal of seizing the Presidential Palace in the Chechen capital of Grozny.[64] Their plan focused on a three-pronged attack with the main battle effort approaching from the north and supporting elements from the east and west. The main focus of the attack was to use armor and mechanized and motorized infantry to suppress the uprising with an overwhelming show of force, dealing with minor engagements as they came about.

The main battle group from the north moved into Grozny, facing minimal resistance from the Chechen layered defense, and began to push towards the Presidential Palace without assistance from the supporting elements from the east or west. As the Russians moved into position, the Chechens used a "hunter-killer" team strategy, operating in small groups comprised of dismounted personnel armed with RPGs, machine guns, and sniper rifles.[65] These teams used the restrictive terrain of the urban environment to move relatively undetected and engage Russian vehicles with relative ease. This Chechen tactic caused the Russians to modify their task organization to provide dismounted and fires support to armored columns moving through dense urban terrain. The Russians eventually reached the Presidential Palace and toppled Chechen leader Dzhokhar Dudayev, but were then thrust into an occupation role fighting a determined and well-supported guerilla insurgency for the next two years. President Boris Yeltsin eventually declared victory in 1996, ending the occupation.[66] Chechnya would remain semi-autonomous and a continuous thorn in the side of Moscow for the next three years until Russia suppressed the uprising once and for all using lessons learned from this first fight.

Lessons Learned

Strategic:

- Information operations (IO), especially given the nature of the urban fight, is important for influencing opinion at home, in the area of operations, and across the globe. The Russian military did not have an adequate IO campaign.[67] Heavy casualties sustained by the Russians were reported directly through Russian media, eroding support for the conflict at home. Further, indiscriminate targeting

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[64] (McCafferty 2000)
[65] (Rupe 1999)
[66] Ibid.
[67] Ibid.

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

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

maps and geographic aids to navigate effectively through the urban environment, resulting in their driving into ambush sites and dead ends.

The Second Battle of Grozny: 1999-2000

<u>Background</u>

Following the Russian withdrawal and self-proclaimed victory in the first Chechen War, continued Chechen destabilization operations within Chechnya and Russia at large prompted Moscow to launch a second invasion to suppress the rebel forces.[70] President Yeltsin and new Vice President Putin devised a strategy that focused more on air and artillery firepower and was less dependent on tanks and mechanized infantry, effectively leveling the city of Grozny. This change in tactics, along with an increase of ground forces from approximately 25,000 in 1995 to over 100,000 combined military and police forces, were a direct result of lessons learned in the first battle for Grozny. Other significant changes were the assault plan, control of IO from the battlefront in the Russian media, and a limitation of ceasefires and pauses in the fighting which were frequent in the previous battle in Grozny. These and other changes led to a Chechen withdrawal from the city within two months of fighting and the occupation and de-escalation of violence in the region within two years. The Russians, having effectively broken the majority of the Chechen resistance in this period, controlled the countryside prior to engaging the urban center.

<u>Lessons Learned</u>

Strategic:

- Information operations (IO), especially given the nature of the urban fight, is important for influencing opinion at home, in the area of operations, and across the globe. The Russian military controlled the IO fight from all aspects, allowing them more freedom of maneuver, fires, and tactics at the ground level. They called for the evacuation of civilians from Grozny prior to launching strikes in an effort to minimize casualties. Control of the media helped maintain home-front enthusiasm against an unpopular enemy who had launched terrorist attacks and threatened the Russian populace. Limiting negative headlines allowed for more indiscriminate targeting, leveling the city, and breaking Chechen defenses before the main forces even entered the city.

- Military commanders must identify appropriate objectives, based on centers of gravity, to ensure urban operations do not become prolonged sieges. Key terrain and victory criteria were effectively altered, allowing for Russian strategy to hinge on the destruction of the Chechen forces rather than symbolic locations.[71] This plan focused on control of the Terek River and countryside before ever entering Grozny and engaging in urban conflict.

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[70] (Thomas 2000)
[71] Ibid.

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.

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[72] (Thomas 2000)

THE BATTLE OF BAGHDAD, IRAQ: MAR-APR 2003

Background

The Battle of Baghdad, also known as the Fall of Baghdad, was a military invasion of Baghdad that took place in early April 2003 as part of the invasion of Iraq. On 19 March, offensive operations began with air strikes against Iraqi leadership and strategic targets. Offensive operations combined an air offensive with advancing elements of four divisions: one armored, one mechanized, one airborne, and one Marine. As the U.S. ground offensive approached Baghdad, air attacks on key nodes and Republican Guard positions in Baghdad were intensified.[73] The Coalition seized the Baghdad Airport and then used two "Thunder Runs", fast-moving armored raids to test remaining Iraqi Defenses. The first run involved a mechanized battalion which went north into Baghdad and veered west to Baghdad Airport. The second run, which comprised an entire brigade, followed the original route north into Baghdad but then veered east into the government districts instead of west towards the airport. The brigade easily took control of the government district, in what is known as the "Green Zone", in one day, dramatically speeding up the end of conventional ground combat in Iraq.[74] Three weeks into the invasion of Iraq, CFLCC elements, led by the U.S. Army 3rd Infantry Division moved into Baghdad. The United States declared victory on 14 April. Several thousand Iraqi soldiers were killed in the battle, with only a small number of coalition force casualties.

Lessons Learned

Strategic:

- Urban operations require audacity. The plan for Operation Iraqi Freedom was innovative and transformational—employing an unprecedented combination of speed, precision, surprise, and flexibility.[75]

- Urban operations require surprise to prevent an adversary from preparing adequate defenses. The Iraqi regime expected the war to begin with a sustained bombing campaign. Instead, the ground attack began before the air campaign. Coalition units bypassed many cities and Iraqi units to reach the gates of Baghdad in a matter of weeks—liberating the Iraqi capital and toppling the regime in less than a month.[76]

- Urban operations require adaptability. The plan was adaptable and flexible, allowing the team to turn difficulties into opportunities.[77]

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[73] (Bowman 31 Mar 2003)
[74] (Gordon and Trainor 2007)
[75] (A. Cordesman 2003)
[76] Ibid.
[77] Ibid.

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)

- Military forces must develop a method to differentiate and separate the adversaries from the populace (the good from the bad) that does not alienate the population.[85]

- The media can be leveraged as a part of an effective IO campaign. Do not underestimate the power and importance of the media.[86]

- While intelligence in urban operations is vital, HUMINT is paramount. The local population will be the best source of intelligence.[87]

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[85] (Howcroft 2014)
[86] Ibid.
[87] Ibid.

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.

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

Operational:

- Integration of fires within the city amplified the effectiveness of the assault.[91] Though limited to one battery of howitzers and one battery of Paladins, the 1st Marine Division proved that good target identification, well-trained forces, and well-controlled fires can limit the risks to friendly forces within the urban environment.

- Armor remains invaluable in urban operations. Effective implementation of armor created panic among the insurgent ranks and increased the speed of enemy lines penetration.[92] U.S. Marines used armor to lead their assaults and break through IEDs used in defensive belts around the city.[93] This armor force, supported by dismounted infantry, proved an effective balance of heavy and light forces.

- Urban operations should be a combined effort, especially using host-nation forces. Effective integration of host-nation forces and command nodes provided Iraqi amplification to the Marine-led effort. Using Iraqi forces to bolster the assault enabled Marines to train Iraqi counterparts though real-world action, boosting effectiveness in the short term with battle-hardened Iraqi commandos. Integration of Iraqi generals helped motivate Iraqi forces and provided an avenue for the smooth transition from offensive to stability operations.

Tactical:

- Individual Squad techniques were refined and restructured during the battle to effectively combat the urban nature of Fallujah.[94] Wall-lined narrow streets were unlike anything the Marines had trained for prior; however, they quickly adapted to limit casualties and enhance effectiveness. Marines learned the pros and cons of top-down and bottom-up building clearing techniques and how integrating both can enhance the unpredictability of an assaulting force. Small unit tactics discovered or refined in this fight have impacted Marine urban training for the past ten years.

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[91] (Ballard 2005)
[92] (Burton 2004)
[93] (Learned 2005)
[94] 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 (FaI) 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 FaI 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.

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[95] (Riedel and Saab 2007)

- In the late stages of the battle, Lebanese soldiers on the periphery of the camp were attacked from outside the camp/cordon.

- Engineers are valuable in urban operations to reduce obstacles. In Nahr al-Bared, armored vehicles and heavy construction equipment was used to demolish booby-trapped houses.

- Adversaries will use deception to gain tactical advantages. In Nahr al-Bared, militants used army uniforms to deceive Lebanese soldiers and the populace.

- Adversaries will use noncombatant people and locations to gain tactical advantages. In Nahr al-Bared, militants used civilians and religious sites as shields during the confrontation.

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

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

Operational:

- Navigation in the urban environment can be difficult, especially if navigation tools are inoperable. In Georgia, the failure of the GLONASS (Global Navigation Satellite System) impeded navigation. Russian units attempted to use the GPS platform but were thwarted by a global block on Georgia during the time of the conflict[100] Instead, Russian troops relied on maps and compasses from the 1940s to navigate effectively. A lack of GLONASS also limited the effectiveness of precision-guided munitions.

- Russian implementation of electronic warfare (EW) systems was sub-standard at best.[101] Russian leaders felt that EW platforms were not effectively used to suppress the Georgian air defense systems. They wanted to make EW systems more readily available to commanders at lower echelons.

- Military forces must leverage their lessons learned to improve for future fights. Communications systems that had issues identified eight years earlier in Grozny were being used by Russian forces in Georgia. Instead, commanders were using commercial off-the-shelf (COTS) satellite phones and unsecured communications platforms.

- Urban operations often require decentralized execution. Russian forces readjusted from a Division-based to a Brigade-based alignment similar to U.S. realignment to BCTs. This allowed better command and control at the battalion and below levels.

Tactical:

- Russian forces suffered issues with survivability of weapons platforms and vehicles, even in such a short conflict. They lacked adequate reactive armor. Also, some of their equipment was of poor manufacture and lacked adequate maintenance.[102]

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[100] (McDermott 2009)
[101] (Donovan 2009)
[102] (Cohen/Hamilton 2011)

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

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

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and released videos of IDF response while minimizing reporting on Hamas use of neutral sites.[106]

Tactical:

- Adversaries will use complex ambushes with multiple weapon systems to delay, deny, or defeat friendly forces. Hamas intended to leverage dense systems of IEDs, anti-tank forces, mortars, and snipers to prevent IDF from penetrating into Gaza. In densely populated areas, Hamas defense forces established close-combat, direct-fire engagement areas integrating IEDs, short-range anti-tanks rockets and guided missiles, and snipers.[107]

- Adversaries will increasingly use natural and manmade subterranean avenues to hide their presence. Hamas extensively used tunnels to move undetected and attack when and where unexpected, specifically penetrating beyond Israel's border defense to attack inside Israel. In urban environments, they could move unseen between fighting positions in different buildings using tunnels. Finally, Hamas use of tunnels served as a psychological weapon against the IDF. [108]

- Adversaries will use deception to further their goals. Hamas was able impersonate IDF to sow panic in urban environments. For instance, in Kibbutz Nahal Oz, Hamas fighters dressed as Israeli soldiers and killed five IDF soldiers and panicked the local Israeli population.[109]

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[106] (Gleis 2015)
[107] (Kim 2016)
[108] (Gleis 2015) (Kim 2016)
[109] (Gleis 2015)

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]

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[110] (TRADOC 2015)

- Military forces should use UAV platforms for reconnaissance and fire support.[111] Russian platforms were improved significantly since 2008, providing better real-time reconnaissance of Ukrainian positions and providing another forward observer option to coordinate fires. Russian UAVs would fly in pairs, one at low altitude to draw fire and one at high altitude to locate the threat and facilitate responding fire.[112]

- Urban operations often require specialized equipment to enhance unit effectiveness. Russian-supplied enhanced optics, heavy armor, artillery, and air platforms enhanced the capabilities of the separatist forces[113] by creating a new "beyond peer" force within the separatist ranks.[114]

Tactical:

- Small unit tactics within the confines of a modern airport terminal were an example of the modern challenges presented by combat in urban terrain. Ukrainian forces used every aspect of the terminal for any possible defensive advantage. Russian forces countered with increased artillery and direct fire from tanks.

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[111] (IPSC 2015)
[112] Ibid.
[113] (Karber 2015)
[114] (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

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

popular support. This will include establishing security, using vetted locals as much as possible; reintegrating displaced persons; and rebuilding infrastructure all with the goal of reestablishing faith and trust in the Iraqi government.

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